

North Carolina Disaster Debris Planning Manual

NC Division of Emergency Management

Local Government Guide for Debris Management Planning



Disaster Debris
Operations

Disaster Debris
Staging or
Disposal

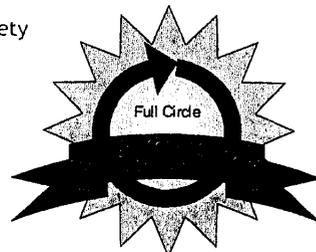
Disaster Debris
Contracting

Public Assistance
Eligibility

Disaster Planning



Department of Crime Control and Public Safety
Division of Emergency Management
Disaster Recovery Operations Center
Public Assistance
Debris Management Planning
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NORTH CAROLINA DISASTER DEBRIS PLANNING MANUAL: Local Government Guide for Debris Management Planning

The NC Division of Emergency Management, Public Assistance Section would like to give special thanks to the following groups for contributing to this document:

*NC Division of Waste Management, Solid Waste Section
NC Department of Corrections, Division of Prisons
NC Division of Coastal Area Management
NC Division of Pollution Prevention and Environmental Assistance
NC Department of Transportation
NC Division of Land Resources, Land Quality Section
NC Division of Air Quality
NC League of Municipalities
NC Department of Health and Human Resources, Division of Public Health,
Health Hazards Control Unit
NC State Animal Response Team
NC Division of Waste Management, Hazardous Waste Section
NC Division of Water Quality*

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| | | A-04 | 8 | Debris Management Monitors Checklist: Temp Debris Storage/Reduction Sites | Form | NC Division of Emergency Management, Public Assistance Section |
| | | A-05 | 8 | Debris Management Monitors Checklist Instruction Sheet: Temp Debris Storage/Reduction Sites | Information | NC Division of Emergency Management, Public Assistance Section |
| B | Hazardous Materials | B-01 | 1 | Petroleum Spill Guidelines | Information | NC Department of Environment & Natural Resources, Division of Water Quality |
| | | B-02 | 4 | Household Hazardous Waste Temporary Collection Events List of HHW Contractors Application for HHW Number | Information and Form | NC DENR, Division of Waste Management, Solid Waste Section |
| | | B-03 | 1 | Asbestos Requirements During Hazard Mitigation and Public Assistance Projects (1/31/02) | Information | NC Department of Health and Human Services, Division of Public Health, Health Hazards Control Unit |
| C | Additional Resources/ Mutual Aid | B-04 | 2 | Guidelines Concerning the Handling and Disposal of Natural Disaster Related Construction and Demolition Debris that May Contain Asbestos (9/14/99) | Information | NCDHHS, Division of Public Health, Health Hazards Control Unit |
| | | B-05 | 1 | Disposal of Natural Disaster Related Construction and Demolition Debris That May Contain Asbestos Building Materials (9/14/99) | Information | NCDHHS, Division of Public Health, Health Hazards Control Unit |
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| | | E-04 | 4 | Vegetative/Land Clearing Debris Staging Area Siting & Operational Guidelines | Guidelines | NCDENR, Division of Waste Management, Solid Waste Section |
| | | E-05 | 1 | Guidelines for Reducing the Potential for Spontaneous Combustion in Compost or Mulch Piles | Guidelines | NCDENR, Division of Waste Management, Solid Waste Section |
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| H | Example Debris Plans/ Contracts/ Legal Documents | H-01 | 5 | Scope of Work Example: Unit Price Contract for Debris Removal | Example | Federal Emergency Management Agency, <i>Debris Management Guide</i> |
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| | | H-03 | 13 | Debris Management Plan Outline Example | Example | NC Division of Emergency Management, Public Assistance Section |
| | | H-04 | 1 | Right of Entry Agreement Example (Debris Removal from Private Property) | Example | Federal Emergency Management Agency, <i>Debris Management Guide</i> |
| | | H-05 | 5 | Necessary Legal Documents for Private Property Demolition – NCEM Mobile Home Demolition Project, Hurricane Floyd Condemnation Form Right of Entry Hold Harmless Agreement Affidavit of Ownership Duplication of Benefits | Examples | NC Division of Emergency Management |



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Michael F. Easley
Governor

Bryan E. Beatty
Secretary

March 1, 2002

Dear Local Government Official:

The State of North Carolina has been overwhelmed by far too many disasters in recent years. As a result, the Public Assistance grant program has allocated more than \$711 million to local governments, state agencies, and some private non-profit organizations for recovery in the last 6 years. A substantial portion of this funding has been expended on disaster debris recovery.

Natural disasters can generate enormous amounts of debris in short periods of time. Disaster debris operations must be implemented quickly to expedite recovery operations and to protect public health and safety. However, the speed of initial debris clearance, removal, reduction and disposal operations is drastically affected by the extent of pre-disaster planning.

For this reason, I strongly encourage all local governments in the State of North Carolina to write comprehensive disaster debris management plans and, where possible, to pre-position disaster debris contracts. Even a very basic plan will increase the ease of the recovery process. In addition, local governments can account for a clear documentation process within the plan. This type of pre-disaster planning will prepare the local governments to organize and compile the sometimes overwhelming amounts of documentation required for full reimbursement.

I sincerely hope that our State will be sheltered from any future disasters; however, we should all prepare for potential events. The Public Assistance staff is dedicated to assisting local governments in planning for future debris-generating events. I hope that the references provided in this manual will assist you in writing a plan, and that your plan will provide a little peace of mind.

Sincerely,

A handwritten signature in black ink, appearing to read "C. J. Ellstrom".

Charles J. Ellstrom
Deputy Chief of Operations



Disaster Debris Planning

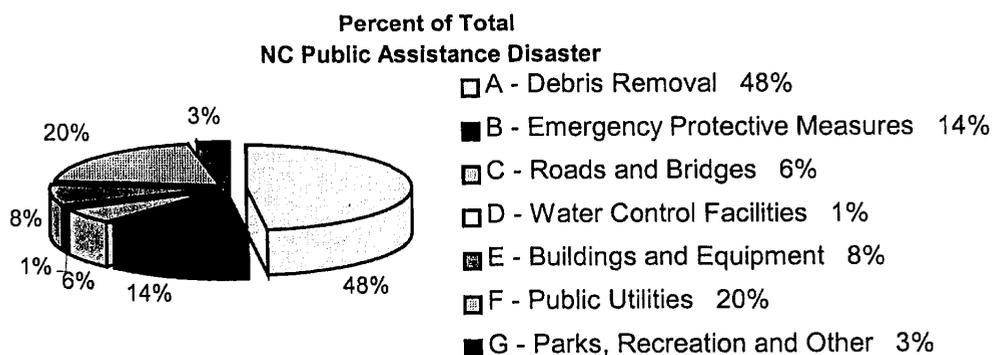
Introduction

Overview of Public Assistance

The federal Public Assistance grant program is a reimbursement program operated by the Federal Emergency Management Agency and administered in North Carolina by the Division of Emergency Management, Public Assistance Section. Grants are awarded to public applicants, including city/town governments, county governments, state agencies, Native American tribal organizations and some private non-profit organizations, to recover from natural disasters. Funding is limited to eligible expenses to repair public facilities, to remove disaster debris on public property and/or presenting a public health and safety hazard, and for emergency protective measures taken by government officials in advance of or directly following an event.

Disaster Debris History in North Carolina

From July 1996 to January 2000, the State of North Carolina was plagued by eight federally declared disasters, including floods, hurricanes, winter storms, and tornadoes. The chart below illustrates the percentage of Public Assistance funds expended for eligible disaster projects. Of the approximately \$711 million dollars paid to-date, 48% of the total Public Assistance dollars distributed to North Carolina applicants have been for debris removal activities. Furthermore, the majority of appeals and deobligations of funding have been for debris projects.



Focus on Pre-disaster Planning

Due to the amount of funding, and the emergency nature and complexity of debris projects, the North Carolina Division of Emergency Management, Public Assistance Section is working on several strategic initiatives to improve the response to and recovery from debris-generating events in North Carolina. This capabilities-based strategy will occur in five stages: 1) provide hands-on assistance to the applicant, 2) assist State and federal staff following a declared event, 3) institutionalize an educational outreach program to assist potential applicants, 4) provide assistance to local officials for pre-disaster debris planning, and 5) assist county officials to put pre-positioned disaster debris contracts in place.

Intent of North Carolina Disaster Debris Planning Manual

This manual is just one part of the strategy to educate local governments about disaster debris management. It is intended to supplement current publications from the Federal Emergency Management Agency, including the *Debris Management Guide* and the *Debris Operations Job Aid*. It provides specific information about disaster debris in North Carolina for local governments to utilize when preparing disaster debris management plans and contracts.

Because local governments are the first to respond to a disaster directing initial activities to protect lives, public health and safety, which includes debris removal, and because debris costs differ from region to region based on local characteristics, this manual will not provide a “standard” disaster debris management plan. Each plan should be prepared on the local level to account for local characteristics, such as landfill capacity, availability of equipment and experienced contractors, environmental characteristics, types of debris, etc. However, the information provided in this manual will provide a basic map for local governments to determine how disaster debris should be managed in their area and the regulatory agencies to consult with during the planning phase.

It is important to note that staff from the NC Division of Emergency Management, Public Assistance Section will be available to assist local governments in preparing and reviewing plans and contracts for potentially ineligible debris activities according to the laws and regulations governing the federal Public Assistance program. However, the Federal Emergency Management Agency has approval authority for debris projects following any declared disasters.

FEMA Debris Eligibility Criteria

Disaster debris costs are eligible for Public Assistance (PA) reimbursement during a federally declared disaster if the debris is a direct result of the declared event, occurs within the designated disaster area and is the responsibility of the applicant at the time of the disaster.

Debris removal may be eligible when it:

- Eliminates immediate threats to lives, public health and safety;
- Eliminates immediate threats of significant damage to improved public or private property; and/or
- Ensures economic recovery of the affected areas to the benefit of the community-at-large.

Debris Removal from Public Property

In general, debris that is on public property must be removed to allow continued safe operation of governmental functions and, therefore, is eligible under one of the first two criteria. Debris that is blocking streets and highways is a threat to public health and safety because it blocks passage of emergency vehicles or it blocks access to emergency facilities such as hospitals. Debris in a stream or flood channel may cause flooding from a future storm. If such flooding would cause an immediate threat of damage to improved property, removal of the debris only to the extent necessary to protect against an event that could reasonably be expected to occur within five years may be eligible. On the other hand, removal of fallen trees in a forested or wilderness area is not normally eligible.

Debris Removal from Private Property

Debris removal from private property is the responsibility of the individual property owner, aided by insurance settlements and assistance from volunteer agencies. FEMA PA funds are not available to reimburse private property owners for the cost of removing debris from their property; however, an eligible applicant may be reimbursed for removing disaster debris on private property on a case-by-case basis. The applicant must be able to document that the private property debris is causing a health and safety threat to the general public to the extent that the applicant now has responsibility to protect the public by removing it. Also, an eligible applicant may pick up and dispose of disaster debris placed at the curb by those private individuals.

Debris Removal from Drainage Structures

Debris removal from certain drainage structures may have to meet the following criteria:

- *Reservoirs.* Removal of disaster debris from reservoirs may be eligible if evidence is provided to FEMA that the reservoirs were regularly cleaned prior to the disaster and the pre-disaster level can be established. In addition, removal of debris that poses an immediate threat of clogging or damaging intake or adjacent structures may be eligible.
 - Establish regular sounding schedules for reservoirs to establish pre-disaster bottom contours.
- *Natural Streams.* Debris removal from natural streams normally is not eligible for assistance. Only debris that causes a threat to lives or public health and safety or damage to improved property from an event that could be reasonably expected to occur within five years is eligible. This type of work will often require a Clean Water Act Section 404 permit from the USACE. The Natural Resources Conservation Service also has the authority to clear streams of debris.
 - Establish list of maintained streams that meet FEMA requirements.

Engineered Channels and Debris Basins. Debris removal from engineered channels, lined or unlined and debris basins may be eligible. Knowing the pre-disaster level of debris in the channel or basin is required in determining the amount of disaster-related debris. Such facilities must also have had a regular schedule of debris removal to be eligible.

Debris Removal from Recreational and Wilderness Areas

The removal of debris from public parks and recreational areas used by the public is eligible when it affects public health or safety or proper utilization of such facilities.

Hazardous trees within a naturalized area of public parks or golf courses that are unstable and leaning into the areas used by the public are eligible for removal only, not replacement. Normally, trees requiring removal are flush cut at the ground. Hazardous limbs are also eligible for removal. Hazardous limbs are defined as limbs greater than two inches in diameter that are still hanging in the tree and are threatening a public-use area, such as a trail, sidewalk, road, or golf cart path.

Generally, stump removal is not considered eligible for reimbursement, except if the stump itself is determined to be a hazard, as when the tree has been uprooted.

A tree with more than 50% of the tree crown destroyed or damaged, a split trunk, or broken branches that expose the heartwood, or a tree that has been felled or uprooted is eligible for removal, especially if it is in a location approximate to or within public-use areas. If the applicant chooses to attempt to save a tree that has any of the conditions described above that justify its removal, the expense is the applicant's. Removal of debris that does not pose a health or safety threat in wilderness or forested areas of these facilities is not eligible for FEMA reimbursement.

Debris Removal from Roads and Highways

Debris may be removed from roads and highways, including the travel lanes and shoulders, roadside ditches and drainage structures and the maintained right-of-way. Clearance from Federal-aid roads and highways follows these criteria except when the Emergency Relief (ER) program of the FHWA is activated. For highways being repaired by the ER program of FHWA, the debris is removed as part of that work. Even when the ER program is activated for an area, FHWA assistance is granted only for portions of the road actually damaged by the disaster. Debris on undamaged sections of highway may be eligible for FEMA assistance.

FEMA Building Demolition Criteria

Public Assistance (PA) funds may be used for demolition and removal of resulting debris under the authority of Section 403, Essential Assistance, of the Stafford Act. This section allows for the demolition of unsafe structures that pose an immediate threat to life, property, or public health and safety.

The primary responsibility for demolition of unsafe structures lies with the owner. Most insurance policies have a clause that provides payment for demolishing houses damaged beyond repair. The applicant must certify that no insurance exists that would pay for the demolition, the owner is not capable of paying for such work and there is no opportunity to recoup the cost from the owner. If permission for demolition is not provided, the applicant must follow legal condemnation. The applicant must obtain right of entry and hold harmless agreements prior to start of the work. The ownership of the property remains in the hands of the original owner.

- ✓ *H-04 – Right of Entry Agreement example*
- ✓ *H-05 – Necessary Legal Documents for Private Property*

All properties must be reviewed in accordance with environmental, historic and other Federal laws being provided for the demolition.

- However, as part of the disaster debris management plan, local governments should not concentrate planning efforts on the demolition of privately-owned structures that may be destroyed in a disaster. Disaster debris planning should be limited to researching the local condemnation process for private property, preparing the necessary legal documents that will be necessary following an event (listed above), designating the staff or department that will administer this type of project, and preparing a demolition checklist in case such an operation is necessary following a disaster (example included in appendices). Applicants should consult with FEMA and the State prior to completing any demolition of privately-owned structures destroyed during a disaster.

(refer to the *Debris Management Guide*, Federal Emergency Management Agency)

Disaster Debris Operations

Types of Debris

Following a natural disaster, local governments will encounter various types of debris during their recovery operations based on the type of event.

- For hurricanes, debris may include trees, construction materials from damaged or destroyed structures, personal property and sediment. Although the greatest concentration of debris will be located along the shoreline, flooding and tornadoes spawned by hurricanes can cause damage and leave extensive amounts of natural and manmade debris far inland.
- Tornadoes will generate debris similar to a hurricane, consisting primarily of trees, construction materials from damaged or destroyed structures and personal property. However, due to the high velocity winds of a tornado and the small area of impact comparatively, the debris will be more confined but also more severe for this event.
- The types of debris caused by floods include sediment, wreckage, personal belongings and, sometimes, hazardous materials deposited on public and private property. Floods may also produce landslides; leaving primarily of soil, gravel, rock and some construction materials.
- Earthquakes will produce building materials, personal property and sediment caused by landslides.
- Debris from wildfires consists of burned out structures, cars and/or other metal objects, ash and charred wood waste. Large-scale loss of ground cover may lead to mudslides, resulting in clogged drainage structures and possible damage to homes and bridges.
- Debris from ice storms or snowstorms will consist of significant amounts of woody debris from broken tree limbs.

Phases of Disaster Debris Recovery

Disaster debris recovery occurs in several phases with varying degrees of complexity based on the type of event, the type of debris and local characteristics. The typical operation occurs in four stages: emergency clearance, disaster debris removal, reduction, and disposal. In order to write a disaster debris management plan, local governments need to analyze the potential hazards and types of debris in relation to these phases of operations for their areas of responsibility. Each of these phases are briefly described below. For additional information on how to incorporate this information into your plan, refer to FEMA's *Debris Management Guide*.

✓ *H-03 – Debris Management Plan Outline Example*

Emergency Roadway Clearance

Emergency clearance is the first operational phase of disaster debris management. During this phase, local governments must reestablish critical services and begin the recovery process. It is the responsibility of local governments to clear roadways to open routes to critical facilities and for emergency services to reach citizens. Debris is not picked up or transported during this phase, only moved out of the way to allow for emergency routes to critical facilities be established.

Force account labor and equipment, rental equipment, mutual aid agreements or outside contracts may be utilized for this, as well as the remaining phases of disaster debris operations. However, all methods require monitoring and documentation to qualify for Public Assistance reimbursement.

- ✓ *A-02 – Debris Management Monitors Checklist: Emergency Clearing and Removal Operations*
- ✓ *A-04 – Debris Management Monitors Checklist: Temp Debris Storage/Reduction Sites*

If the disaster event is significant enough to require the use of an outside contractor, a time and materials type contract may be an acceptable method for this phase of work (refer to Disaster Debris Contracts for additional information).

Whether work is completed using force account or contract labor, local governments should coordinate with other agencies/organizations and regions while planning for this emergency clearance phase.

- Coordinate work with local utility crews to ensure safety issues are addressed with regards to energized power lines and gas lines. Local governments may be able to develop a pre-disaster plan to operate in conjunction with utility crews during this phase.
- Contact your local Department of Transportation (DOT) office to discuss the priority for clearance on State roads in your area following a disaster event. NC DOT maintains the majority of roads in North Carolina. Although they are not responsible for clearance or removal of debris on municipal or private roads, coordination with DOT pre-disaster will speed the recovery in each region as a whole.
- Identify in advance which routes are essential to emergency operations, both locally and regionally. Work with surrounding communities to ensure that critical regional routes are opened quickly to facilitate the movement of additional resources into the area after a disaster.
- If the plan stipulates that force account labor and equipment be used, then the plan should also specify who is in charge of dispersing equipment throughout the area to minimize the risk of vehicle damage. Anticipated supplies and equipment necessary to complete the work should be purchased or rented.
- Local governments may be able to utilize the work crews from other communities or agencies for disaster debris activities. Include these agreements in your disaster debris management plan.

- ✓ *C-01 – Community Work Programs and Crew Locations (NC Department of Corrections)*
- ✓ *C-02 – Intergovernmental Emergency Mutual Aid Agreement example*
- ✓ *C-03 – NC Statewide Emergency Management Mutual Aid and Assistance Agreement*

In addition, consider some of the following debris placement issues during this phase:

- Do not block fire hydrants.
- Remove debris from drainage structure grates and intakes.
- Debris that is moved or relocated while performing clearing operations should be placed as close as possible to the edge of the roadway to facilitate its removal at a later date.

Disaster Debris Removal

Following the emergency clearance phase of operations, local governments will begin to remove the initial roadside piles of debris, as well as the additional disaster debris brought to the curbside by citizens. Roadways have been cleared of debris, which will give officials an opportunity to assess the extent of damage and estimate the quantities and types of debris that must be removed.

The data collected during this assessment will aid in the local decision to use force account labor or contract labor based on available resources. For contract work, a unit price or lump sum contract is appropriate for the debris removal phase (refer to Disaster Debris Contracts for additional information).

- ❖ *If force account labor is utilized for Category A (Debris) projects, only overtime labor costs for debris work is reimbursable through the Public Assistance program.*

Proper curbside separation is also critical during the debris removal phase of operations. Differing types of debris will have to be handled separately. For instance, flood contaminated demolition materials brought to the roadside must be taken to a landfill. If these materials are mixed at the roadside with vegetative debris, which can be reduced and recycled, then local officials will have to separate the different wastes or take all of the materials to the landfill. This type of operation can be very expensive.

- Include a component for public information within your disaster debris management plan. Educating the citizens early in the disaster or even prior to the disaster on the local debris plan will increase efficiency. Citizens should be aware of:
 - Pick-up schedules for different types of debris,
 - Segregating recyclable materials,
 - Separation of flammable and nonflammable debris,
 - Segregating household hazardous wastes,
 - The end date for roadside disaster debris removal, and
 - Drop off sites for disaster debris.

- ✓ *B-02 – Household Hazardous Waste Temporary Collection Events, List of HHW Contractors, Application for HHW Number*

Local governments should also monitor contractor activities to ensure that contract haulers are in compliance with their contract and that the quantity of debris removed is verified. Local officials should use their own personnel, temporary personnel, or hire a local engineering consulting firm to serve as contract monitors (refer to Disaster Debris Contracting for additional information).

- ❖ *All work hours completed by temporary personnel hired after a disaster for eligible disaster debris work, including contract monitoring, are eligible for PA reimbursement.*

Disaster Debris Reduction

Several types of debris can be reduced or recycled after disaster debris is removed from the right-of-way and other public property. Decreasing the quantity of debris taken to a permanent disposal site will ultimately decrease the overall costs for the disaster debris recovery process. Some materials can be separated curbside and taken to nearby recycling markets; other materials must first be temporarily stored, also called “staging” (refer to Disaster Debris Staging for additional information). Vegetative debris can be easily reduced and/or recycled if not contaminated with other types of materials.

One volume reduction method is incineration. There are several incineration methods available. Each method should be considered in developing a volume reduction strategy; however, on average, incineration will reduce vegetative debris by 95%.

- Controlled open-air incineration is a cost-effective method for reducing clean, woody debris in rural areas. Incineration of clean woody debris presents little environmental damage and the local agricultural community can use the resulting ash as a soil additive. Local agricultural extension personnel should be consulted to determine if the resulting ash can be recycled as a soil additive. The controlled open-air incineration option should be terminated if mixed debris enters the waste stream.
- Air curtain pit incineration offers an effective means to the volume reduction process without the environmental concerns of open-air incineration. Refer to FEMA’s *Debris Management Guide* for a detailed drawing of this kind of incineration.
- Portable air curtain incinerators use the same methods, except it uses a pre-manufactured pit, which is well suited for areas with a high water table and sandy soils or for areas susceptible to erosion.

- ✓ *E-08 – Guidelines for the Land Application of Wood Ash From Storm Debris Burn Sites*
- ✓ *E-10 – Open Burning Regulations Pertaining to Debris Disposal in the Case of Natural Disasters*

Another method of volume reduction is grinding and chipping. The cost of chipping and grinding is basically equal to incineration, but there are some differences in the methods. Chipping and grinding reduces debris by 75%, instead of 95%. When writing a local disaster debris management plan, consider carefully where the remaining fourth of the debris will be taken. For instance, wood chips can be used as a mulch for agriculture or as a fuel for some local industries. If the local plan stipulates that vegetative debris will be chipped, then the plan should also include a definitive list of recycling markets for these wood chips. Directly following a disaster there will most likely be no opportunity to do this until the operation is complete. Also, the recycling market that is taking the material may need a specific size or percent of contamination. If the size or content is wrong, then the material will not be moved away from the temporary site. Refer to FEMA's *Debris Management Guide* for additional specifications.

✓ *Appendix E – Temporary Staging Sites/Reduction and Recycling*

The last method of volume reduction is recycling. Recycling should be considered very early in the debris recovery process and included with the public announcements about curbside separation. Specialized contractors should be available to bid on the disposal of debris by recycling, if it is well sorted.

- **Metals.** -- Most non-ferrous and ferrous metals are suitable for recycling. Metal maulers and shredders can be used to shred trailer frames, trailer parts, appliances and other metal items.
- **Soil.** -- Large amounts of soil can be recovered at a debris staging site if the material is put through some type of screen or shaker system. Using this method, a large amount of soil can be recycled back into the agricultural community. This method is also less expensive than hauling disaster debris with a high soil content to a permanent disposal facility.
- **Construction Materials.** – Uncontaminated construction and demolition (C&D) debris can be recycled following a disaster event. This includes concrete, asphalt, gypsum, wood waste, glass, red clay bricks, clay roofing tile and asphalt roofing tile. Please consult with the proper environmental regulatory agencies before planning this type of operation.

✓ *E-06 – Constructions and Demolition Debris Sites: Staging/Transferring, Processing/Recycling, Siting and Operational Guidelines*

Disaster Debris Disposal

Following either removal or reduction and if additional recycling is not possible, disaster debris must be taken to a permanent disposal facility that is permitted to take this type of material.

- ❖ *In order to receive reimbursement from the PA grant program, local governments must be able to document that debris was disposed of properly.*

During the planning stages for disaster debris recovery, local governments should assess the capacity of local and regional landfills to accept debris following a major event. If there is not a landfill within the county, then debris removal and disposal costs will be escalated.

- ❖ *Applicants must be able to explain and document these inflated costs to receive PA reimbursement. Weight and load tickets will also need to be documented for direct disposal costs.*
- ❖ *FEMA will not reimburse landfills in full for waived tipping fees. The overall fee that would have been charged will be reduced to reflect the actual “loss of landfill” costs. Therefore, local governments that operate a landfill should strongly consider whether to waive landfill fees. Keep in mind that any eligible applicant that incurs a landfill fee for eligible debris will be reimbursed in full for that fee.*
- ✓ *Appendix D – Landfills – Disaster Guidance*

Basically, when planning for a debris-generating event, local governments should start from the end and move to the beginning. Start by assessing the end markets for recyclable materials and the local and regional landfill capacity. This analysis will help to determine the method of volume reduction, the size and number of temporary staging sites, and the preferred method of disaster debris removal.

Disaster Debris Staging

Site Selection

Disaster debris “staging” is the temporary storage of debris. All activities associated with disaster debris recovery depend upon the availability of suitable temporary debris storage and reduction sites. Identifying these potential sites prior to a disaster will increase the overall efficiency of debris operations.

Before selecting temporary debris storage and reduction sites, first identify potential areas of devastation and the types and amounts of debris that may be generated. The types and amounts of debris can be estimated using some basic land-use formulas and with historic records. For more information on the U.S. Army Corps of Engineers (USACE) Hurricane model, please refer to FEMA’s *Debris Management Guide*. This data will allow local officials to determine the number of sites and size of each site necessary to handle the potential debris.

Other considerations for evaluating potential temporary debris storage and reduction sites include the following:

- Use public lands when possible.
- Pre-designated sites should be 50-100 acres if possible.
- Good location with respect to noise, traffic and the environment.
- Collection of baseline data in order to return the site to pre-existing condition at site closeout and to avoid future claims.
- The size of the site is determined by estimated quantity of debris and the reduction method(s).
- Avoid environmentally sensitive areas.

✓ *E-03 – Emergency Site Selection Evaluation Sheet*

- Avoid locating near residential areas, schools, churches, hospitals and other such sensitive areas.
- Sites should have good ingress/egress for heavy traffic.
- Identify nearby landfills.

✓ *D-01 -- Eastern NC Location of Solid Waste Facilities*

✓ *D-02 -- Maximum Volume of C&D Capacity in Eastern NC*

- Identify recycling markets in the area suitable for disaster debris.

✓ *D-06 -- C&D Processing/Recycling Facilities*

- Review local and State regulations on traffic control, load limits, right-of-ways, and tailgates. For contracts, be sure to include compliance with these regulations in the language of the contract.

- ✓ *F-03 – Manual on Uniform Traffic Control Devices: Temporary Traffic Control Elements / Flagger Control*

Potential Site Location

- Does site have good ingress/egress?
- Does site have good transportation arteries?
- Does site have open, flat topography?
- Does site have wetlands? If unavoidable, require the contractor to flag the area and establish buffers and/or sediment barriers.
- Does site have public water supplies, including well fields and surface waters?
- Does site have threatened and endangered animal and plant species?
- Does site have threatened and endangered species' critical habitats?
- Does site have rare ecosystems?
- Does site have historic sites?
- Does site have archaeological sites?
- Does site have sensitive surrounding land use, such as residential, school and church?

(see FEMA *Debris Management Guide*)

- ✓ *E-03 -- Emergency Site Selection Evaluation Sheet*
- ✓ *E-04 -- Vegetative/Land Clearing Debris Staging Area Siting & Operational Guidelines*

Operational Plan

- Site Preparation -- The topography and soil/substrate conditions should be evaluated to determine best site layout. When planning site preparation, think of ways to make site closure and restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to the bedrock and stockpiled in perimeter berms. Upon site closeout, the uncontaminated soil can be spread to preserve the integrity of the tillable soils.
- Site Operations -- Lined temporary storage areas should be established for ash, household hazardous waste, fuels and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generators and mobile lighting plants. These actions should be included as a requirement in the contract scope of work.

If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids. Include clauses in the contract to require immediate cleanup by the contractor. Officials should be aware of and lessen the effects of operations that might irritate occupants of neighboring areas. Establishment of a buffer zone can abate concerns over smoke, dust, noise and traffic. Consider on-site traffic patterns and segregate materials based on planned volume reduction

- Suggestions/Tips
- ❖ Public Assistance Eligibility Tips
- ✓ Reference to Appendix

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

- Baseline Data Collection -- Private land and public land used as debris storage and reduction sites should be returned to its original condition following site closeout. Local governments must collect baseline data for all staging sites to document the condition of the land before it is used as a debris storage and reduction site. The data should include videotape and photographs of the site, documentation of physical features, soil and water samples, sketches of the site operational layout, documentation of spills, hazardous wastes on the daily site reports, and plans for environmental remediation.

Tips for Staging Site Management/Reduction Contracts:

- If a preliminary site evaluation has been conducted on behalf of the Applicant/ Owner you can stipulate in the contract documents exactly what permits are required. Any potential site deficiencies that were identified may also be addressed in the contract. A basic scope of work for the development of each site can be established that addresses clearing and grubbing, site grading, ingress – egress, erosion/sedimentation controls and site restoration.
- Maintenance of erosion/sedimentation control devices should be the responsibility of the TDSR (Temporary Debris Staging/Reduction) contractor.
- The development of the TDSR site can be performed under a separate pre-disaster contract limiting the scope of work to the initial development of the site. Time limitations should be clearly defined in the contract documents to facilitate the site being ready to accept debris.
- Stipulations should be made in the contract regarding the TDSR contractor's responsibility for establishing equipment layout, on site routing and storage areas, and construction of equipment pads or containment areas. Storage areas and air curtain burner (ACB) placement will be limited by setback restrictions established by the applicable regulatory agencies. If the TDSR contractor is responsible for development of the site it should be listed as a separate pay item on the contract document. *Refer to Appendix C and D for additional guidance.*
- Contracts should be in place to provide baseline data, sample collection and analysis of water and soil prior to the TDSR contractor entering the site. To ensure sample integrity these services should be performed by an independent contractor.

Environmental Concerns

During the course of operation for any temporary debris staging and reduction site, local officials must be aware of activities that are potentially harmful to the environment. Household and other hazardous wastes may inadvertently be on site, including toxins in the air and soil from burning or grinding contaminated debris, and contaminated soils.

Household hazardous waste (HHW) generated by a natural disaster may consist of common household cleaning supplies, pesticides, motor oil, lubricants, transmission and brake fluid, gasoline, anti-freeze, paints, propane tanks, oxygen bottles and batteries. Household hazardous waste may become mixed with other debris which will require close attention during disaster debris operations. Although HHWs should be segregated at curbside or brought to a designated drop-off site, include in your site plan stipulations about dealing with HHW on the site.

- Coordinate with the NC Division of Waste Management, Hazardous Waste Section regarding hazardous materials that may come on site.

✓ *B-02 – HHW Temporary Collection Events; List of HHW Contractors; Application for HHW Number*

Refer to FEMA’s Debris Management Guide for further information on other types of hazardous waste and consult with the NC Division of Waste Management, Hazardous Waste Section.

Air Quality Monitoring -- Incineration operations may produce pollutants that impact the air quality of the area. Air quality must be monitored to ensure compliance with all environmental regulations. Testing procedures should include readings for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead and particulate matter. Incineration site readings should be taken at the edge of the incineration pit and approximately 150 feet away. Wind direction, temperature and any other pertinent meteorological information should also be recorded. Poor readings may occur if the incineration pit is not properly constructed, the pit is improperly fed, or the material is not fully segregated.

Site Closeout Procedures

During the planning stage for disaster debris recovery, local governments should prepare for site close out as well. Eventually, each site will be empty of all disaster debris and restored to its previous condition and use. Establish the baseline data for each site and coordinate with the site owner, as well as the NC Division of Waste Management, Solid Waste Section, to establish the closeout steps for each site prior to any future disasters.

Disaster Debris Contracts

Following a major disaster, contracts can be executed to augment local force account resources.

- ❖ *Local governments will be reimbursed for 100% of reasonable contract costs for eligible disaster debris activities in a disaster.*

“Reasonable” contract costs will be locally defined based on truck size, length of haul, traffic conditions, roadway conditions, and temporary and permanent site access. During the planning process for disaster debris recovery, local governments should work to establish the costs in their area for the purpose of reviewing contractor proposals. Procurement procedures will be discussed later in this section.

Types of Contracts

The types of debris contracts are appropriate and reasonable based on the phase of disaster debris operation. As discussed earlier, the basic contract types are time and materials, unit price and lump sum.

The Time-and-Material contract, for which the contractor is paid based on the number of equipment and operator hours worked, is acceptable for the emergency clearance phase of debris operations. Although local governments are acting in this phase to clear routes to critical facilities, officials should still attempt a competitive bidding process by soliciting bids from several contractors. This can be done in the planning stages. Keep a list of local contractors that may be available to do this type of work on hand.

A Time-and-Material contract should clearly state that:

- The price for the equipment applies only when the equipment is operating.
- The hourly rate includes the operator, fuel, maintenance and repair.
- The community reserves the right to terminate the contract at its convenience.
- The community does not guarantee a minimum number of hours.
- The contract has either a dollar ceiling or a not-to-exceed number of hours clause. Contracts should be terminated once the designated not-to-exceed clause is reached.

- ❖ *Time-and-Material contract operations should be limited to a maximum of 70 hours per applicant and should be utilized during the clearance phase. Before beginning the debris removal phase, local governments should let unit price or lump sum contracts.*

**Time-and-Material
(Equipment Rental)
Contract**

Summary

- Extremely flexible, not scope-dependent.
- Wide range of uses.
- Great for emergency "hot spots" and early debris rights-of-way clearance.
- Should not exceed 70 hours of actual emergency debris clearance work.
- Contractor must be directed as to what work to perform.
- Requires full-time contract monitors.
- Requires documentation of actual hours worked by equipment and operators.
- Requires competitive bids or negotiate reasonable hourly rates for equipment and operators.
- Specify equipment as generically as possible to encourage competition.
- Need trained contract monitors to document actual equipment usage.

(see FEMA's *Debris Management Guide*)

- ❖ *Cost plus percentage-of-cost contracts and contingency contracts are not eligible for FEMA reimbursement and should not be used.*

Unit Price and Lump Sum contracts are recommended after the immediate response phase. The unit price contract is used when the scope of work is difficult to define and is based on estimated quantities. This type of contract pays for debris removal work based on the number of cubic yards or tons of debris removed. Although a per ton cost can be more accurate when properly monitored, a cubic yard cost is acceptable. Following a disaster, landfill scales may not be functioning or may not be available at temporary staging sites.

*Unit Price Contracts
Cubic Yard*

- Flexible; intervention will not change contract conditions.
- Accurate account of actual quantities removed.
- Wide range of competition because of simplicity of contract.
- Low contractor risk.
- Full-time trained contract monitors required.
- Possibility of contractor fraud if loading and dumping is not closely monitored.
- Segregation of debris will complicate contract.
- Trucks must be measured and numbered.
- All truckloads must be documented using a pre-numbered load ticket.
- **Load tickets are the verification of the estimated quantity of debris in cubic yards or tons deposited at the dumping site.**

Payment under a unit price contract is normally made on the basis of load tickets. These forms should be treated as accounting forms to verify charges from the contractor and the landfill. A monitor should verify quantities before contractors take debris to the staging site or landfill.

Each ticket should include the following information: *(see Appendix A for examples)*

- Preprinted ticket number.
- Contract number.
- Prime Contractor's name.
- Date.
- Truck number.
- Truck capacity in cubic yards.
- Load size, either cubic yards or tons.
- Truck driver's name.
- Debris classification.
 - Burnable
 - Non-burnable
 - Mixed
 - Other
- Zone/Sector.
- Dumpsite location.
- Loading time (from work site).
- Dumping time (at disposal site).
- Loading site monitor.
- Dumping site monitor.

The lump sum contract establishes a total contract price by a one-item bid from the contractor. It is understood in a lump sum contract that the price for the work is fixed, unless the scope of work changes. Therefore, the lump sum contract should be used only when the scope of work is clearly defined and the areas of work can be specifically quantified.

If this type of contract is used for disaster debris removal, local governments must be able to establish and document the estimated quantities of debris to be removed. Documentation should include a description of this assessment and calculations.

The lump sum contract is:

- Easy to monitor when the scope of work is well defined.
- Easy to determine when a contractor has completed all work.
- Easy to establish the cost of the work at the time of bid opening.

Local governments have two contract choices for a lump sum contract. The choice of one of these will depend on the type of event and/or the quantity of debris to be removed.

- Area Method -- Once all debris within a well-defined geographic area has been placed at the curbside a scope of work can be written that requires the contractor to conduct a one-time pass to remove all debris from the curbside and deposit it at the local landfill for a fixed fee.

- **Pass Method** – For example, debris will be placed at the curbside as homeowners repair their homes over a 3-week period. The scope of work requires the contractor to conduct a minimum of three passes throughout the community during the 3-week period (one pass per week) and deposit the debris at the local landfill for a fixed fee.

Contract Monitoring

Contractors should be closely monitored for all types of contracts. Monitors should verify that Time and Materials contractors do not have down time and should document when it does occur, or verify the quantities of debris for unit price contracts.

Debris hauling trucks and trailers can be the most difficult items to track and monitor. The general contractor often has numerous haulers under subcontract. Using a truck numbering system established by the applicant can eliminate some of the inherent tracking and monitoring problems that arise from subcontract truck numbers. Developing or utilizing an existing identification and numbering system that indicates the haulers are under contract with the applicant, an equipment number and hauling capacity will facilitate monitoring efforts. This same information should be required on load tickets or manifests used to track quantities for unit price contracts.

Load tickets should be submitted to the Debris Manager on a daily basis to provide a daily total and running total of debris removed and processed. The daily summary sheets should be checked against the individual monitors' daily summary sheets. This information can be used to track production rates and determine if additional capacities are required at any stage of the removal, reduction, and disposal phases of the debris operation. Most importantly it provides documentation for the reimbursement process.

- ❖ *The PA grant program will reimburse only reasonable costs. Therefore, it is essential that the community be responsible for monitoring debris clearance, removal and disposal activity and be prepared to certify the accuracy of the amounts of debris hauled.*

ISSUES IN THE PAST

- If you have contracted emergency clearing on a time and materials contract, you should have equipment that is reliable and capable of performing the task for which it is being used. Place stipulations in the contract stating the Applicant has the right to reject any piece of equipment that is determined to be unsafe or functionally unreliable.
- If the contract is a unit price contract based on weight/tonnage, monitoring of the loading operation from a capacity standpoint is not as critical. The issue under this scenario will be not to overload debris on the truck so that it doesn't become a traffic hazard.
- Debris haulers entering the TDSR site and leaving without off loading, go to the next site and get paid twice for the same debris. Haulers have even entered a site, drove through the site without off loading, exited the site, then re-entered the same site getting compensated both times.

- If haulers are contracted on time and materials contracts, routes taken to and from the work zone were not always the shortest routes.
- Truck volumes not calculated by the applicant or monitor were inflated resulting in exaggerated capacities being recorded.
- Unreasonable truck/trailer bed modifications over expanded the volume of debris that could be safely transported.
- Trucks hauling debris that are in such a state of disrepair that they pose an obvious threat to the traveling public.
- The Department of Motor Vehicles (DMV) can be contacted if you have any questions as to the operational condition of any vehicle.
- Equipment model numbers have been changed by the contractor in an attempt to establish a higher per hour billing rate. The serial number is the only way you can validate the equipment.
- Out of Service equipment has been transported from site to site and billed as a working/utilized piece of equipment.
- Equipment hour meters can not be used to verify utilization of a piece of equipment. Most operators will start a piece of equipment, especially diesel power, and let it idle all day, whether or not it is in use. Some pieces of equipment may crank and run but not function otherwise. Keep in mind that there are periods during any operation when a piece of equipment may be temporarily idle. Some pieces of equipment require hourly maintenance checks and lubrication periods. An experienced operator will use temporarily idle periods to perform equipment checks and prepare for the next task. A simple way to tell if a piece of equipment has been in use and is just temporarily idling is to place your hand on the engine compartment or, even better, a hydraulic line to see if it is still warm.
- This brings us to the most important aspect of monitoring equipment. The monitor must get out of his vehicle to be effective.

Local governments should designate personnel in their disaster debris management plan to monitor debris quantities and prevent some of the issues listed above. The potential for contractor fraud is high with all types of debris contracts and should be treated similarly.

Procurement Procedures

- ❖ *Applicants are required to follow the local, State, or federal procurement procedures, which ever is more restrictive, for their disaster contracts.*

In North Carolina, this means that debris contracts which would typically not have a formal bidding process because they are service contracts, will need to have a formal process above \$100,000 (refer to the *44 Code of Federal Regulations* for additional information). Listed below are the general procurement procedures that apply to local governments in North Carolina.

Purchasing and Contracting for Local Governments

| <i>Requirement</i> | <i>Threshold</i> |
|--|---|
| <u>Formal bids</u> | |
| Construction or repair contracts <u>G.S. 143-129</u> | \$ 300,000 and above (estimated cost of contract) |
| Purchase of apparatus, supplies, materials and equipment <u>G.S. 143-129</u> | \$90,000 and above (estimated cost of contract) |
| <u>Informal bids</u> | |
| Construction or repair contracts G.S. 143-131 | \$5,000 to formal limit |
| Purchase of apparatus, supplies materials and equipment G.S. 143-131 | \$5,000 to formal limit |
| <u>Multi-prime bidding</u> | |
| Building projects G.S. 143-128(b) | <i>Over</i> \$500,000 (estimated cost of project) |
| <u>Limit on use of own forces</u> | |
| Construction or repair projects G.S. 143-135 | <i>Not to exceed</i> \$125,000 (total project) or \$50,00 (labor only) |
| <u>Bid bond or deposit</u> | |
| Waiver authorized G.S. 143-129(b) | Formal Bids (see above) All purchase contracts |
| <u>Performance/payment bonds</u> | |
| Construction or repair contracts G.S. 143-129(c); G.S. 44A-26 | <i>Projects over \$300,000 for each contract over \$50,000</i> |
| Purchase contracts | <i>\$30,000 and above</i> |
| Waiver authorized G.S. 143-129 (c) | All purchase contracts |
| <u>General contractor's license</u> | |
| G.S. 87-1 | <i>\$30,000 and above</i> |
| <u>Use of registered architect or engineer required</u> | |
| Nonstructural work | <i>\$300,000 and above</i> |
| Structural repair or new construction G.S. 133-1.1 (a) | <i>\$135,000 and above</i> |
| Affecting life safety systems | <i>\$100,000 and above</i> |
| Certificate of compliance with a building code for projects that are not required to be designed by architect or engineer | |
| <u>Selection of architect, engineer or surveyor</u> | |
| "Best qualified" selection procedure G.S. 143-64.31 | All contracts unless exempted |
| Exemption authorized G.S. 143-64.32 | Projects where estimated fee is less than \$30,000 or other projects in sole discretion of unit |

In addition to these guidelines, local governments should recognize that disaster related work does not necessarily justify emergency contracting procedures. In accordance with GS 143-129, formal bidding requirements do not apply “in cases of special emergency involving the health and safety of the people or their property.” This type of emergency must be “present, immediate, and existing.” From a disaster debris perspective, the emergency clearance phase could be justified as an emergency situation; however, once the debris is cleared from the street, local governments should begin the formal bidding procedures.

Pre-positioning Disaster Debris Contracts

Local governments are encouraged to pre-position disaster debris removal contracts where possible. This will give ample opportunity for a competitive bidding process and provide for an efficient planning and removal process. In some cases, an area may not be able to get bids from contractors in a non-disaster setting for future events. In this case, officials can still prepare the Request-for-Proposals and pre-script the contract in preparation for an event. Also, you may be able to enter into an interlocal cooperation compact, for which many smaller governments in the same county/region can collectively take bids for a contract, but let separate contracts.

Public Assistance staff for the NC Division of Emergency Management will be available to officials that would like consultation or eligibility review of contracts.

APPENDIX A

Contract Monitoring

| | |
|--------------------------------|--------------------------------|
| NCDOT LOAD TICKET | |
| TICKET NUMBER: No 62354 | |
| CONTRACT NUMBER: | |
| PRIME CONTRACTOR'S NAME: | |
| DATE: | |
| DEBRIS QUANTITY: | |
| Truck No: | Capacity (CY): |
| Load Size: _____ | Cubic Yards _____ |
| or _____ | Tons _____ |
| TRUCKING COMPANY | |
| DEBRIS CLASSIFICATION | |
| VEGETATIVE | |
| CONSTRUCTION & DEMOLITION | |
| WHITE GOODS | |
| OTHER | |
| LOCATION | |
| COUNTY/TOWN | ROUTE/STREET DUMPSITE/LANDFILL |
| | TIME CONTRACT MONITOR |
| Loading | |
| Dumping | |

| | |
|------------------------------------|--------------------------------|
| NON-SYSTEM ROAD LOAD TICKET | |
| TICKET NUMBER: No 64253 | |
| CONTRACT NUMBER: | |
| PRIME CONTRACTOR'S NAME: | |
| DATE: | |
| DEBRIS QUANTITY: | |
| Truck No: | Capacity (CY): |
| Load Size: _____ | Cubic Yards _____ |
| or _____ | Tons _____ |
| TRUCKING COMPANY | |
| DEBRIS CLASSIFICATION | |
| VEGETATIVE | |
| CONSTRUCTION & DEMOLITION | |
| WHITE GOODS | |
| OTHER | |
| LOCATION | |
| COUNTY/TOWN | ROUTE/STREET DUMPSITE/LANDFILL |
| | TIME CONTRACT MONITOR |
| Loading | |
| Dumping | |

**DEBRIS MANAGEMENT MONITORS CHECKLIST
EMERGENCY CLEARING AND REMOVAL OPERATIONS**

B. EQUIPMENT AND PERSONNEL RESOURCES ON SITE:

1. EQUIPMENT RESOURCES: EQUIPMENT LIST ATTACHED CONTINUATION SHEET

| DESCRIPTION | | | | SIZE | | | CHECK ONE | | |
|-------------|------|----------------|---------------------------------------|------|-----|---------------|------------|------|----------------|
| | Make | Model / Number | Applicant Designated Equipment Number | HP | WGT | Serial Number | IN SERVICE | IDLE | OUT OF SERVICE |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

2. PERSONNEL RESOURCES:

| PERSONNEL | |
|-------------------------------------|-----|
| DESCRIPTION | QTY |
| Site Supervisor/Foreman Name: _____ | |
| SITE SUPERVISOR / FOREMAN | |
| EQUIPMENT OPERATORS | |
| FLAGMEN / TRAFFIC CONTROL | |
| SAWMEN | |
| LABORERS | |

OTHER (LIST): _____

COMMENTS: _____

DEBRIS MANAGEMENT MONITORS CHECKLIST EMERGENCY CLEARING AND REMOVAL OPERATIONS

C. TRANSPORTATION:

CONTINUATION SHEET

| DESCRIPTION | TRUCK NO. | CAPACITY (CUBIC YARD) | LOAD COUNT | TIME | AXLE CHECK ONE | | | | | ACTIVITY CHECK ONE | | | | |
|-------------|-----------|-----------------------|------------|------|----------------|--------|-----|------|---------|--------------------|--------|------|----------------|--|
| | | | | | SINGLE | TANDEM | TRI | QUAD | TRAILER | LOADING | STAGED | IDLE | OUT OF SERVICE | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
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| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
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| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |
| | | | | AM | | | | | | | | | | |
| | | | | PM | | | | | | | | | | |

COMMENTS: _____

DO TRUCKS APPEAR TO BE LOADED TO CAPACITY? YES NO

If NO, describe _____

ARE TRANSPORTATION MANIFESTS BEING USED? YES NO

If NO, comment _____

AVERAGE CYCLE TIME FOR TRANSPORTATION: _____ MIN / HR

ATTACH TRANSPORTATION CYCLE TIME CALCULATION SHEET.

DISTANCE ROUND TRIP _____ MILES

ATTACH A VACINITY MAP SHOWING THE FOLLOWING INFORMATION:

1. LOCATION OF WORK SITE ON THE SPECIFIC STREET, ROAD OR HIGHWAY.
2. ROUTE UTILIZED TO TRANSPORT DEBRIS TO THE MANAGEMENT SITE.
3. SECTION OF STREET, ROAD, HIGHWAY OR FACILITY WHERE WORK WAS PERFORMED.

DEBRIS MANAGEMENT MONITORS CHECKLIST
EMERGENCY CLEARING AND REMOVAL OPERATIONS

D. LOGISTICS:

TYPE AND LOCATION OF FACILITY RECEIVING DEBRIS: (CHECK ALL THAT APPLY)

| | | | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | TEMPORARY STAGING ONLY | <input type="checkbox"/> | OTHER (DESCRIBE) _____ _____ _____ |
| <input type="checkbox"/> | BURN | | |
| <input type="checkbox"/> | LANDFILL | | |
| <input type="checkbox"/> | GRIND / CHIP (REDUCTION) | | |

RECEIVING FACILITY ADDRESS: _____

CONTACT PERSON FOR FACILITY: _____

PHONE NUMBER FOR CONTACT: _____

E. GENERAL OBSERVATIONS:

1. ARE APPROPRIATE TRAFFIC CONTROL MEASURES BEING UTILIZED BY THE CONTRACTOR?

2. ARE EQUIPMENT / PERSONNEL RESOURCES ON SITE APPROPRIATE FOR THE TASK THEY ARE PERFORMING? COMMENT.

DEBRIS MANAGEMENT MONITORS CHECKLIST EMERGENCY CLEARING AND REMOVAL OPERATIONS

3. NOTE ANY APPARENT PROBLEMS OR BENEFICIAL ACTIVITY, EQUIPMENT OR PERSONNEL THAT MAY BE IMPACTING THE EFFICIENCY OF SITE ACTIVITIES.

F. ATTACHMENTS:

YES NO

| ITEM NO. | DOCUMENT | NUMBER OF PAGES |
|----------|----------|-----------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

NC DIVISION OF EMERGENCY MANAGEMENT

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET

EMERGENCY CLEARING AND REMOVAL OPERATION

This document acts as a detailed aid to filling out the Debris Management Monitor's Checklist for Emergency Clearing and Removal Operations.

General Information

EVENT

The four-digit number assigned to the disaster for a Presidential declaration, **or**
The number assigned to the disaster for a State declaration.

DAY AND DATE

The day and date the checklist is being filled out.

TIME

The time you were first at this specific location.

MONITOR

Your name.

- Check **State** if you are dispatched from the NC Division of Emergency Management.
- Check **Applicant** if you are dispatched by local government. ie County or city.

CONTRACT No/CONTRACTOR

If numerous contracts have been assigned or the applicant has a purchase order (PO) type contract enter the number here followed by the general contractors name. Do not put the name of the subcontractor performing the work.

CONTRACT TYPE

Check the type of contract under which the work is being performed.

FORCE ACCOUNT LABOR

Did the Applicant use their own manpower and equipment?

LOCATION/ADDRESS

Where the specific task is taking place. Enter a state road number or street name. If a residence is close by, give the box number or street address where the crew is working.

- Check **Commercial** if the area is an industrial park or business center
- Check **Residential** if the area is a subdivision, neighborhood, community, etc.
- Check **Rural** if the area is an open section of roadway in the country.
- Check **Other** if the area is a park, school, or public facility.

Section A. Debris Operations

TYPE OF OPERATION

Emergency roadway clearance - clearing only, no removal.

Public Property - debris removal on public property and transported to TDSR.

Right-of-Way debris removal - removing debris from the Right of Way and transportation to a TDSR.

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET Appendix A-03

EMERGENCY CLEARING AND REMOVAL OPERATIONS

DEBRIS CATEGORY

Clean woody – limbs, trees, leaves without any building materials, garbage, furniture or mud mixed in.

C & D – Construction and Demolition debris – resulting from high winds or wave action/flood water damages.

Sand/Soil/Mud – typically a mixture of what is washed onto roads and into buildings along coastal and flood prone areas. Deposited by wind or water.

Mixed C & D/Woody & Sand – Combination of building materials, shrubbery, trees and deposited sand. Often found in coastal areas that were flooded.

Other – Household Hazardous Waste – white goods, refrigerators, stoves, washing machines etc. Automobiles etc.

IS DEBRIS SEGREGATED?

Have the homeowner/residents made separate piles of tree limbs and vegetative waste, furniture, clothing and household debris, and construction debris?

SITE ACTIVITY

Check **No Activity on Site** if:

You were at that site previously and work was being performed. Returning to the same location at a later date or time, no work is currently being performed. Use the **Comments** section to indicate if the work has been completed at the site or is incomplete.

Clear Only – Emergency clearing is the only activity being performed.

Stage – The material is small enough to be loaded but must be moved from the Right-of-Way perimeter to a more accessible loading area.

Cut/Stage – Saw crews are working to reduce the woody waste to a practical size for loading on trucks. The sawed material is stacked on the edge of the Right-of-Way to facilitate loading.

Load – Materials have been staged in piles along the roadway for pick up by the transporter. This is typically after the contractor has performed the first pass.

Screen – Removing C & D and vegetative/woody debris from sand on barrier islands.

★ Sand can not be removed from a barrier islands.

Other –

- Removing damaged/destroyed cars, boats, etc.
- Surveying structures for Asbestos Containing Materials (ACM), or
- Removing ACM from structures.

IS DEBRIS BEING REMOVED ONLY FROM WITHIN THE LIMITS OF CLEARING AS SPECIFIED IN THE CONTRACT?

Refer to the contract to verify debris is not being removed from an area other than what has been identified in the contract. i.e. Outside the limits of the right-of-way, in parks typically only within a certain limit outside a path or designated trail's edge.

★ In certain coastal areas, environmentally sensitive areas may be excluded to prevent further damage.

Section B. Equipment and Personnel Resources on Site

EQUIPMENT RESOURCES

Make – Cat, John Deere, Case, Kubota, etc.

Model – Excavator, Back hoe, Loader

Appendix A-03

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
EMERGENCY CLEARING AND REMOVAL OPERATIONS

/Number – A number designation assigned by the manufacturer to indicate weight, horsepower or a specific attribute that equipment might have. Example: A Cat Loader with the series number 928G indicates the loader weight of 29,200 lbs.

Applicant Designated Equipment Number – The number assigned by the contractor or Applicant to designate that specific item of equipment.

HP – Horsepower

WGT – The weight of the machine

Serial Number – A number assigned by the manufacturer of the equipment that is much like a Vehicle Identification Number (VIN). It can also indicate certain capabilities and accessories that individual may have.

- ★ The Serial number, Weight, Model number and sometimes the HP can be found stamped on a plate or chassis of the equipment. The stamp is located on the main frame of the equipment, usually in the engine compartment or near the left front of the operator's compartment.

In Service – The equipment is performing a task at that specific time.

Idle – The equipment is capable of performing a task but is not currently being used.

Out-of-Service – The equipment is mechanically incapable of performing the task for which it was intended. This does not refer to its ability to crank, idle and self-propel itself, but more to its capability to transport lift or pull a load.

PERSONNEL RESOURCES

Site Supervisor/Foreman Name – Who is in charge and responsible for that specific work crew and equipment.

Site Supervisor/Foreman – Supervisors that are present on that site or crew. * The contractor should provide a list of foremen and operators prior to the start of work.

Equipment Operators – Individuals on that crew or site that have by virtue of training, experience and skill been authorized to operate a piece of equipment.

Flagmen/Traffic Control – Number of individuals that function as flagmen as stated in the Uniform Traffic Control Manual. (See Appendix _____ The Uniform Traffic Control Manual.)

Sawmen – Individuals that have been assigned chain saws by the contractor who are responsible for reducing the debris to a size that can be easily loaded.

Laborers – Individuals that may assist the sawmen and operators in completion of their tasks.

Others – Hazardous waste supervisors and technicians, chemists, inmate community service crews.

Comments – Use this space to list any problems with equipment or personnel.

Section C. Transportation

Description – Make of the Truck i.e. GMC, Ford, International, etc.

Truck No. – This should be either the transporter's truck number or the Applicant assigned number. If you use the transporter's truck number you must also document the specific transportation company.

Capacity (cubic yard) – This should be displayed on the side of the truck or truck bed.

Load Count & Time – How many loads of debris has the specific truck hauled at that specific time.

Axle –

- **Single** – One rear axle
- **Tandem** – Two rear axles
- **Tri** – Three rear axles

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET Appendix A-03

EMERGENCY CLEARING AND REMOVAL OPERATIONS

- **Quad** – Four rear axles
- **Trailer** – could range from two to four axles.

Activity –

- **Loading** – Is the truck actively being loaded at this time?
- **Staged** – Is the truck waiting to be loaded at this time?
- **Idle** – Is the truck not being utilized at this time? It is capable of transporting debris but for whatever reason it is not being used.
- **Out-of-Service** – Incapable of transporting a load of debris.

Comments – Use this section to identify any problems you observe with the trucks, any safety aspects that you have concerns about, note any discrepancies that you may have noticed between the contractor's equipment master list and what is displayed on the truck.

DO TRUCKS APPEAR TO BE LOADED TO CAPACITY?

Do not climb onto a truck to examine the quantity inside. Make your observation from the ground at a safe distance from the loading operation.

ARE MANIFESTS BEING USED? IF NO, DESCRIBE.

If manifests or load tickets are not being used what is and how are quantities being verified for payment?

AVERAGE CYCLE TIMES FOR TRANSPORTATION

See Cycle Time Calculation Sheet for Directions.

Section D. Logistics

TYPE OF FACILITY RECEIVING DEBRIS

Temporary Staging Only – This could be a full-blown TDSR or just an area at a large public facility or park where the debris was piled before loading.

Burn – This could be a wood fired boiler facility, a TDSR site approved for air curtain burners (ACBs), or open burning.

Landfill – This could be the local government facility, a regional landfill, or private landfill.

Grind/Chip (Reduction) – A TDSR that has tub grinders and chippers working to reduce the volume of woody/vegetative debris.

Other – White goods staging area, C & D transfer station, Household Hazardous Waste (HHW), Compost/Yard Waste facility, land clearing and inert debris (LCID) landfill.

RECEIVING FACILITY ADDRESS

The actual mailing address of the facility, if available. If the site is a TDSR site, it's approximate location on a street or road, give landmarks.

CONTACT PERSON

Not necessarily the owner but the person who has control/responsibility for the site. For TDSR sites, it would be the local government representative, County/City manager, or debris manager.

Section E. General Observations

ARE APPROPRIATE TRAFFIC CONTROL MEASURES BEING UTILIZED BY THE CONTRACTOR?

Refer to Appendix _____ the Uniform Traffic Control Manual.

Appendix A-03

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
EMERGENCY CLEARING AND REMOVAL OPERATIONS

Be sure the debris clearing/removal crews are placing the proper signs ahead of the roadside operations to protect the crew, personnel and the driving public. They could also prevent the site seeing public from interfering with clearing operations.

Flagmen should be properly deployed and communicating during removal operations to ensure the safety and reduce the impact on traffic. If the transportation contractor is having difficulty gaining access and egress to the TDSR site, consideration should be given to deploying flagmen to assist getting trucks safely into and out of the site.

ARE EQUIPMENT/PERSONNEL RESOURCES ON SITE APPROPRIATE FOR THE TASK THEY ARE PERFORMING?

COMMENT.

Does the contractor have the right equipment for the job? Is the loading equipment large enough to reach over the side of the trucks? Are there enough people on the site to safely move the debris off the right-of-way? Are six people standing around watching one sawman cut up trees to be loaded? Is everybody busy?

NOTE ANY APPARENT PROBLEMS OR BENEFICIAL ACTIVITY, EQUIPMENT OR PERSONNEL THAT MAY BE IMPACTING THE EFFICIENCY OF SITE ACTIVITIES.

This is the opportunity not only to document any problems you may have observed but also to note what has been beneficial. You can note any operational problems that may relate to matters totally out of the contractor or Applicant's control. This section can be your guidance document for the next disaster.

Section F. Attachments

Number each attachment and assign page numbers so the document can be easily tracked during faxing, transfer or duplication.

**DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES**

3. SITE CHARACTERISTICS:

SIZE: _____ ACRES BEING UTILIZED

_____ ACRES AVAILABLE

IS SITE SECURITY PROVIDED? YES NO

IF YES:

BY WHOM: _____

BY WHAT METHOD: _____

ARE MEANS AVAILABLE ON SITE FOR FIRE PROTECTION? YES NO

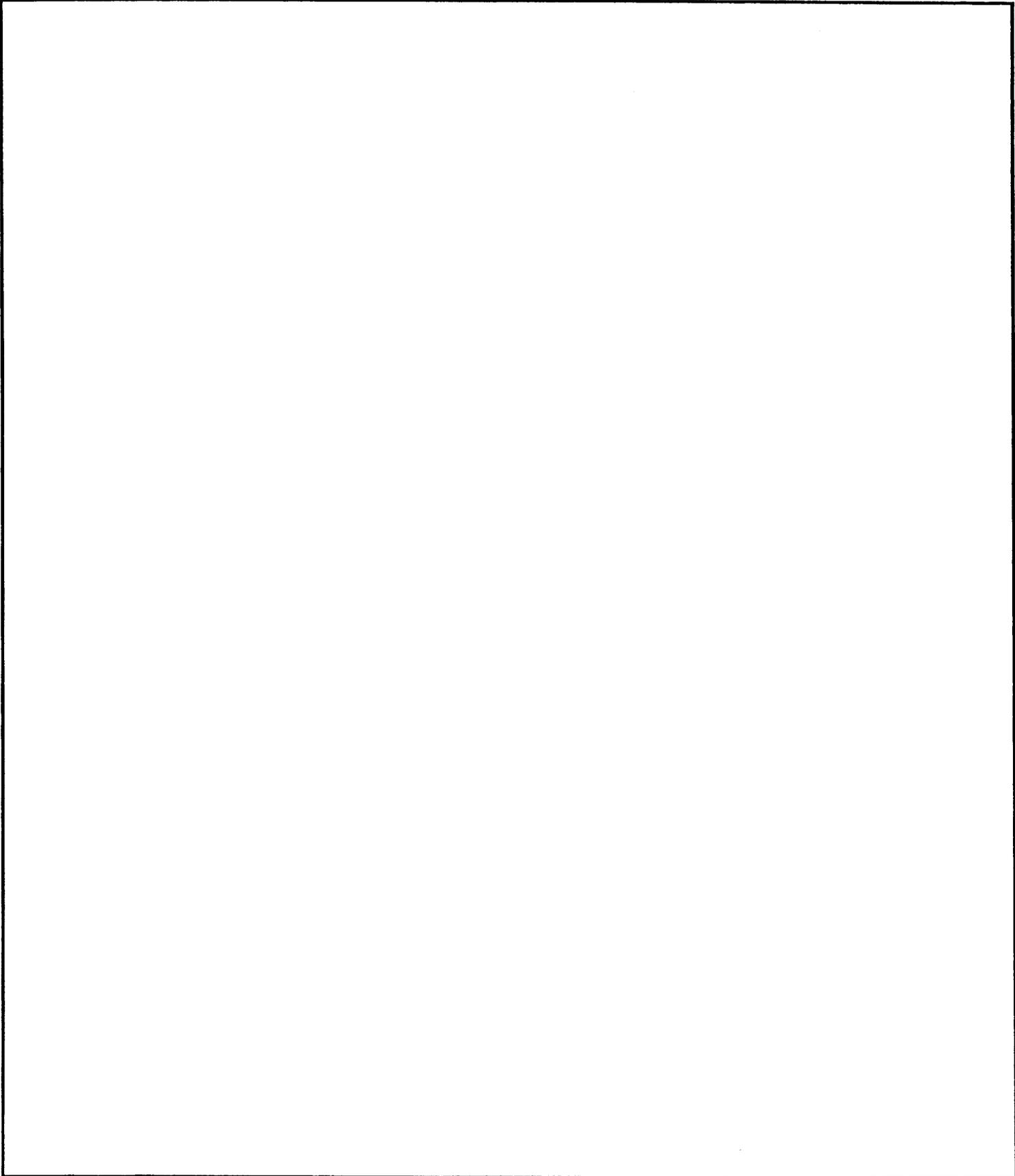
IF YES DESCRIBE: _____

ON THE FOLLOWING PAGE PROVIDE A SKETCH OF THE SITE SHOWING THE FOLLOWING FEATURES.

- a. ENTRANCE / EXIT ROUTE
- b. SCALES / SCALE HOUSE
- c. TEMP STAGING AREAS
- d. PROCESSING AREAS
- e. PROCESSED MATERIAL STORAGE AREAS
- f. MATERIAL DISPOSAL AREAS (APPROX. AREA IN LANDFILL CELL)
- g. FUELING AND FUEL STORAGE AREAS
- h. HAZARDOUS MATERIALS TEMP STORAGE
- i. TOILET FACILITIES
- j. PRIMARY ROUTING THRU THE SITE
- k. DISTANCE TO NEIGHBORING BUSINESSES, SUBDIVISIONS , WATERWAYS / WETLANDS AND/OR DRAINAGE STRUCTURES

**DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES**

TDSR MAP



**DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES**

B. EQUIPMENT AND PERSONNEL RESOURCES ON SITE:

4. EQUIPMENT RESOURCES: EQUIPMENT LIST ATTACHED CONTINUATION SHEET

| | DESCRIPTION | | | SIZE | | | CHECK ONE | | |
|---|-------------|----------------|-----------------------------|------|-----|---------------|------------|------|----------------|
| | Make | Model / Number | Contractor Equipment Number | HP | WGT | Serial Number | IN SERVICE | IDLE | OUT OF SERVICE |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

5. PERSONNEL RESOURCES:

| PERSONNEL | |
|-------------------------------------|-----|
| DESCRIPTION | QTY |
| Site Supervisor/Foreman Name: _____ | |
| SITE SUPERVISOR / FOREMAN | |
| EQUIPMENT OPERATORS | |
| FLAGMEN / TRAFFIC CONTROL | |
| SAWMEN | |
| LABORERS | |

OTHER (LIST): _____

COMMENTS: _____

**DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES**

C. TRANSPORTATION:

| DESCRIPTION | TRUCK NO. | CAPACITY (CUBIC YARD) | LOAD COUNT | AT WHAT TIME | AXLE CHECK ONE | | | | | ACTIVITY CHECK ONE | | | |
|-------------|-----------|-----------------------|------------|--------------|----------------|--------|-----|------|---------|--------------------|--------|------|----------------|
| | | | | | SINGLE | TANDEM | TRI | QUAD | TRAILER | LOADING | STAGED | IDLE | OUT OF SERVICE |
| | | | | AM | | | | | | | | | |
| | | | | PM | | | | | | | | | |
| | | | | AM | | | | | | | | | |
| | | | | PM | | | | | | | | | |
| | | | | AM | | | | | | | | | |
| | | | | PM | | | | | | | | | |
| | | | | AM | | | | | | | | | |
| | | | | PM | | | | | | | | | |

1. ARE TRUCKS BEING INSPECTED TO INSURE THEY ARE LOADED TO CAPACITY?
 YES NO

IF YES, EXPLAIN _____

2. ARE TRANSPORTATION MANIFESTS BEING USED? YES NO

COMMENTS: _____

D. LOGISTICS:

1. HOURS OF OPERATIONS: _____

2. DOES ROUTING THROUGH THE SITE APPEAR TO ACCOMMODATE THE VOLUME OF TRAFFIC? YES NO

IF NO: WHAT AND WHERE: _____

3. CYCLE TIME: (SAMPLING OF TRUCKS)

| TRUCK NUMBER | TIME IN | TIME OUT |
|--------------|---------|----------|
| | AM | AM |
| | PM | PM |
| | AM | AM |
| | PM | PM |
| | AM | AM |
| | PM | PM |
| | AM | AM |
| | PM | PM |
| | AM | AM |
| | PM | PM |

DEBRIS MANAGEMENT MONITORS CHECKLIST

TEMP DEBRIS STORAGE/REDUCTION SITES

4. GENERAL OBSERVATIONS:

- a. ARE EQUIPMENT / PERSONNEL RESOURCES ON SITE APPROPRIATE FOR THE TASK THEY ARE PERFORMING? COMMENT.

PLEASE NOTE ANY APPARENT PROBLEMS OR BENEFICIAL ACTIVITY, EQUIPMENT OR PERSONNEL THAT MAY BE IMPACTING THE EFFICIENCY OF SITE ACTIVITIES.

E. QUANTITY /QAQC MEASUREMENT

1. QUANTITY:

QUANTITY TO DATE: ESTIMATE ACTUAL _____ % COMPLETE

_____ TON _____ CUBIC YARD

| | | | | | |
|-----------------|----|--|----|--|-----|
| QUANTITY TODAY: | AT | | AM | | TON |
| | | | PM | | CY |
| | AT | | AM | | TON |
| | | | PM | | CY |
| | AT | | AM | | TON |
| | | | PM | | CY |
| | AT | | AM | | TON |
| | | | PM | | CY |

2. QA / QC – MEASUREMENT

METHOD USED TO CALCULATE / VERIFY QUANTITY

| | | | |
|--------------------------|-------------------|--|--------------------------------------|
| <input type="checkbox"/> | TON / WGT. | | SCALE HOUSE / PERMANENT SCALE |
| | | | OTHER: _____ |

| | | | |
|--------------------------|------------------|--|-------------------------------------|
| <input type="checkbox"/> | CY / VOL. | | VISUAL / INSPECTION PLATFORM |
| | | | ACTUAL MEASUREMENT |
| | | | TRUCK COUNT |
| | | | OTHER: _____ |

| | | | |
|--------------------------|---------------|--|------------------------|
| <input type="checkbox"/> | HOURLY | | TIME CARD |
| | | | EQUIPMENT METER |
| | | | DAILY REPORT |
| | | | OTHER: _____ |

**DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES**

ARE MANIFEST / LOAD TICKETS BEING ATTACHED TO THE DAILY SUMMARY REPORT? YES NO

IF NO, COMMENT _____

F. PERMITTING / ENVIRONMENTAL:

1. SITE CONTROL APPLICANT CONTRACTOR PRIVATE

IS THE FACILITY/SITE PERMITTED FOR SITE OPERATIONS?

YES NO

IF NO, COMMENT: _____

2. MAINTENANCE AND FUELING OPERATIONS PROVIDED FOR ON SITE?

YES NO

TYPE OF STORAGE

| | |
|--------------------------|-------------|
| <input type="checkbox"/> | AST / FUELS |
| <input type="checkbox"/> | FUEL TANKER |
| <input type="checkbox"/> | AST / LUBES |
| <input type="checkbox"/> | LUBE TRUCK |

OTHER: _____

ARE THERE ANY VISUAL SIGNS OF A SPILL OR RELEASE ? YES NO

IF YES, COMMENT: _____

LOCATE SPILL /RELEASE ON TDSR MAP/PHOTOGRAPH

3. STORAGE OF MSW / HOUSEHOLD HAZARDOUS WASTE / CONSTRUCTION & DEMOLITION DEBRIS / ASH:

ARE DESIGNATED AREAS ESTABLISHED AND UTILIZED FOR THE STAGING AND TEMPORARY STORAGE OF:

HOUSEHOLD WASTE (MSW IE GARBAGE) YES NO N/A

DESCRIBE: _____

HOUSEHOLD HAZARDOUS WASTE YES NO N/A

DESCRIBE: _____

CONSTRUCTION AND DEMOLITION DEBRIS YES NO N/A

DESCRIBE: _____

ASH FROM (ACBs) YES NO N/A

DESCRIBE: _____

OTHER YES NO N/A

DESCRIBE: _____

DEBRIS MANAGEMENT MONITORS CHECKLIST
TEMP DEBRIS STORAGE/REDUCTION SITES

G. ATTACHMENTS:

YES NO

| ITEM No. | DOCUMENT | NUMBER OF PAGES |
|-------------|----------|--------------------|
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**NC DIVISION OF EMERGENCY MANAGEMENT
DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
TEMP DEBRIS STORAGE/REDUCTION SITES**

This document acts as a detailed aid to filling out the Debris Management Monitor's Checklist for Emergency Clearing and Removal Operations.

General Information

EVENT

The four-digit number assigned to the disaster for a Presidential declaration, or
The number assigned to the disaster for a State declaration.

DAY AND DATE

The day and date the checklist is being filled out.

TIME

The time you were first at this specific location.

MONITOR

Your name.

- Check **State** if you are dispatched from the NC Division of Emergency Management.
- Check **Applicant** if you are dispatched by local government. i.e. County or city.

APPLICANT

Name of the County, City, Municipality, or Non-profit applying for reimbursement.

CONTRACT NO/CONTRACTOR

If numerous contracts have been assigned or the applicant has a purchase order (PO) type contract enter the number here followed by the general contractors name. Do not put the name of the subcontractor performing the work in this space.

CONTRACT TYPE

Check the type of contract under which the work is being performed.

FORCE ACCOUNT LABOR

Did the Applicant use their own manpower and equipment?

RECEIVING FACILITY ADDRESS

The actual mailing address of the facility, if available. Also, list how the applicant refers to that specific site, if it is different from its address. If the site is a TDSR site, it's approximate location on a street or road, give landmarks.

CONTACT PERSON

Not necessarily the owner but the person who has control/responsibility for the site. For TDSR sites, it could be the contractor, the local government representative, County/City manager, or debris manager.

PHONE NUMBER FOR CONTACT

List the phone number of the contact person. Note if the phone number is for an office, cell phone, pager, etc. Additional means of contact can also be listed i.e. e-mail, fax etc.

Appendix A-05

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
TEMP DEBRIS STORAGE/REDUCTION SITES

Section A. Site Operations

TYPE OF OPERATION

Temporary Staging Only – This could be a full-blown TDSR or just an area at a large public facility or park where the debris was piled before loading.

Grind/Chip (Reduction) – A TDSR that has tub grinders and chippers working to reduce the volume of woody/vegetative debris.

Burn – This could be a wood fired boiler facility, a TDSR site approved for air curtain burners (ACBs), or open burning.

Landfill – This could be the local government facility, a regional landfill, or private landfill. Construction and Demolition (C&D), Land clearing and inert debris (LCID) or Municipal Solid Waste (MSW).

Other – White goods staging area, C & D transfer station, Household Hazardous Waste (HHW) or Compost/Yard Waste facility

DEBRIS CATEGORY

Clean woody – limbs, trees, leaves without any building materials, garbage, furniture or mud mixed in.

C & D – Construction and Demolition debris – resulting from high winds or wave action/flood water damages.

Sand/Soil/Mud – typically a mixture of what is washed onto roads and into buildings along coastal and flood prone areas. Deposited by wind or water.

Mixed C & D/Woody & Sand – Combination of building materials, shrubbery, trees and sand. Often found in coastal areas that were flooded.

Other – Household Hazardous Waste – white goods, refrigerators, stoves, washing machines, Automobiles etc.

IS DEBRIS SEGREGATED?

Have the homeowner/residents made separate piles for tree limbs and vegetative waste, furniture, clothing and household debris, and construction debris?

SITE CHARACTERISTICS

Size –

- How many acres are being used?
 - ▲ Approximately how many acres are being utilized at this specific site for all combined activities.
- How many acres are available for use?
 - ▲ The total available acres of this site that may or may not include any unused or unimproved areas.

Is Site Security provided? If yes, by whom and by what method?

Site security can include fences, barriers, local law enforcement, private security, contractor or applicant personnel. If the site is a business location, the operator of the business may provide site security. The contractor, private owner or applicant can provide security. Describe the method used.

Are means available On Site for Fire Protection? If yes, describe.

This would include water trucks, fire ponds, fire hydrants if located inside the water service area of the local government.

Appendix A-05

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
TEMP DEBRIS STORAGE/REDUCTION SITES

SKETCH A SITE MAP ON SHEET PROVIDED SHOWING THE LISTED FEATURES.

- a) **Entrance/Exit Route** – Indicate the main roads that traffic will enter and exit the site by. Indicate North on the sketch to provide correct orientation of the site features.
- b) **Scales/Scale house** – If a scale or scale house are on site locate where they are in relationship to the entrance and exit route.
- c) **Temporary Staging Areas** – Indicate where on the site debris (vegetative, C & D, MSW, etc.) is staged prior to reduction.
- d) **Processing Areas** – It will be important to precisely locate processing areas such as ACB's, burn pits and tub grinders. At site closing, these areas should be monitored for any environmental impacts.
★ **NOTE:** Consider locating "benchmarks" across the site to be used as reference points to locate any feature of the site. Benchmarks can be as informal as a specific tree or physical characteristic that is not subject to change during the time the site is to be utilized. Precise benchmarks can be established by a registered surveyor that not only can be used to locate various site activity but also elevation. If permitting or utilization of the site requires it be restored to its pre-existing condition, elevation benchmarks will be required.
- e) **Processed Material Storage Area** – Locate areas on the site where ground vegetative/woody debris was placed and where ash from ACB pits was stored.
- f) **Material Disposal Areas (approx. area in landfill cell)** – This pertains only to material placed in a landfill cell. The operator of the landfill should provide this information. A map or sketch of the landfill cell and a general location within the cell is needed. Include the elevation within the cell, if available.
- g) **Fueling and fuel storage** – Precise location of any fuel storage facility, tanker and lube areas is required for environmental assessment at site closure.
- h) **Hazardous Materials** – Precise location of this area is required for assessment at site closure.
- i) **Toilet Facilities** – Locations may change from time to time, keep the site sketch up to date.
- j) **Primary Routing through the Site** – indicate the route debris transporters take through the site. Indicate the route from entrance, scale house, if available, debris staging areas and exit from the site. The route may change as work progresses. Keep the route updated on the sketch.
- k) **Distances to neighboring businesses, subdivisions, waterways/wetlands and/or drainage structures** – These measurements are important to insure the site meets setback requirements for processing. Designated storage areas should be kept at an adequate distance from drainage structures, such as ditches, canals and storm water catch basins.

Section B. Equipment and Personnel Resources on Site

EQUIPMENT RESOURCES

Make – Cat, John Deere, Case, Kabota, etc.

Model – Excavator, Back hoe, Loader (use R/T to indicate rubber tire.)

/Number – A number designation assigned by the manufacturer to indicate weight, horsepower or a specific attribute that the equipment might have. Example: A Cat Loader with the series number IG28G indicates the loader has the capability of switching a loader bucket for a set of forks.

Applicant Designated Equipment Number – The number assigned by the contractor or Applicant to designate that specific item of equipment.

HP – Horsepower Example: A Cat D5CLGP – 90 HP

WGT – The weight of the machine. Example: A Cat IT28G Integrated tool carrier (i.e. Rubber tire loader.) has a weight of 26,400 lbs. or 26.4 K #'s or 13.2 tons

Serial Number – A number assigned by the manufacturer of the equipment that is much like a Vehicle Identification Number (VIN). It can also indicate certain capabilities and accessories that individual piece of equipment may have.

- ★ The Serial number, Weight, Model number and sometimes the HP can be found stamped on a plate attached to the chassis of the equipment. The stamp is typically located on the main frame of the equipment in the engine compartment or near the left front of the operator's compartment.

Appendix A-05

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
TEMP DEBRIS STORAGE/REDUCTION SITES

In Service – The equipment is performing a task at that specific time.

Idle – The equipment is capable of performing a task but is not currently being used.

Out-of-Service – The equipment is mechanically incapable of performing the task for which it was intended. This does not refer to its ability to crank, idle and self-propel itself, but more to its capability to transport, lift or pull a load.

PERSONNEL RESOURCES

Site Supervisor/Foreman Name – Who is in charge and responsible for that specific work crew and equipment.

Site Supervisor/Foreman – Supervisors that are present on that site or crew. * The contractor should provide a list of foremen and operators prior to the start of work.

Equipment Operators – Individuals on that crew or site that have by virtue of training, experience and skill been authorized to operate a piece of equipment.

Flagmen/Traffic Control – Number of individuals that function as flagmen as stated in the Uniform Traffic Control Manual. (See Appendix _____ The Uniform Traffic Control Manual.)

Sawmen – Individuals that have been assigned chain saws by the contractor who are responsible for reducing the debris to a size that can be easily loaded.

Laborers – Individuals that may assist the sawmen and operators in completion of their tasks.

Others – Hazardous waste supervisors and technicians, chemists, inmate community service crews.

Comments – Use this space to list any problems with equipment or personnel.

Section C. Transportation

Description – Make of the Truck i.e. GMC, Ford, International, etc.

Truck No. – This should be either the transporter's truck number or the Applicant assigned number. If you use the transporter's truck number you must also document the specific transportation company.

Capacity (cubic yard) – This should be displayed on the side of the truck or truck bed.

Load Count & Time– How many loads of debris has the specific truck hauled at that specific time.

Axle –

- **Single** – One rear axle
- **Tandem** – Two rear axles
- **Tri** – Three rear axles
- **Quad** – Four rear axles
- **Trailer** – could range from two to four axles.

Activity –

- **Loading** – Is the truck actively being unloaded at this time?
- **Staged** – Is the truck waiting to be loaded at this time?
- **Idle** – Is the truck not being utilized at this time? It is capable of transporting debris but for whatever reason it is not being used.
- **Out-of-Service** – Incapable of transporting a load of debris.

ARE TRUCKS BEING INSPECTED TO ENSURE THEY ARE LOADED TO CAPACITY? IF YES, EXPLAIN.

List the method of inspection used to ensure trucks are transporting an adequate load. Are the trucks visually inspected from a tower or are they observed as they are off loaded.

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET Appendix A-05

TEMP DEBRIS STORAGE/REDUCTION SITES

ARE MANIFESTS BEING USED?

Yes or no.

COMMENTS

Use this section to identify any problems you observe with the trucks, any safety aspects that you have concerns about.

Section D. Logistics

HOURS OF OPERATIONS

What time in the morning does the TDSR open for business and what time does it stop receiving trucks. Indicate if the processing of material extends beyond the hours of receiving debris.

DOES ROUTING THROUGH THE SITE APPEAR TO ACCOMMODATE THE VOLUME OF TRAFFIC? IF NO, WHAT AND WHERE?

Evaluate if there are certain times of the day when the site receives more traffic than it can accommodate. Note the time and location of the bottleneck. Time at the scale house to weigh in is a typical problem that may result in backed up traffic at the entrance to the TDSR or landfill. Equipment breakdowns may be another reason that could cause traffic problems to occur. This condition could only exist at certain times of the day and be easily mitigated by requesting traffic control from local law officials during those hours.

CYCLE TIME

Select trucks at random to evaluate and document the volume of traffic received at the site. This may require you to follow the selected truck through the site.

Truck Number - The assigned number from the equipment master list.

Time In – The time the truck arrived at the site, prior to weigh in or inspection.

Time Out – The time the truck left the site boundary.

GENERAL OBSERVATIONS

Are equipment/personnel resources on site appropriate for the task they are performing?
Comment.

Does the contractor have the right equipment for the job? Are tub grinders being used and not chippers? Is material handling being performed using large capacity loaders or are backhoes being used? Are personnel available on site to remove contaminants for the staged debris prior to processing? Is all the equipment on site being utilized?

★ NOTE: Try to make an objective observation!

Note any apparent problems or beneficial activity, equipment or personnel that may be impacting the efficiency of site activities.

This is the opportunity not only to document any problems you may have observed but also to note what has been beneficial. You can note any operational problems that may relate to matters totally out of the contractor or Applicant's control. This section can provide excellent information that can be included in your guidance document for the next disaster.

Section E. Quantity/QAQC Measurement

1. QUANTITY

- **Quantity to date** – Is this an estimated or actual amount? Do you have documentation in hand to validate the quantity?

Appendix A-05

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET

TEMP DEBRIS STORAGE/REDUCTION SITES

- **% Complete** – This is your best guess about how much the contractor has completed and how much is left from the total debris management scope of work. If the contractor has completed the reduction phase of the contract but has yet to relocate/dispose of the ground debris he may be considered 75% complete but not 100%. Complete also includes site restoration.
 - ★ **NOTE** – It is okay to break down the task and document which phases have been complete as the project progresses.
- **Ton and Cubic Yard** – Refers to the units the contract is based on. Place the quantity amount in front of the appropriate unit.
- **Quantity Today** – Spaces are provided to enter quantities at four different times during the day. These could also be estimates.

2. QA/QC MEASUREMENT

This section is provided to validate how contract quantities are documented and calculated.

Ton/Wgt. –

- **Scale house/Permanent Scale** – Providing a printout or report showing the actual tare weight of debris.
- **Other** – Other would be temporary scales or certified scales at a remote location truck stop.

CY/Vol. –

- **Visual / Inspection Platform** – Is someone present to verify load capacity?
- **Actual Measurement** – Staged material at the TDSR site could be measured by a survey party to calculate the volume of debris or C & D material. This could be used to validate the visual/inspection platform method.
- **Truck Count** – Manually generated load tickets or manifests used to track the number of loads received and the quantity of each.
- **Other** – Electronic or photographic representation of debris.

Hourly –

- **Time Card** – Force Account Documentation or approved time cards submitted by the contractor or monitor.
- **Equipment Meter** – Elapsed time taken from hour meter on equipment. This is not a reliable method of verification but can be a good way to spot check.
- **Daily Report** – Summary sheet developed by the Applicant/contractor to verify equipment and personnel.
- **Other** – Punch ticket from a time clock. Established work hours and equipment list verified by monitors.

ARE MANIFEST/LOAD TICKETS BEING ATTACHED TO THE DAILY SUMMARY REPORT? IF NO, COMMENT.

Who is responsible for the load tickets and where are they stored for reference.

Section F. Permitting/Environmental

SITE CONTROL

Is the site a TDSR established by the Applicant, the contractor, or is it a private facility?

IS THE FACILITY/SITE PERMITTED FOR SITE OPERATIONS? IF NO, COMMENT.

Most permitted solid waste facilities, be it public or private, are permitted to handle a specific waste stream in a specific manor. Most MSW landfills have permits to temporarily store HHW, recycle oil and white goods. LCID landfills are permitted to accept land clearing or inert material, this does not include C & D debris as well as treated wood products. C & D landfills can accept construction

Appendix A-05

DEBRIS MANAGEMENT MONITORS CHECKLIST INSTRUCTION SHEET
TEMP DEBRIS STORAGE/REDUCTION SITES

demolition debris, land clearing and inert debris. Air curtain burners (ACBs) may not require a permit to operate but there are set back requirements that would preclude them from being operated on certain sites. TDSR sites may or may not be temporarily permitted to accept a wide range of debris.

MAINTENANCE AND FUELING OPERATIONS PROVIDED FOR ON SITE? YES OR NO.

This is the most likely source of contamination the site is exposed to. On site fuel storage tanks, if not trailer mounted are required to provide secondary containment. The daily fueling of equipment whether from the on site fuel storage tanks or contract fuel trucks, will require monitoring. Establish a contaminated soil staging area on site in the event of a spill.

TYPE OF STORAGE

AST/Fuel – Above ground storage tank.

Fuel Tanker – A tanker truck may be located on site to store fuel for equipment. Indicate who owns the tanker.

AST/Lubes – Above ground storage tanks for lubricants. Heavy equipment requires large quantities of hydraulic, gear oil, and grease for daily maintenance.

Lube Truck – A mobile unit/truck that services equipment lubrication and possibly fuel requirements at the location of the equipment. Examples are tub grinders and other semi-fixed equipment.

Other – Some equipment sales and service companies provide on site maintenance and service.

☞ Document who provides these services for the contractor in the event of a release that may or may not be reported.

ARE THERE ANY VISUAL SIGNS OF A SPILL OR RELEASE? IF YES, COMMENT.

Look for fuel spills around AST's and fixed equipment such as ACBs and tub grinders. Another method of locating spills is to use your nose. Diesel fuel has a distinct odor that does not readily evaporate.

LOCATE SPILL/RELEASE ON TDSR MAP/PHOTOGRAPH.

Locate the release on a map giving definitive distances and benchmarks so you can sample the area if you have to provide documentation regarding removal and disposal of contaminated soil. A photograph of the area provides excellent documentation.

STORAGE OF MSW/HOUSEHOLD HAZARDOUS WASTE/CONSTRUCTION & DEMOLITION DEBRIS/ ASH.

If the site is not permitted to accept these types of debris check N/A, but only if they are **not** present on the site.

If the site is permitted to accept these types of waste the permit will typically stipulate how they will be handled and stored.

Section G. Attachments

Number each attachment and assign page numbers so the document can be easily tracked during faxing, transfer or duplication.

APPENDIX B

Hazardous Materials

WHAT TO DO IF A PETROLEUM SPILL OCCURS

The 24-hour Emergency Response Number is (800) 858-0368.

The reporting requirements for **petroleum products** can be found in North Carolina's Oil Pollution Act, § 143-215.85 (a and b).

IF the petroleum discharged, released or spilled:

- Is 25 gallons or more, or
- Causes a sheen on nearby surface water, or
- Is 100 feet or less from surface water body,

THEN the person owning or having control over the oil **must immediately** take measure to collect and remove the discharge, and report the discharge to DENR within 24 hours, and begin to restore area affected by the discharge.

IF the petroleum is released or spilled:

- Is less than 25 gallons,
- Does not cause a sheen on nearby surface water, and
- Is more than 100 feet from all surface water bodies,

THEN the person who owns or has control over the oil must immediately take measures to collect and remove the discharge. If it cannot be cleaned up within 24 hours of the discharge or causes sheen on nearby surface water, the person must immediately notify DENR.

If the petroleum released or spilled in any circumstances does not meet one of the above requirements, or is not permitted by GS 143-215.1, or it is not pursuant to a rule adopted by the Environmental Management Commission or a regulation of US EPA, it **must be reported to DENR immediately**. The Oil Pollution Protection Act can be reviewed in whole at the following website:

http://www.ncga.state.nc.us/statutes/statutes_in_html/chp1430.html

The act starts at Article 21A, § 143-215.75.



HURRICANE CLEAN UP EMERGENCY GUIDELINES HOUSEHOLD HAZARDOUS WASTE TEMPORARY COLLECTION EVENTS

When local governments are preparing temporary facilities for handling household hazardous waste resulting from cleanup efforts due to hurricane damage, the following guidelines should be considered.

The local government should choose an HHW contractor from the attached list to set up a collection event. The contractor should be able to assist in selecting a site which is easily accessible, accommodates the contractors equipment, and accommodates traffic. Centrally located events are usually set up at a park, fairgrounds, or local government facility parking lot. The local government may choose a milk-run type collection at sites across the county. In this case the HHW contractor collects HHW for a certain time period at one site and then moves on to the next. The Section will work with local government in every way possible to establish the type of collection that fits the particular situation.

In order to hold a collection event, the local government should contact the Solid Waste Section to obtain a temporary identification number. This number is required at all hazardous waste disposal and recycling facilities as a condition of waste acceptance. A form for requesting the identification number is attached. Keep in mind that contractors normally keep these forms on hand and, if requested, will obtain the number for the client.

HHW Contractors Used in North Carolina

This list was prepared in response to requests for names of firms that have operated household hazardous waste collection events in North Carolina. Inclusion in this list does not constitute endorsement or recommendation. Inadvertent omission from this list does not imply an unfavorable opinion by the Section. Contractors wishing to be included in this list, or with corrections to information, should contact the Division of Waste Management, Solid Waste Section at (919) 733-0692.

OHM Remediation Services Corps.
5335 Triangle Pkwy, Suite 450
Norcross, GA 30092
(800) 327-9942
-Hearn Tidwell

City Environmental Services of Florida
7202 East Eighth Avenue
Tampa, FL 33619
(813) 623-5302
-Mitch McDowell

Carolina Environmental Associates
P. O. Box 963
Burlington, NC 27216-0963
(336) 229-0058
-Michael Griffin

Advanced Environmental Technical Services
2176 Will Suitt Road
Creedmoor, NC 27522
(919) 528-3996
-Ken McKeveny

Ecoflo
2750 Patterson Street
Greensboro, NC 27407
(336) 855-7925
-Stuart Stapleton

Safety-Kleen
208 Watlington Industrial Drive
Reidsville, NC 27320
(336) 361-6133
-Keith Anderson

Heritage Environmental
4132 Pompano Road
Charlotte, NC 28216
1-800-326-1175
-Nikki Metcalfe

North Carolina Department of Environment and Natural Resources
 Division of Waste Management
 Solid Waste Section

APPLICATION FOR A HOUSEHOLD HAZARDOUS WASTE NUMBER

A household hazardous waste I.D. number shall be required to ship collected materials off-site for treatment and/or processing.

Please check the appropriate box and fill in the blanks.

Temporary Day

Permanent Site

OPERATOR

| | | |
|-----------------|-----------|--|
| City/County | | |
| Contact Person | Phone () | |
| Company Name | | |
| Site Location | County | |
| Contact Person | Phone () | |
| Mailing Address | | |
| | | |

TRANSPORTER

| | | |
|-----------------|-----------|--|
| Company Name | ID No. | |
| Mailing Address | | |
| | | |
| Contact Person | Phone () | |

DISPOSER/RECYCLER

| | | |
|---------------------------|-----------|--|
| Company Name | ID No. | |
| Site Location | | |
| Mailing Address | | |
| | | |
| Contact Person | Phone () | |
| MATERIALS TO BE COLLECTED | | |
| | | |
| MATERIALS TO BE RECYCLED | | |
| | | |
| EXPLANATION | | |
| | | |
| | | |



North Carolina Department of Health and Human Services
 Division of Public Health • Epidemiology Section
 1912 Mail Service Center • Raleigh, North Carolina 27699-1912
 Tel 919-733-0820 • Fax 919-733-8493

Michael F. Easley, Governor

Carmen Hooker Odom, Secretary

January 31, 2002

TO: ALL Contacts Concerning Declared Disasters

FROM: John J. "Pat" Curran, CIH
 Health Hazards Control Unit (HHCU) 

SUBJECT: Asbestos Requirements During Hazard Mitigation and Public Assistance Projects

This letter is to provide you with some of the basic information needed to comply with current asbestos regulations that affect Hazard Mitigation and/or Public Assistance projects following a disaster. If you are planning a Hazard Mitigation and/or Public Assistance project then you must complete the following steps.

- (1) An asbestos survey is required in the affected area to determine the presence of asbestos prior to conducting a Hazard Mitigation and/or Public Assistance project.
- (2) Asbestos surveys can only be conducted by North Carolina accredited asbestos inspectors.
- (3) All suspect friable and non-friable asbestos containing building materials (ACBM) must be tested for asbestos content. Any material having laboratory results greater than 1% asbestos is considered asbestos-containing.
- (4) The notification form, DHHS 3768, "Asbestos Permit Application and Notification for Demolition/Renovation" is required to be submitted to the HHCU before demolition activities begin. This form is required ten working days before the demolition activity can begin. Even if no asbestos was identified during the asbestos survey, this form is still required ten working days before the demolition activity begins.

Asbestos can be found in over 3,000 building products. Some common products containing asbestos include: insulation on boilers, steam pipes, water pipes and ducts; cementitious siding or roofing shingles; ceiling tile (all forms); asphalt and felt roofing applications; wallboard and mud joint compound; sprayed-on or trowelled-on surface materials on walls or ceilings; insulation (wall and ceiling); floor tiles and sheet vinyl floor coverings, mastic, etc.

- * Friable ACBM contains greater than 1% asbestos that, when dry, may be crumbled, pulverized, or reduce to powder by hand pressure.
- * Non-Friable ACBM contains greater than 1% asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- * Regulated ACBM contains greater than 1% asbestos and includes friable asbestos. It also includes non-friable ACBM that will be or has been subject to sanding, grinding, abrading, or that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of a demolition activity.
- * Demolition is defined as the wrecking or taking out of a load-supporting structural member of a facility together with any related handling operations or the intentional burning of a facility. This includes acquisition and elevation projects and applies to residential houses, public, commercial, and industrial buildings. If regulated ACBM is identified and will be disturbed, then the asbestos is required to be removed by North Carolina accredited individuals before the demolition activity can begin.

The information provided in this letter does not include all of the asbestos requirements needed to stay in compliance. For a copy of the notification form DHHS 3768, a listing of accredited individuals, or a copy of the asbestos regulations, please contact our office.

The Health Hazards Control Unit can be contacted at (919) 733-0820.





North Carolina
 Department of Health and Human Services
 Division of Public Health
 2728 Capital Boulevard • 1912 Mail Service Center • Raleigh, North Carolina 27699-1912 • Courier 56-32-00
 Ann F. Wolfe, M.D., M.P.H., Director

September 14, 1999

TO: All Contacts for Designated Disaster Relief Counties

FROM: John J. "Pat" Curran, Unit Manager
 Health Hazards Control Unit *Mary Geyser for Pat Curran*

SUBJECT: Guidelines Concerning the Handling and Disposal of Natural Disaster Related Construction and Demolition Debris That May Contain Asbestos

The following guidelines are provided to assist the contacts in the designated disaster relief counties with the handling and disposal of construction and demolition debris. The purpose of these guidelines will be to protect the public and environment from potential asbestos exposure during this "emergency" clean up. These guidelines will be in effect until March 1, 2001. If you have questions concerning these guidelines, please call the Health Hazards Control Unit (HHCU) at (919) 733-0820.

NATURALLY RAZED STRUCTURES

- (1) Structures that are razed to the ground, by natural forces, should be wetted down, properly contained, covered for transportation, and disposed of in a permitted landfill.
- (2) Structures that have been accumulated into large piles of construction and demolition debris should be wetted down, properly contained, covered for transportation, and disposed of in a permitted landfill.

STRUCTURES THAT ARE "STRUCTURALLY UNSOUND AND IN DANGER OF IMMINENT COLLAPSE"

- (1) Structures that are "Structurally Unsound and In Danger of Imminent Collapse" should be wetted down and demolished using normal demolition techniques such as bull-dozers, front-end loaders, or wrecking balls; properly contained, covered for transportation, and disposed of in a permitted landfill.
- (2) The owner/contractor will notify the HHCU of the demolition by submitting a notification form (DHHS-3768) with a copy of the condemnation order attached. The state notification form and a copy of the condemnation order must be faxed to the HHCU 24 Hours before the demolition activity begins. The HHCU fax number is (919) 733-8493.

Natural Disaster, 1999
Page Two

NORMAL RENOVATION AND DEMOLITION ACTIVITIES

- (1) An asbestos inspection is required by a North Carolina accredited asbestos inspector, to determine the presence of asbestos, prior to conducting renovation and/or demolition activities in public, commercial, and industrial buildings; and residential structures meeting the NESHAP regulations. If asbestos is identified and will be disturbed, then the asbestos is required to be removed before renovation and/or demolition activities. The removal of regulated asbestos building materials are to be performed by North Carolina accredited individuals. Should the removal of regulated asbestos amount to at least 160 square feet, 260 linear feet, or 35 cubic feet, then an approved permit (DHHS-3768) will be required from the HHCU ten working days before the asbestos removal.

OTHER ISSUES

- (1) BURNING associated with these guidelines is not allowed without first addressing the potential for asbestos containing building materials. An asbestos inspection by a NC accredited asbestos inspector and an approved notification form (DHHS - 3768) will be required prior to any burning.
- (2) SALVAGING associated with these guidelines is not allowed without first addressing the potential for asbestos containing building materials. An asbestos inspection by a NC accredited asbestos inspector and an approved notification form (DHHS - 3768) will be required prior to salvaging or deconstruction activities.
- (3) GRINDING associated with these guidelines is not allowed without first addressing the potential for asbestos containing building materials. An asbestos inspection by a NC accredited asbestos inspector and an approved notification form (DHHS - 3768) will be required prior to any grinding or chipping activities.

NOTE: THESE GUIDELINES WILL BE IN EFFECT UNTIL MARCH 1, 2001



North Carolina
 Department of Health and Human Services
 Division of Public Health
 2728 Capital Boulevard • 1912 Mail Service Center • Raleigh, North Carolina 27699-1912 • Courier 56-32-00
 Ann F. Wolfe, M.D., M.P.H., Director

September 14, 1999

TO: All Solid Waste Landfills

FROM: John J. "Pat" Curran, Unit Manager
 Health Hazards Control Unit

Handwritten signature: Mary Heger for Pat Curran

SUBJECT: Disposal of Natural Disaster Related Construction and Demolition Debris That May Contain Asbestos Building Materials

The following guidelines are provided to assist solid waste landfills that may be accepting construction and demolition (C&D) debris containing asbestos resulting from natural disasters. The purpose of these guidelines will be to protect the public and the environment from potential asbestos exposure during the disposal of C&D debris. By following these guidelines, the risk of exposure to asbestos should be minimized. If you have questions concerning these guidelines, please call the Health Hazards Control Unit (HHCU) at (919) 733-0820. If you have questions concerning solid waste issues please call the Division of Solid Waste Management at (919) 733-0692.

- (1) Before arriving to the landfill, all C&D debris being transported to a solid waste landfill for disposal should be wetted down, properly contained, and covered for transportation.
- (2) After the vehicle enters the solid waste landfill and off - loads the C&D debris, the landfill operators should be prepared to use their water trucks to wet the debris again and rinse the transport vehicle out if necessary.
- (3) As the landfill operators are moving the C&D debris to its designated place, the operators should be prepared to wet the waste material as needed to prevent visible dust. Any visible dust would be an indication that more water is necessary.
- (4) It is important that the general public not be allowed to enter the designated debris disposal area in the event that there is a release of dust that may contain asbestos fibers.
- (5) Finally, the solid waste landfills should keep records where this C&D debris is buried so that it will not be disturbed at a future date.
- (6) These guidelines will be in effect until March 1, 2001.





North Carolina
Department of Health and Human Services
Division of Public Health
2728 Capital Boulevard • 1912 Mail Service Center • Raleigh, North Carolina 27699-1912 • Courier 56-32-00
Ann F. Wolfe, M.D., M.P.H., Director

October 14, 1999

TO: Teresa Carter, Public Assistance Supervisor
NC Department of Crime Control & Public Safety

FROM: John J. "Pat" Curran, Unit Manager 
Health Hazards Control Unit (HHCU)

SUBJECT: Asbestos Guidelines Concerning the Disposal of Mobile Homes

The following guidelines are provided to assist with the demolition of mobile homes damaged as a result of Hurricane Floyd. Adherence to these guidelines is essential to protect the public health and the environment. If you have questions concerning these guidelines, please contact the Health Hazards Control Unit at (919) 733-0820. The HHCU fax number is (919) 733-8493.

(1) These guidelines apply only to mobile homes used as single family dwellings.

These guidelines do **not** apply to mobile homes used for commercial, industrial, institutional, or public purposes. These guidelines do **not** apply to mobile structures used for non-residential purposes, such as modular trailers, commonly used at schools, churches, or places of business.

(2) For ordered demolitions the owner or contractor will notify the HHCU of the demolition by submitting a notification form (DHHS-3768) with a copy of the condemnation order attached. The notification form and a copy of the condemnation order must be received by the HHCU at least twenty-four (24) hours before the demolition activity begins. Both the notification form and the condemnation order are required for each specific project.

For staging areas where mobile homes will be delivered for demolition, the owner or contractor will notify the HHCU of the demolition by submitting a notification form (DHHS-3768) with a copy of the condemnation order attached. The notification form and condemnation order must be received by the HHCU at least twenty-four (24) hours prior to beginning demolition activities at each staging site.



APPENDIX C

Additional Resources/Mutual Aid

**Community Works Program
NC Department of Corrections
Division of Prisons**

Assistance is available through the NC Department of Corrections for manpower to perform manual labor associated with disaster debris clearing, removal, and emergency protective measures.

Requests for inmate work crews during a state or federally declared disaster should be routed through the Emergency Management/State Emergency Response Team Command Center. The request will be prioritized and assistance dispatched to the applicants from this centralized point. To assure crews and resources are dispatched according to need, please do not contact the local correction facility directly. This will allow the Department of Corrections to document and track the resources that they have in the field and allow them to coordinate with non-affected counties to draw additional resources.

For planning purposes, identify tasks that would be suitable for community work crews, such as those for which crews could assist or replace force account labor crews. In past disasters, community work crews have been used for tasks such as emergency clearing of critical facilities, parking lots and walkways. Community work crews can also be utilized to perform pre-disaster emergency protective measures such as sand-bagging.

Attached is a list of available crews and their location that would be available to assist local governments in the event of an emergency.

NORTH CAROLINA DEPARTMENT OF CORRECTION
 DIVISION OF PRISONS
 COMMUNITY WORK PROGRAM

Appendix C-01

| # | LOCATION | # CREWS | # INMATES |
|------|----------------------------|---------|-----------|
| 4570 | Anson | 3 | 30 |
| 3040 | Black Mountain | 1 | 10 |
| 4315 | Bladen (2 chain saw crews) | 6 | 60 |
| 4675 | Buncombe | 3 | 30 |
| 4510 | Cabarrus | 3 | 30 |
| 4625 | Caldwell | 4 | 40 |
| 4110 | Carteret | 3 | 30 |
| 4555 | Catawba | 4 | 40 |
| 4530 | Charlotte | 1 | 10 |
| 3080 | Dan River Work Farm | 15 | 150 |
| 4420 | Davidson | 2 | 20 |
| 4125 | Duplin | 5 | 50 |
| 4210 | Durham | 2 | 20 |
| 4430 | Forsyth | 2 | 20 |
| 3020 | Fountain (Edgecombe) | 4 | 40 |
| 4515 | Gaston | 4 | 40 |
| 4130 | Gates | 1 | 10 |
| 4140 | Greene | 9 | 90 |
| 4440 | Guilford | 3 | 30 |
| 4640 | Haywood | 4 | 40 |
| 4645 | Henderson | 3 | 30 |
| 4180 | Hyde | 4 | 40 |
| 3730 | Marion | 4 | 40 |
| 3700 | McCain | 1 | 10 |
| 3060 | Neuse | 3 | 30 |
| 4170 | New Hanover | 6 | 60 |
| 3090 | North Piedmont CCW | 2 | 20 |
| 4240 | Orange | 1 | 10 |
| 3740 | Pasquotank | 8 | 80 |
| 3030 | RCCW | 1 | 10 |
| 4340 | Robeson | 3 | 30 |
| 4540 | Rowan | 2 | 20 |
| 4655 | Rutherford | 4 | 40 |
| 3915 | Sandhills | 2 | 20 |
| 4360 | Sanford | 5 | 50 |
| 4350 | Scotland | 1 | 10 |
| 3600 | Southern | 5 | 50 |
| 3320 | Tillery | 6 | 60 |
| 3070 | Tyrrell Work Farm | 13 | 130 |
| 4255 | Umstead | 2 | 20 |
| 4265 | Wake | 1 | 10 |
| 4290 | Warren | 3 | 30 |
| 4665 | Wilkes | 5 | 50 |

| | | | |
|-----------------|-----------|-----|------|
| TOTALS | 44 | 164 | 1640 |
| Chain Saw Crews | 22 (bold) | | |
| 02-04-02 | | | |

MUTUAL AID AGREEMENT EXAMPLE

INTERGOVERNMENTAL EMERGENCY MUTUAL AID AGREEMENT

STATE OF _____
CITY / COUNTY _____

WHEREAS, (State Name) law authorizes local governments to contract with each other to provide services, and
WHEREAS, (State Name) law and state policy also provides for certain reimbursements or financial aid to local
government for certain natural disasters or emergency conditions declared by the Governor, and
WHEREAS, the (City or County Name) finds it to be in its best interest to have such mutual aid agreements with
other local governmental bodies in the state and region,
NOW, THEREFORE, in consideration of the above recitals and the covenants contained herein, the parties hereto
agree as follows:

- 1. The (City or County Name) hereby agrees to provide through its Director of Public Works such mutual aid as
may be requested by a governmental unit, which has emergency conditions of a natural disaster as defined by
(State Name) law. The aid rendered shall be to the extent of available personnel and equipment not required
for minimum needs of the (City or County Name). The judgment of the Director of Public Works or his
designee shall be final as to the personnel and equipment so available.
2. Personnel dispatched to aid another jurisdiction shall remain employees of the (City or County Name), but
shall work under the supervision of the Director of Public Works of the requesting jurisdiction. The (City or
County Name) retains the right to withdraw any and all aid rendered upon direction of the Director of Public
Works.
3. The Director of Public Works will provide a list of hourly rates and equipment costs, and hours worked for all
such aid rendered to the requesting jurisdiction for all actual costs, and the requesting jurisdiction agrees to
compensate such claim for costs incurred as expeditiously as possible.
4. The (City or County Name) will maintain workers compensation coverage for its employees and liability
coverage for its vehicles and equipment. Any uninsured or extraordinary expenses may be a part of claimed
costs for reimbursement. The requesting jurisdiction agrees to maintain adequate liability insurance under
state law and to hold harmless and indemnify the (City or County Name) for any and all claims occurring
while its personnel and equipment are working under the direction of the Director of Public Works of the
requesting jurisdiction. These indemnities shall include attorney's fees and costs that may arise from
providing aid pursuant to this agreement.
5. The purpose of these recitals is to insure that the (City or County Name) is reimbursed all costs and assumes
no additional liabilities as a result of this agreement. Neither party to this agreement shall be liable, for its
failure to refusal to render aid pursuant to this agreement. The Director of Public Works shall in his sole
discretion determine the manner which such emergency aid may be used. (or his/her designee in charge of
operations)

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties subscribed below and is binding
upon the _____ and the requesting jurisdiction.

Date signed _____ CITY / COUNTY OF _____ by: _____
Date signed _____ REQUESTING JURISDICTION _____ by: _____

**NORTH CAROLINA STATEWIDE EMERGENCY MANAGEMENT MUTUAL AID AND
ASSISTANCE AGREEMENT**
Revision - January, 2001

THIS AGREEMENT IS ENTERED INTO BETWEEN THE NORTH CAROLINA DEPARTMENT OF CRIME CONTROL AND PUBLIC SAFETY, AND ITS DIVISION OF EMERGENCY MANAGEMENT OF THE STATE OF NORTH CAROLINA AND BY EACH OF THE ENTITIES THAT EXECUTES AND ADOPTS THE UNDERSTANDINGS, COMMITMENTS, TERMS, AND CONDITIONS CONTAINED HEREIN:

WHEREAS, the State of North Carolina is geographically vulnerable to a variety of natural disasters;

WHEREAS, Chapter 166A of the North Carolina General Statutes, entitled the North Carolina Emergency Management Act, recognizes this vulnerability and provides that its intended purposes are to:

- (1) Reduce vulnerability of people and property of this State to damage, injury, and loss of life and property;
- (2) Prepare for prompt and efficient rescue, care, and treatment of threatened or affected persons;
- (3) Provide for the rapid and orderly rehabilitation of persons and restoration of property; and
- (4) Provide for cooperation and coordination of activities relating to emergency and disaster mitigation, preparedness, response, and recovery;

WHEREAS, in addition to the State, the Federal Emergency Management Agency (FEMA) has recognized the importance of the concept of coordination between the State and local governments;

WHEREAS, under Chapter 166A and other chapters of the North Carolina General Statutes, entities entering into mutual aid and assistance agreements may include provisions for the furnishing and exchanging of supplies, equipment, facilities, personnel and services; and

WHEREAS, the entities which have chosen to become signatories to this Agreement wish to provide mutual aid and assistance amongst one another at the appropriate times; THEREFORE, pursuant to G.S. 166A-10(b), these entities agree to enter into this Agreement for reciprocal

emergency management aid and assistance, with this Agreement embodying the understandings, commitments, terms, and conditions for said aid and assistance, as follows:

Section I. DEFINITIONS

"Agreement" means this document, the North Carolina Statewide Emergency Management Mutual Aid and Assistance Agreement.

"Aid and assistance" includes personnel, equipment, facilities, services, supplies, and other resources.

"Authorized Representative" means a party's employee who has been authorized, in writing by that party, to request, to offer, or to otherwise provide assistance under the terms of this Agreement. The list of Authorized Representatives for each party executing this Agreement shall be attached to the executed copy of this Agreement. (In the event of a change in personnel, unless otherwise notified the presumption will be that the successor to that position will be the authorized representative.)

"Disaster" means an occurrence or imminent threat of widespread or severe damage, injury, or loss of life or property, resulting from any natural or man-made accidental, military, or paramilitary cause.

"Local Agency" means a county agency charged with coordination of all emergency management activities for its

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geographical limits pursuant to G.S. 166A-7.

"Party" means a governmental entity which has adopted and executed this Agreement.

"Provider" means the party which has received a request to furnish aid and assistance from another party in need (the "Recipient").

"Recipient" means the party setting forth a request for aid and assistance to another party (the "Provider").

Section II. INITIAL RECOGNITION OF PRINCIPLE BY ALL PARTIES; AGREEMENT PROVIDES NO RIGHT OF ACTION FOR THIRD PARTIES

As this is a reciprocal contract, it is recognized that any party to this Agreement may be requested by another party to be a Provider. It is mutually understood that each party's foremost responsibility is to its own citizens. The provisions of this Agreement shall not be construed to impose an unconditional obligation on any party to this Agreement to provide aid and assistance pursuant to a request from another party. Accordingly, when aid and assistance have been requested, a party may in good faith withhold the resources necessary to provide reasonable and adequate protection for its own community, by deeming itself unavailable to respond and so informing the party setting forth the request.

Given the finite resources of any jurisdiction and the potential for each party to be unavailable for aid and assistance at a given point in time, the parties mutually encourage each other to enlist other entities in mutual aid and assistance efforts and to enter into such agreements accordingly. Concomitantly, the parties fully recognize that there is a highly meritorious reason for entering into this Agreement, and accordingly shall attempt to render assistance in accordance with the terms of this Agreement to the fullest extent possible.

Pursuant to G.S. 166A-14 and as elaborated upon in Section X of this Agreement, all functions and activities performed under this Agreement are hereby declared to be governmental functions. Functions and activities performed under this Agreement are carried out for the benefit of the general public and not for the benefit of any specific individual or individuals. Accordingly, this Agreement shall not be construed as or deemed to be an agreement for the benefit of any third parties or persons and no third parties or persons shall have any right of action under this Agreement for any cause whatsoever. All immunities provided by law shall be fully applicable as elaborated upon in Section X of this Agreement.

Section III. PROCEDURES FOR REQUESTING ASSISTANCE

Mutual aid and assistance shall not be requested unless the resources available within the stricken area are deemed inadequate by Recipient. When Recipient becomes affected by a disaster and deems its resources inadequate, it may request mutual aid and assistance by communicating the request to Provider, indicating the request is made pursuant to this mutual aid agreement. The request shall be followed as soon as practicable by a written confirmation of that request, including the transmission of a proclamation of local state of emergency under G.S. 166A-8 and Article 36 A of Chapter 14 of the NC General Statutes, and a completed form describing its projected needs in light of the disaster. All requests for mutual aid and assistance shall be transmitted by the party's *Authorized Representative* or to the *Coordinator of the Local Agency* as set forth below.

A. METHOD OF REQUEST FOR MUTUAL AID AND ASSISTANCE: Recipient shall set forth requests by means of one of the two options described as follows:

(i) **REQUESTS ROUTED THROUGH THE RECIPIENT'S LOCAL AGENCY:** Recipient may directly contact the Local Agency, in which case it shall provide the Local Agency with the information in paragraph B of this Section (Section III). The Local Agency shall then contact other parties on behalf of Recipient to coordinate the provision of mutual aid and assistance. Recipient shall be responsible for the costs and expenses incurred by any Provider in providing aid and assistance pursuant to Section VII of this Agreement.

(ii) **REQUESTS MADE DIRECTLY TO PROVIDER:** Recipient may directly contact Provider's authorized representative, setting forth the information in paragraph B of this Section (Section III). All communications shall be conducted directly between Recipient and Provider. Recipient shall be responsible for the costs and expenses

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incurred by any Provider in providing aid and assistance pursuant to the provisions of this Agreement as noted in Section VII of this Agreement. Provider and recipient shall be responsible for keeping Local Agencies advised of the status of response activities, in a timely manner.

(iii) *RECORD OF REQUESTS TO BE PROVIDED*: A record of the request for assistance shall be provided by the Recipient to the Director of the Division of Emergency Management in the NC Department of Crime Control and Public Safety, in a timely manner.

B. REQUIRED INFORMATION: Each request for assistance shall be accompanied by the following information, in writing or by any other available means, to the extent known:

1. *Stricken Area and Status*: A general description summarizing the condition of the community (i.e., whether the disaster is imminent, in progress, or has already occurred) and of the damage sustained to date;
2. *Services*: Identification of the service function(s) for which assistance is needed and the particular type of assistance needed;
3. *Infrastructure Systems*: Identification of the type(s) of public infrastructure system for which assistance is needed (water and sewer, storm water systems, streets) and the type of work assistance needed;
4. *Aid and Assistance*: The amount and type of personnel, equipment, materials, and supplies needed and a reasonable estimate of the length of time they will be needed;

Provider's Traveling Employee Needs--Unless otherwise specified by Recipient, it is mutually understood that Recipient will provide for the basic needs of Provider's traveling employees. Recipient shall pay for all reasonable out-of-pocket costs and expenses of Provider's personnel, including without limitation transportation expenses for travel to and from the stricken area. Further, Recipient shall house and feed Provider's personnel at its (Recipient's) sole cost and expense. If Recipient cannot provide such food and/or housing at the disaster area, Recipient shall specify in its request for assistance that self-contained personnel are needed.

5. *Facilities*: The need for sites, structures, or buildings outside Recipient's geographical limits to serve as relief centers or staging areas for incoming emergency goods and services; and

6. *Meeting Time and Place*: An estimated time and a specific place for a representative of Recipient to meet the personnel and resources of any Provider.

C. STATE AND FEDERAL ASSISTANCE: Recipient shall be responsible for coordinating requests for state or federal assistance with its (Recipient's) Local Agency.

Section IV. PROVIDER'S ASSESSMENT OF AVAILABILITY OF RESOURCES AND ABILITY TO RENDER ASSISTANCE

When contacted by the Recipient/Local Agency, Provider's authorized representative shall assess Provider's own local situation in order to determine available personnel, equipment, and other resources. If Provider's authorized representative determines that Provider has available resources, Provider's authorized representative shall so notify the Recipient/Local Agency (whichever communicated the request). Provider shall complete a written acknowledgment, whether on the request form received from Recipient or on another form, regarding the assistance to be rendered (or a rejection of the request) and shall transmit it by the most efficient practical means to the Recipient/Local Agency for a final response. Provider's acknowledgment shall contain the following information:

1. In response to the items contained in the request, a description of the personnel, equipment, and other resources available;
2. The projected length of time such personnel, equipment, and other resources will be available to serve Recipient, particularly if the period is projected to be shorter than one week (as provided in the "Length of Time for Aid and Assistance" section [Section VI] of this Agreement.)

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- 3. The estimated time when the assistance provided will arrive at the location designated by the Authorized Representative of the Requesting Party; and
- 4. The name of the person(s) to be designated as Provider's supervisory personnel (pursuant to the "Supervision and Control" section [Section V] of this Agreement.)

Where a request has been submitted to the Local Agency, the Local Agency shall notify Recipient's authorized representative and forward the information from Provider. The Recipient/Local Agency shall respond to Provider's written acknowledgment by executing and returning a copy of the form to Provider by the most efficient practical means, maintaining a copy for its file.

Section V. SUPERVISION AND CONTROL

Provider shall designate supervisory personnel amongst its employees sent to render aid and assistance to Recipient. As soon as practicable, Recipient shall assign work tasks to Provider's supervisory personnel, and unless specifically instructed otherwise, Recipient shall have the responsibility for coordinating communications between Provider's supervisory personnel and Recipient. Recipient shall provide necessary credentials to Provider's personnel authorizing them to operate on behalf of Recipient.

Based upon such assignments set forth by Recipient, Provider's supervisory personnel shall:

- (1) have the authority to assign work and establish work schedules for Provider's personnel. Further, direct supervision and control of Provider's personnel, equipment, and other resources shall remain with Provider's supervisory personnel. Provider should be prepared to furnish communications equipment sufficient to maintain communications among its respective operating units, and if this is not possible, Provider shall notify Recipient accordingly;
- (2) maintain daily personnel time records, material records, and a log of equipment hours;
- (3) shall report work progress to Recipient at mutually agreed upon intervals.

Section VI. LENGTH OF TIME FOR AID AND ASSISTANCE; RENEWABILITY; RECALL

Unless otherwise provided, the duration of Provider's assistance shall be for an initial period of seven days, starting from the time of arrival. Thereafter, assistance may be extended in daily or weekly increments as the situation warrants, for a period agreed upon by the authorized representatives of Provider and Recipient.

As noted in Section II of this Agreement, Provider's personnel, equipment, and other resources shall remain subject to recall by Provider to provide for its own citizens if circumstances so warrant. Provider shall make a good faith effort to provide at least twenty-four (24) hours advance notification to Recipient of its (Provider's) intent to terminate mission, unless such notice is not practicable, in which case as much notice as is reasonable under the circumstances shall be provided.

Section VII. REIMBURSEMENTS

Except as otherwise provided below, it is understood that Recipient shall pay to Provider all documented costs and expenses incurred by Provider as a result of extending aid and assistance to Recipient. The terms and conditions governing reimbursement for any assistance provided under this Agreement shall be in accordance with the following provisions, unless otherwise agreed in writing by Recipient and Provider. Recipient shall be ultimately responsible for reimbursement of all eligible expenses. Provider shall submit reimbursement documentation to Recipient on the forms shown in Appendix B.

A. *Personnel*-- During the period of assistance, Provider shall continue to pay its employees according to its then prevailing ordinances, rules, and regulations. Recipient shall reimburse Provider for all direct and indirect payroll costs and expenses including travel expenses incurred during the period of assistance, including, but not limited to,

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employee retirement benefits as provided by Generally Accepted Accounting Principles (GAAP). However, as stated in Section IX of this Agreement, Recipient shall not be responsible for reimbursing any amounts paid or due as benefits to Provider's personnel under the terms of the North Carolina Workers' Compensation Act (Chapter 97 of the North Carolina General Statutes).

B. Equipment-- Provider shall be reimbursed by Recipient for the use of its equipment during the period of assistance according to either a pre-established local or state hourly rate or according to the actual replacement, operation, and maintenance expenses incurred. For those instances in which costs are reimbursed by the Federal Emergency Management Agency (FEMA), the FEMA-eligible direct costs shall be determined in accordance with 44 C.F.R. 206.228. Provider shall pay for all repairs to its equipment as determined necessary by its on-site supervisor(s) to maintain such equipment in safe and operational condition. At the request of Provider, fuels, miscellaneous supplies, and minor repairs may be provided by Recipient, if practical. The total equipment charges to Recipient shall be reduced by the total value of the fuels, supplies, and repairs furnished by Recipient and by the amount of any insurance proceeds received by Provider.

C. Materials And Supplies-- Provider shall be reimbursed for all materials and supplies furnished by it and used or damaged during the period of assistance, except for the costs of equipment, fuel and maintenance materials, labor, and supplies, which shall be included in the equipment rate established in subsection B of this section (Section VII), unless such damage is caused by gross negligence, willful and wanton misconduct, intentional misuse, or recklessness of Provider's personnel. Provider's personnel shall use reasonable care under the circumstances in the operation and control of all materials and supplies used by them during the period of assistance. The measure of reimbursement shall be determined in accordance with 44 C.F.R. 206.228. In the alternative, the parties may agree that Recipient will replace, with like kind and quality as determined by Provider, the materials and supplies used or damaged. If such an agreement is made, it shall be reduced to writing and transmitted to the North Carolina Division of Emergency Management.

D. Record Keeping-- Recipient and NC Division of Emergency Management personnel shall provide information, directions, and assistance for record keeping to Provider's personnel. Provider shall maintain records and submit invoices for reimbursement by Recipient or the NC Division of Emergency Management using the format used or required by FEMA publications, including 44 C.F.R. part 13 and applicable Office of Management and Budget (OMB) Circulars.

E. Payment; Other Miscellaneous Matters as to Reimbursements-- The reimbursable costs and expenses with an itemized notice shall be forwarded as soon as practicable after the costs and expenses are incurred, but not later than sixty (60) days following the period of assistance, unless the deadline for identifying damage is extended in accordance with 44 C.F.R. part 206. Recipient shall pay the bill or advise of any disputed items, not later than sixty (60) days following the billing date. These time frames may be modified in writing by mutual agreement. This shall not preclude Provider or Recipient from assuming or donating, in whole or in part, the costs and expenses associated with any loss, damage, or use of personnel, equipment, and resources provided to Recipient.

Section VIII. RIGHTS AND PRIVILEGES OF PROVIDER'S EMPLOYEES

Pursuant to G.S. 166A-14, whenever Provider's employees are rendering aid and assistance pursuant to this Agreement, such employees shall retain the same powers, duties, immunities, and privileges they would ordinarily possess if performing their duties within the geographical limits of Provider.

Section IX. PROVIDER'S EMPLOYEES COVERED AT ALL TIMES BY PROVIDER'S WORKERS' COMPENSATION POLICY

Recipient shall not be responsible for reimbursing any amounts paid or due as benefits to Provider's employees under the terms of the North Carolina Workers' Compensation Act, Chapter 97 of the General Statutes, due to personal injury or death occurring during the period of time such employees are engaged in the rendering of aid and assistance under this Agreement. It is mutually understood that Recipient and Provider shall be responsible for payment of such workers' compensation benefits only to their own respective employees. Further, it is mutually understood that Provider will be entirely responsible for the payment of workers' compensation benefits to its own respective employees pursuant to G.S. 97-51.

Section X. IMMUNITY

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Pursuant to G.S. 166A-14, all activities performed under this Agreement are hereby declared to be governmental functions. Neither the parties to this Agreement, nor, except in cases of willful misconduct, gross negligence, or bad faith, their personnel complying with or reasonably attempting to comply with this Agreement or any ordinance, order, rule, or regulation enacted or promulgated pursuant to the provisions of this Agreement shall be liable for the death of or injury to persons, or for damage to property as a result of any such activity.

Section XI. PARTIES MUTUALLY AGREE TO HOLD EACH OTHER HARMLESS FROM LIABILITY

Each party (as indemnitor) agrees to protect, defend, indemnify, and hold the other party (as indemnitee), and its officers, employees and agents, free and harmless from and against any and all losses, penalties, damages, assessments, costs, charges, professional fees, and other expenses or liabilities of every kind and arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings, or causes of action of every kind in connection with or arising out of indemnitor's negligent acts, errors and/or omissions. Indemnitor further agrees to investigate, handle, respond to, provide defense for, and defend any such claims, etc. at indemnitor's sole expense and agrees to bear all other costs and expenses related thereto. To the extent that immunity does not apply, each party shall bear the risk of its own actions, as it does with its day-to-day operations, and determine for itself what kinds of insurance, and in what amounts, it should carry. Each party understands and agrees that any insurance protection obtained shall in no way limit the responsibility to indemnify, keep, and save harmless the other parties to this Agreement.

Notwithstanding the foregoing, to the extent that each party does not purchase insurance, it shall not be deemed to have waived its governmental immunity by law.

SECTION XII. ROLE OF THE DIVISION OF EMERGENCY MANAGEMENT

Under this Agreement, the responsibilities of the NC Division of Emergency Management are: (1) to serve as the central depository for executed agreements, to maintain a current listing of entities with their authorized representatives and contact information, and to provide this listing to each of the entities on an annual basis; (2) to coordinate the provision of mutual aid and assistance to a requesting party, pursuant to the provisions of this Agreement; (3) to keep a record of all requests for assistance and acknowledgments; (4) to report on the status of ongoing emergency or disaster-related mutual aid and assistance as appropriate; and (5) if the parties so designate, to serve as the eligible entity for requesting reimbursement of eligible costs from FEMA and provide information, directions, and assistance for record keeping pursuant thereto.

Section XIII. AMENDMENTS

Manner-- This Agreement may be modified at any time upon the mutual written consent of the Recipient and Provider.

Addition of Other Entities-- Additional entities may become parties to this Agreement upon: (1) acceptance and execution of this Agreement; and (2) sending said executed copy of the Agreement to the NC Division of Emergency Management.

Section XIV. INITIAL DURATION OF AGREEMENT; RENEWAL; TERMINATION

This Agreement shall be binding for not less than one (1) year from its effective date, unless terminated upon at least sixty (60) days advance written notice by a party as set forth below. Thereafter, this Agreement shall continue to be binding upon the parties in subsequent years, unless canceled by written notification served personally or by registered mail upon the Director of NC Division of Emergency Management, which shall provide copies to all other parties. The withdrawal shall not be effective until sixty (60) days after notice thereof has been sent by the Director of the NC Division of Emergency Management to all other parties. A party's withdrawal from this Agreement shall not affect a party's reimbursement obligations or any other liability or obligation under the terms of this Agreement incurred hereunder. Once the withdrawal is effective, the withdrawing entity shall no longer be a party to this Agreement, but this Agreement shall continue to exist among the remaining parties.

Section XV. HEADINGS

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The headings of various sections and subsections of this Agreement have been inserted for convenient reference only and shall not be construed as modifying, amending, or affecting in any way the express terms and provisions of this Agreement.

Section XVI. SEVERABILITY: EFFECT ON OTHER AGREEMENTS

Should any clause, sentence, provision, paragraph, or other part of this Agreement be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder of this Agreement. Each of the parties declares that it would have entered into this Agreement irrespective of the fact that any one or more of this Agreement's clauses, sentences, provisions, paragraphs, or other parts have been so declared invalid. Accordingly, it is the intention of the parties that the remaining portions of this Agreement shall remain in full force and effect without regard to the clause(s), sentence(s), provision(s), paragraph(s), or other part(s) invalidated.

In the event that parties to this Agreement have entered into other mutual aid and assistance contracts, for example pursuant to Chapter 160A of the North Carolina General Statutes, those parties agree that to the extent a request for mutual assistance is made pursuant to this agreement, those other mutual aid and assistance contracts are superseded by this Agreement.

Section XVII. EFFECTIVE DATE

This Agreement shall take effect upon its approval by the entity seeking to become a signatory to this Agreement and upon proper execution hereof.

IN WITNESS WHEREOF, each of the parties have caused this North Carolina Statewide Emergency Management Mutual Aid and Assistance Agreement to be duly executed in its name and behalf by its chief executive officer, who has signed accordingly with seals affixed and attested with concurrence of a majority of its governing board, as of the date set forth in this Agreement.

**EMERGENCY MANAGEMENT DIVISION
DEPARTMENT OF CRIME CONTROL AND PUBLIC SAFETY**

BY: _____
Bryan E. Beatty, Secretary
Department of Crime Control & Public Safety
Date: _____

WITNESS:

BY: _____
Eric Tolbert, Director
Emergency Management Division
Date: _____

WITNESS:

BY: _____
Chief Executive Officer - Local Government Unit

WITNESS:

Printed Name & Title _____

Name of Unit: _____

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Date: _____

APPROVED AS TO PROCEDURES:

BY: _____
Fred Tucker, Controller
Department of Crime Control and Public Safety
Date: _____

**N.C. STATEWIDE MUTUAL AID AND ASSISTANCE AGREEMENT
List of Authorized Representatives to Contact for Emergency Assistance**

Name of Unit: _____

& Mailing Address: _____

Date: _____

=====

I. PRIMARY REPRESENTATIVE:

Name: _____

Title: _____

Day Phone: (____) _____ Night Phone: (____) _____

Fax #: (____) _____ Pager #: (____) _____

=====

II. FIRST ALTERNATE REPRESENTATIVE:

Name: _____

Title: _____

Day Phone: (____) _____ Night Phone: (____) _____

Fax #: (____) _____ Pager #: (____) _____

=====

III. SECOND ALTERNATE REPRESENTATIVE:

Name: _____

Title: _____

Day Phone: (_____) _____ Night Phone: (_____) _____

Fax #: (_____) _____ Pager #: (_____) _____

Signatories - North Carolina Mutual Aid Agreement

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|-------------------------|---------------------|---------------------|------------------------|---------------------|
| <i>Alamance</i> | | | | |
| | Alamance | Naydine Sharpe | Clerk | 1-26-98 |
| | Alamance County | Drew Sharpe | County Emergency Ma | 3-25-99 |
| | Burlington | William Baker | City Manager | 11-05-97 |
| | Elon College | | | 09-07-99 |
| | Graham | Kenneth Evans | Fire Chief | 5-6-99 |
| | Green Level | Richard Woods | Public Works Supervis | 3-13-99 |
| | Haw River | Kevin Patton | Town Manager | 02-02-98 |
| <i>Alexander</i> | | | | |
| | Alexander County | Ben Buchanan | Interim Emergency Ma | 10-31-97 |
| | Taylorsville | | | 10-14-97 |
| <i>Alleghony County</i> | | | | |
| | Alleghany | Richard Caudill | Emergency Services Di | 10-24-97 |
| <i>Anson</i> | | | | |
| | Anson | John Nassef | Interim Director Emerg | 10-16-97 |
| | Ansonville | Wayne Wilhoit | Water/Sewer Director | 12-01-97 |
| | Peachland | Ranette Davis | Commsioner | 11-03-97 |
| | Poikton | William Brooks | Police Chief | 02-02-98 |
| | Wadesboro | | | 10-06-97 |
| <i>Avery</i> | | | | |
| | Avery County | | | 6-15-99 |
| | Banner Elk | C. Shannon Baldwin | Town Manager | 11-10-97 |
| | Beech Mountain | Seth Lawless | Town Manager | 10-13-97 |
| | Crossnore | David Wright | Mayor | 11-07-97 |
| | Elk Park | | | 07-05-99 |
| | Grandfather Village | Norris Clifton | County Manager | 3-11-98 |
| | Sugar Mountain | | | 12-16-97 |
| <i>Beaufort</i> | | | | |
| | Beaufort County | Daden Wolfe | Emergency Managemen | 11-05-97 |
| | Chocowinity | Jeff Haddock | public Works Director | 12-2-97 |
| | Wahington | | | 01-21-98 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|------------------|-----------------------|---------------------|-----------------------|---------------------|
| <i>Bertie</i> | | | | |
| | Bertie County Governm | Wendell Davis | Deputy County Coordin | 09-02-97 |
| | Powellsville | David Powell | Fire Chief | 02-27-98 |
| | Roxobel | Sammy Pruden | Town Commisioner | 10-16-97 |
| | Windsor | | | 02-12-98 |
| <i>Bladen</i> | | | | |
| | Clarkson | Alton Boswell | Maintenenace Supv | 10-13-97 |
| | White Lake | | | 10-14-97 |
| <i>Brunswick</i> | | | | |
| | Said Head Island | G. Wade Horne | Village Manager | 11-24-97 |
| | Boiling Springs Lakes | Thomas Tully | Mayor | 02-03-98 |
| | Boevia | Dewey Smith | Mayor | 03-16-98 |
| | Brunswick County | Randy Thompson | EM Director | 1-24-2002 |
| | Celabash | Theodore Altreuter | Mayor | 12-09-97 |
| | Caswell Beach | Joseph O'Brien | Mayor | 02-17-00 |
| | Holden Beach | Mike Morgan | Town Manager | 02-23-98 |
| | Leland | Dryw blanchard | Town Manager | 11-20-97 |
| | Long Beach | Jerry Walters | Town Manager | 10-27-97 |
| | Northwest | James Knox | Mayor | 01-28-98 |
| | Ocean Isle Beach | Gregory Taylor | Town Administrator | 02-10-98 |
| | Severn | Marshall Lassiter | Town Manager | 02-03-98 |
| | Shallote | Carson Durham | Mayor | 01-26-98 |
| | Southeast Brunswick S | Woodrow Wilson | Mananger | 11-03-97 |
| | Southport | Rob Gandy | City Manager | 11-13-97 |
| | Sunset Beach | | | 09-22-99 |
| | Yanceyville | | | 03-03-98 |
| | Yaupon Beach | | | 10-09-97 |
| <i>Buncombe</i> | | | | |
| | Biltmore Forest] | Nelson Smith | Town Administrartor | 08-04-98 |
| | Buncombe County | M. Jerry VeHaun | EM Director | 1-24-2002 |
| | Weaverville | | | 10-20-97 |
| | Woodfin | | | 11-18-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|-----------------|---------------------|---------------------|-----------------------|---------------------|
| <i>Burke</i> | | | | |
| | Burke County | Ron George | County Manager | 10-30-97 |
| | Connolly Springs | Carl Greene | Mayor | 02-02-98 |
| | Drexel | Morris Baker | Town Manager | 09-02-97 |
| | Glen Alpine | Wayne Pollard | Mayor | 10-23-97 |
| | Hildebran | | | 11-5-97 |
| | Long View | Matthew Settlemeier | Town Administrator | 02-03-98 |
| | Morganton | Sally Sandy | City Manager | 02-06-98 |
| | Rhodhiss | Clarence Burns | Public Works Director | 2-10-98 |
| | Rutherford College | Jimmy Huffman | Mayor | 02-05-98 |
| | Vaidese | | | 10-24-97 |
| <i>Cabarrus</i> | | | | |
| | Cabarrus County | | | 12-21-98 |
| | Charlotte | | | 11-10-99 |
| | Concord | | | 11-14-97 |
| | Harrisburg | Doug Honeycutt | Public Works Director | 02-17-98 |
| | Kannapolis | David Hales | City Manager | 11-24-97 |
| <i>Caldwell</i> | | | | |
| | Caldwell County | John Thuss | County Commissioner | 12-08-97 |
| | Granite Falls | Linda Story | Town Manager | 11-3-97 |
| | Hudson | Rebecca Bentley | Town Manager | 10-21-97 |
| | Lenoir | James Hipp | City Manager | 11-04-97 |
| | Saw Mills | Eric Davis | Town Administrator | 11-18-97 |
| <i>Camden</i> | | | | |
| | Camden County | John Smith | County Manager | 10-20-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|------------------|---------------------|---------------------|----------------------|---------------------|
| <i>Carteret</i> | | | | |
| | Atlantic Beach | James Leonard | Fire Chief | 1-27-98 |
| | Beaufort | Scott Hildebran | Town Manager | 11-10-97 |
| | Bogue | J. Lee Smart | Commisioner | 01-20-98 |
| | Cape Carteret | Lyle Staples | Mayor | 11-02-98 |
| | Carteret County | Robrt Murphy | County Manager | 12-08-97 |
| | Cedar Point | Harry Redfearn | Mayor | 03-25-98 |
| | Emerald Isle | Pete Allen | Town Manager | 10-15-97 |
| | Indian Beach | Beverly Bigley | Town Clerk | 11-12-97 |
| | Newport | Jeffery White | Town Manager | 11-04-97 |
| | Pine Knoll Shores | Emily White | Commisioner | 10-14-97 |
| <i>Caswell</i> | | | | |
| | Caswell County | Joe Wright | Emergency Manageme | 10-20-97 |
| <i>Catawba</i> | | | | |
| | Catawba | Micheal Grandstaff | Town Administrartor | 04-20-98 |
| | Claremont | Dean McGinnis | City Manager | 03-03-98 |
| | Conover | Rick Beasley | City Manager | 12-01-97 |
| | Hickory | Gary McGee | City Manager | 11-17-97 |
| | Maiden | Doris Bumgarner | Town Manager | 10-27-97 |
| | Newton | Edward Burchins | City Manager | 12-02-97 |
| <i>Chatham</i> | | | | |
| | Chatham County | Tony Tucker | Emergency Operations | 03-10-98 |
| | Goldston | Tim Cunnup | Commisioner | 11-03-97 |
| | Siler City | Joel Brower | Town Manager | 09-08-98 |
| <i>Cherokee</i> | | | | |
| | Murphy | William Hughes | Mayor | 02-09-98 |
| <i>Chowan</i> | | | | |
| | Chowan County | Douglas Belch | Coordinator | 01-05-98 |
| | Edenion | Anne-Marie Knighton | Town Manager | 01-22-98 |
| <i>Cleveland</i> | | | | |
| | Belwood | Beau Lovelace | Cleveland County EMS | 11-04-97 |
| | Bolling Springs | Rickl Howell | Town Manager | 12-01-97 |
| | Cleveland County | Dewey Cook | EM Director | 1-24-2002 |
| | Lawndale | Mike Obrien | Mayor | 02-12-98 |
| | Shelby | Dee Freeman | City Manager | 10-30-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|-------------------|---------------------|---------------------|---------------------------|---------------------|
| <i>Columbus</i> | | | | |
| | Chadbourn | Paul Avant | Mayor | 11-04-97 |
| | Lake Waccamaw | David Cotton | Town Manager | 02-11-98 |
| | Sandyfield | Herbert Keaton | Mayor | 10-21-97 |
| | Whiteville | | | 02-24-98 |
| <i>Craven</i> | | | | |
| | Craven County | Stanley Kite | Director | 11-04-97 |
| | Dover | Randall Creel | Mayor | 03-04-98 |
| | Havelock | Joseph Huffman | City Manager | 11-24-97 |
| | New Bern | Walter Hartman | City Manager | 11-25-97 |
| | River Bend | Nancy Orr | Town Clerk | 10-16-97 |
| | Trent Woods | | | 01-22-98 |
| <i>Cumberland</i> | | | | |
| | Aulryville | Patricia Williams | Mayor | 11-19-97 |
| | Cumberland County | | | 07-15-99 |
| | Falcon | Belinda White | Town Clerk | 12-02-97 |
| | Fayetteville | Roger Stancill | City Manager | 01-28-98 |
| | Stedman | | | 02-05-98 |
| | Wade | | | 10-14-97 |
| <i>Currituck</i> | | | | |
| | Currituck County | Vacant | Director of Emergency | 07-06-98 |
| <i>Dare</i> | | | | |
| | Dare County | N.H. Sanderson | Emergency Manageme | 12-05-97 |
| | Kill Devil Hills | Debora Diaz | Town Manager | 10-22-97 |
| | Manteo | Kermit Skinner | Town Manager | 11-07-97 |
| | Nags Head | Webb Fuller | Town Manager | 11-13-97 |
| | Southern Shores | Gerald Bishens | Mayor | 12-15-97 |
| <i>Davidson</i> | | | | |
| | Cornelius | Barry Webb | Town Manager | 10-24-97 |
| | Davidson | Leamon Brice | Town Manager | 11-25-97 |
| | Denton | John Everhart | Town Manager | 02-04-98 |
| | Lexington | Dennis Roberts | Public Utilities Director | 11-26-97 |
| | Thomasville | | | 10-20-97 |
| <i>Davie</i> | | | | |
| | Mocksville | Terry Bralley | Town Manager | 02-03-98 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|------------------|----------------------|---------------------|-------------------------|---------------------|
| <i>Duplin</i> | | | | |
| | Boulaville | Gregg Whithead | Town Manager | 12-01-97 |
| | Calypso | Melvin Davis | Town Supervisor | 02-02-98 |
| | Duplin County | | | 7/25/00 |
| | Faison | Randy Brock | Police Chief | 11-05-97 |
| | Kenansville | hiram Brinson | Town Commisioner | 11-10-97 |
| | Magnolia | Rual Quin | Mayor | 10-21-97 |
| | Rose Hill | Clarence Brown | Mayor | 12-10-97 |
| | Wallace | | | 10-10-97 |
| | Warsaw | | | 10-13-97 |
| <i>Edgecombe</i> | | | | |
| | Conetoe | Jean Harris | Mayor | 03-20-98 |
| | Macclesfield | Phillip Wainwright | Supt. of Public Works | 28/28/2000 |
| | Pinetops | Brenda Harrell | Town Administrator | 10-09-97 |
| | Princeville | Russell Bradley | Fire Chief/Public Works | 01-26-98 |
| | Rocky Mount | Steven Raper | City Manager | 11-23-97 |
| | Spæed | Linda Flannary | Clerk | 11-18-97 |
| | Tartoro | | | 1-9-98 |
| | Whitakers | | | 01-05-98 |
| <i>Forsyth</i> | | | | |
| | Clemmons, Village of | Larry Kirby | Department of Public | 09-11-97 |
| | Forsyth County | | | 07-10-98 |
| | Kernersville | | | 12-10-99 |
| | Lewisville | john Whitson | Town Manager | 02-18-98 |
| | Rural Hill | Frank James | Town Manager | 10-13-97 |
| | Tobaccoville | | | 02-05-98 |
| | Walkertown | | | 02-13-98 |
| <i>Franklin</i> | | | | |
| | Burn | Jerry kennett | Mayor | 01-20-98 |
| | Franklin County | Angie Callihan | Emergency Services Di | 01-07-98 |
| | Franklinton | Bill Vance | Town Administartor | 12-16-97 |
| | Louisburg | C.L. Gobble | Town Administrator | 10-13-97 |
| | Youngsville | | | 02-12-98 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|------------------|-----------------------|---------------------|-------------------------|---------------------|
| <i>Gaston</i> | | | | |
| | Bessemer City | James Ramsey | Fire Chief/Public Works | 11-10-97 |
| | Cherryville | Janice Hovis | City Manager | 11-20-97 |
| | Cranerton | Charles Robinson | Town Manager | 11-03-97 |
| | Dallas | Nickolas Vlaservich | Town Clerk | 09-09-97 |
| | Gaston County | James Pharr | EMS Director | 02-23-98 |
| | Gastonia | Donald Carmicheal | Director Public Works | 11-03-97 |
| | High Shoals | Timothy Conner | Mayor | 10-14-97 |
| | Raino | Matthew Hunt | Police Chief | 01-22-98 |
| | Stanley | Gary Parker | Town Manager | 11-03-97 |
| <i>Gates</i> | | | | |
| | Gates | Edward McDuffie | County Manager | 11-03-97 |
| <i>Granville</i> | | | | |
| | Granville County | | | 10-04-99 |
| | Oxford | Thomas Marrow | City Manager | 10-14-97 |
| | Stern | | | 01-19-98 |
| <i>Greene</i> | | | | |
| | Greene County Board o | Dickie Hill | EM Director | 1-24-2002 |
| | Hookerton | Cecil Taylor | Utility Director | 11-03-97 |
| | Snow Hill | Ben Rayford | Mayor | 11-10-97 |
| | Walsonburg | | | 11-04-97 |
| <i>Guilford</i> | | | | |
| | Gibsonville | Clarence Owen | Fire Chief | 11-10-97 |
| | Greensboro-Guilford E | Milyn Braun | EMS Coordinator | 7-20-98 |
| | Guilford County EMS | | | 04-06-99 |
| | High Point | Stribling Boynton | City Manager | 11-06-97 |
| | Jamestown | John Frezell | Town Manager | 12-03-97 |
| | Oak Ridge | | | 8-5-99 |
| | Sedalia | | | 09-17-99 |
| | Stokesdale | | | 11-20-97 |
| | Summerfield | | | 10-07-99 |
| | Whitsett | | | 10-14-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|------------------|---------------------|-----------------------|-----------------------|---------------------|
| <i>Halifax</i> | | | | |
| | Belmont | Mitchell Moore | City Manager | 12-01-97 |
| | Enfield | Bobby E. Davis | Public Works Director | 08/28/2000 |
| | Halifax | Con Proctor | Mayor | 11-18-97 |
| | Hotgood | J.W. Bryant | Mayor | 10-21-97 |
| | Littleton | Stanly Rodwell | Police Chief | 11-04-97 |
| | Roanoke Rapids | Rick Benton | City Manager | 12-09-97 |
| | Scotland Neck | Russell Tutor | Town Administrartor | 11-03-97 |
| <i>Harnett</i> | | | | |
| | Angier | Thomas Taylor | Town Administrartor | 11-04-97 |
| | Coats | Frances Avery | Mayor | 2-17-98 |
| | Dunn | Carl Dean | City Manager | 11-07-97 |
| | Erwin | Chuck Simmons | Town Manager | 01-08-98 |
| | Harnett County EMS | Gary Pope | EMS Director | 9-15-98 |
| <i>Haywood</i> | | | | |
| | Clyde | Jimmy Green | Administrator | 10-15-97 |
| | Haywood County | Greg Shuping | EM Director | 1-24-2002 |
| | Maggie Valley | A.B. Matthews | Town Manager | 10-21-97 |
| <i>Henderson</i> | | | | |
| | Henderson County | Rocky D. Hyder | EM Coordinator | 12-19-01 |
| | Hendersonville | Chris Carter | City Manager | 03-05-98 |
| | Laurel Park | James Ball | Town Manager | 02-17-98 |
| <i>Hertford</i> | | | | |
| | Ahoke | Russell Overman | Town Manager | 11-11-97 |
| | Como | Danny Edwards | Mayor | 01-23-98 |
| | Harrisville | | | 4-24-98 |
| | Hertford | Parker Newbern | Public Works Director | 10-12-99 |
| | Murfreesboro | Douglas Cox | Mayor | 10-21-97 |
| | Winton | | | 12-01-97 |
| <i>Hoke</i> | | | | |
| | County of Hoke | Al Schwarcbher | EM Coordinator | 1-24-2002 |
| | Raeford | James Micheal McNeill | City Manager | 02-02-98 |
| <i>Hyde</i> | | | | |
| | Hyde County | Jeff Credle | County Manager | 10-20-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|-----------------|---------------------|---------------------|-----------------------|---------------------|
| <i>Iredell</i> | | | | |
| | Mooresville | Richard McLean | Town Manager | 11-12-97 |
| | Statesville | | | 10-13-97 |
| | Troutman | | | 11-06-97 |
| <i>Jackson</i> | | | | |
| | Jackson County | Mike Ensley | EMS Coordinator | 11-03-97 |
| | Sylva | | | 02-24-98 |
| <i>Johnston</i> | | | | |
| | Benson | Keith Langdon | Town Administrator | 11-25-97 |
| | Clayton | Steve Biggs | Town Manager | 12-18-97 |
| | Johnston County | Dewayne West | EMS Director | 10-05-98 |
| | Micro | Earl Jones | Mayor | 10-14-97 |
| | Pine Level | Micheal Walters | Mayor | 10-14-97 |
| | Princeton | David Holt | Mayor | 12-01-97 |
| | Selma | Bruce Radford | Town Manager | 10-23-97 |
| | Smithfield | Ronald Owens | City Manager | 02-07-00 |
| | Wilson's Mills | | | 01-20-98 |
| <i>Jones</i> | | | | |
| | Jones County | Richard Tyndall | EMS Coordinator | 10-06-97 |
| | Pollocksville | J.J. Chadwick | Public Works Director | 11-11-97 |
| <i>Lee</i> | | | | |
| | Broadway | Warren Lee | Emergency Manageme | 12-01-97 |
| | Lee County | Warren Lee | EMS Director | 12-01-97 |
| | Sanford | Leonard Barefoot | City Manager | 12-02-97 |
| <i>Lenoir</i> | | | | |
| | Cajah's Mountain | Connie Pipes | Town Administrator | 03-03-98 |
| | La Grange | John Taylor | Town Manager | 11-03-97 |
| | Lenoir County | Roger Dail | EM Coordinator | 1-29-2002 |
| | Pink Hill | Carol Sykes | Town Clerk | 10-29-97 |
| <i>Lincoln</i> | | | | |
| | Lincoln County | William Ward | EMS Director | 12-08-97 |
| | Lincolnton | Don Wise | Fire Chief | 12-12-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|--------------------|---------------------|---------------------|------------------------|---------------------|
| <i>Macon</i> | County of Macon | Warren Cabe | EM Coordinator | 01-24-2002 |
| | Franklin, Town of | Tom Woodlee | Mayor | 11-12-97 |
| | Highlands | S. Lamar Nix, P.E. | Public Services Admini | 7/26/00 |
| <i>Madison</i> | Hot Springs | Kenny Ramsey | Mayor | 12-01-97 |
| | Mars Hill | Eddie Fox | EMS Coordinator | 02-02-98 |
| <i>Martin</i> | Bear Grass | Henry Cowen | Citizen | 1-27-98 |
| | Jamesville | Eric Martin | Supervisor | 10-13-97 |
| | Martin County | Donnie Pittman | County Manager | 03-12-98 |
| | Robersonville | John Pritchard | Asst Town Manager | 10-15-97 |
| | Williamston | | | 12-01-97 |
| <i>McDowell</i> | Marion | Everette Clark | Mayor | 11-04-97 |
| | McDowell County | Carroll Hemphill | EMS Director | 12-08-97 |
| | Pleasant Garden | | | 8-19-98 |
| <i>Mecklenburg</i> | Huntersville | Ed Humphries | Town Manager | 12-01-97 |
| | Mathews | Ralph Messera | Town Manager | 11-17-97 |
| | Mecklenburg County | L. Wayne Broome | EM Director | 12-19-01 |
| | Mint Hill | Dwayne Dorton | Street Director | 01-26-98 |
| | Pineville | Mary Ann Creech | Town Administrator | 01-20-98 |
| <i>Mitchell</i> | Mitchell County | George Conrad | Director | 04-19-99 |
| | Spruce Pine | Robert Wiseman | Town Manager | 10-13-97 |
| <i>Montgomery</i> | Bliscoe | James Myrick | Police Chief | 10-14-97 |
| | Candler | Thomas Boger | Police Chief | 01-04-98 |
| | Mt Gilead | Kimberly Loflin | Police Chief | 11-03-97 |
| | Star | | | 11-10-97 |
| | Troy | | | 12-01-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|--------------------|----------------------|---------------------|--------------------|---------------------|
| <i>Moore</i> | | | | |
| | Aberdeen | Tony C Robertson | Town Manager | 10-14-97 |
| | Cameron | Isabel Thomas | Mayor | 11-05-97 |
| | Carthage | Bob Boyette | Town Admonistartor | 11-25-97 |
| | Foxfire Village | Richard Rhyne | Police Chief | 11-18-97 |
| | Moore County EMS | Steadman Meares | Deputy Director | 04-24-98 |
| | Pembroke | McDuffie Cummings | Town Manager | 01-14-98 |
| | Pinbluff | William Walden | Police Chief | 01-15-98 |
| | Pinehurst | Andrew Wilkison | Village Manager | 12-18-97 |
| | Robbins | James Britt | Town Administrator | 11-13-97 |
| | Southern Pines | Ricky Baker | Fire Chief | 12-05-97 |
| <i>Nash</i> | | | | |
| | Bailey | Johnny Earl Temple | Mayor | 11-10-97 |
| | Castalia | Maragaret Patterson | Mayor | 12-02-97 |
| | Dorches | John Griffin | Mayor | 1-20-98 |
| | Mount Pleasant | Scott Barringer | Mayor | 11-12-97 |
| | Nashville | Jonathon Barlow | Town Manager | 12-04-97 |
| | Sharpsburg | Annie Beasley | Mayor | 11-17-97 |
| <i>New Hanover</i> | | | | |
| | Kure Beach | Betty Medlin | Mayor | 11-19-97 |
| | New Hanover County | Allen O'Neal | County Manager | 04-20-99 |
| | Wilmington | | | 10-13-97 |
| | Wrightsville Beach | | | 01-27-98 |
| <i>Northampton</i> | | | | |
| | Conway | Keith Britt | Mayor | 11-03-97 |
| | Garysburg | Roy Bell | Mayor | 02-05-98 |
| | Gaston | E.E> Odom | Mayor | 11-14-97 |
| | Northampton County | Ronald Storey | EMS Coordinator | 05-29-98 |
| | Woodland Volunteer R | | | 01-07-97 |
| <i>Onslow</i> | | | | |
| | Holly Ridge | Renee Maiorano | Town Manager | 10-17-97 |
| | Jacksonville | Jerry Bittner | City Manager | 11-05-97 |
| | Onslow County | Douglass Bass | EMS Director | 07-14-98 |

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|-------------------|-----------------------|----------------------|-----------------------|---------------------|
| <i>Orange</i> | | | | |
| | Carboro | Robert Morgan | Town Manager | 09-21-98 |
| | Chapel Hill | Calvin Horton | Town Manager | 02-16-98 |
| | Hillsborough | Eric Peterson | Town Manager | 11-21-97 |
| | Orange Water and Sew | Kathryn Kalb | General Manager of Op | 04-24-98 |
| <i>Pamlico</i> | | | | |
| | Minnesota Beach | Connie Kinney | Town Manager | 11-11-97 |
| | Oriental | William Crowe | Town Manager | 02-19-98 |
| | Vandemere | | | 03-14-99 |
| <i>Pasquotank</i> | | | | |
| | Elizabeth City | Steven Harrell | City Manager | 12-05-97 |
| | Pasquotank, County of | Christy C. Saunders | EM Coordinator | 01-02-2002 |
| <i>Pender</i> | | | | |
| | Burgaw | Andrew Honeycutt | Town Manager | 11-04-97 |
| | North Topsail Beach | Marlow Bostic | Mayor | 09-04-97 |
| | Pender County | Carson H. Smith, Jr. | EM Coordinator | 12-19-01 |
| | Surf City | | | 12-23-97 |
| | Topsail Beach | | | 02-11-98 |
| <i>Perquimans</i> | | | | |
| | Wintfall | | | 12-05-97 |
| <i>Person</i> | | | | |
| | Person County | | | 9-21-99 |
| <i>Pitt</i> | | | | |
| | Ayden | Hugh Montgomery | Manager | 11-10-97 |
| | Bethel | Frank Hemingway | Mayor | 11-26-97 |
| | Falkland | | | |
| | Falkland | | | 6-23-99 |
| | Farmville | | | 11-04-97 |
| | Greenville | Ronald Kimble | City Manager | 2-16-98 |
| | Grimesland | Pitt County EMS | FireMarshall | 01-13-98 |
| | Pitt County | Bobby Joyner | EMS Coordinator | 03-02-98 |
| | Simpson | | | 1-19-98 |
| | Winterville | | | 10-13-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|-------------------|------------------------|---------------------|-----------------------|---------------------|
| <i>Polk</i> | | | | |
| | Polk County Government | David Lane | County Manager | 01-07-2002 |
| | Saltada | Kim Talbot | Mayor | 11-10-97 |
| | Tryon | | | 12-15-97 |
| <i>Randolph</i> | | | | |
| | Archdale | John Ogburn | City Manager | 10-29-97 |
| | Ashboro | David Leonard | City Manager | 10-30-97 |
| | Franklinville | Mark Grosch | Maintenance Supv | 11-03-97 |
| | Liberty | David Bullard | Town Manager | 10-27-97 |
| | Ramseur | Hanmpton Spivey | Mayor | 11-04-97 |
| | Randolph County | Darrell Frye | Chairman | 12-02-97 |
| <i>Richmond</i> | | | | |
| | Ellerbe | Archie Robinson | Public Works Supv | 09-03-97 |
| | Henriet | Abbie Covington | Mayor | 10-14-97 |
| | Hoffman | Richard Bostick | Mayor | 10-13-97 |
| | Richmond County | Frank McKay | EMS Director | 10-06-97 |
| <i>Robeson</i> | | | | |
| | Lumber Bridge | William Davis | Mayor | 10-06-97 |
| | Lumberton | Margaret Norris | City Manager | 02-27-98 |
| | Marietta | John Bare | Fire Dept | 10-21-97 |
| | Maxton | Eric Pearson | Town Manager | 10-14-97 |
| | Red Springs | Wayne Home | Town Manager | 11-04-97 |
| | Rowland | Timothy Harper | Mayor | 01-20-98 |
| | St. Pauls | Joe Loffin | Town Administrator | 11-14-97 |
| <i>Rockingham</i> | | | | |
| | Eden | Radford Thomas | City Manager | 1-27-98 |
| | Madison | Micheal Brooks | Town Manager | 11-17-97 |
| | Mayodan | Debra Cardwell | Town Manager | 01-12-98 |
| | Reidsville | Kelly Almond | City Manager | 11-12-97 |
| | Rockingham County | Steve Hale | EMS Coordinator | 12-01-97 |
| <i>Rowan</i> | | | | |
| | Cleveland | Jim Brown | Mayor | 11-11-97 |
| | Landis | Bob Wood | Town Clerk | 11-10-97 |
| | Rockwell | Tim Linker | Public Works Director | 11-19-97 |
| | Salisbury | David Treme | City Manager | 11-04-97 |

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|-------------------|---------------------|---------------------|---------------------|---------------------|
| <i>Rutherford</i> | | | | |
| | Alexander Mills | John B. Wall | Mayor | 11-03-97 |
| | Bostic | Mitch Harrill | Mayor | 11-03-97 |
| | Forest City | Chuck Summey | City Manager | 10-28-97 |
| | Lake Lure | | | 11-10-99 |
| | Rutherford County | Barry Davis | Director EMS | 03-31-98 |
| | Spindale | Timothy Barth | Town Manager | 11-03-97 |
| <i>Sampson</i> | | | | |
| | Clinton | Tommy Combs | City Manager | 4-24-98 |
| | Garland | Ralph Smith | Mayor | 02-10-98 |
| | Harelis | James Moore | Mayor | 02-03-98 |
| | Roseboro | Billy Herring | Fire Chief | 11-25-97 |
| | Salemberg | Bobby Strickland | Mayor | 10-16-97 |
| | Sampson County | Ray Honrine | Director EMS | 10-20-97 |
| | Turkey | | | 01-22-98 |
| <i>Scotland</i> | | | | |
| | Gilson | Charles Odom | Fire Chief | 10-22-97 |
| | Laurinburg | Peter Vandenberg | City Manager | 11-18-97 |
| | Scotland County | | | 07-13-99 |
| | Wagram | | | 01-07-98 |
| <i>Stanly</i> | | | | |
| | Albemarle | Raymond Allen | City Manager | 3-18-98 |
| | Locust | | | 10-18-99 |
| | New London | Mattie Kelly | Mayor | 12-01-97 |
| | Norwood | Dwight Smith | Town Administrartor | 01-21-98 |
| | Oakboro | M.R. Boger | Police Chief | 01-12-98 |
| | Richfield | Floyd Wilson | Mayor | 12-18-97 |
| | Stanfield | David Tenhengel | Mayor | 02-06-98 |
| | Stanly County | Aaron Deese | EMS Director | 07-27-98 |
| <i>Stokes</i> | | | | |
| | King | Ted Voorhees | City Manager | 11-05-97 |
| | Stokes County | Ricky L. Tuttle | EM Director | 1-24-2002 |
| | Walnut Cove | | | 01-13-98 |

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|---------------------|---------------------|-----------------------|----------------|---------------------|
| <i>Surry</i> | | | | |
| | Elkin | Grant Goings | Town Manager | 03-02-98 |
| | Mount Holly | Phillip Ponder | City Manager | 02-26-98 |
| | Mt Airy | Wes Greene | Fire Chief | 11-26-97 |
| | Pilot Mountain | Billy Pell | Town Manager | 10-30-97 |
| | Surry County | | | 10-20-97 |
| <i>Swain</i> | | | | |
| | Bryson City | Rachel Mcgaha | Town Manager | 12-01-97 |
| | Swain County | | | 02-12-98 |
| <i>Transylvania</i> | | | | |
| | Brevard | Donald Brookshire | City Manager | 1-26-98 |
| | Rosman | Johnny Rogers | Mayor | 11-10-97 |
| | Transylvania County | Arthur C. Wilson, Jr. | County Manager | 1-24-2002 |
| <i>Tyrrell</i> | | | | |
| | Tyrrell County | | | 10-24-97 |
| <i>Union</i> | | | | |
| | Lake Park | Jeffery Browning | Mayor | 03-11-98 |
| | Marshville | Mike Gaddy | Police Chief | 02-02-98 |
| | Marvin | Bill baughman | Mayor | 01-25-98 |
| | Monroe | Jerry Cox | City Manager | 10-27-97 |
| | Stallings | Marie Garris | Town Clerk | 08-03-98 |
| | Union County | | | 10-18-99 |
| | Waxhaw | | | 11-10-97 |
| <i>Vance</i> | | | | |
| | Vance County | | | 10-15-97 |

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|-------------------|---------------------|---------------------|---------------------|---------------------|
| <i>Wake</i> | | | | |
| | Apex | William Sutton | Town Manager | 12-02-97 |
| | Cary | Bill Coleman | Town Manager | 02-06-97 |
| | Fuquay-Varna | Larry Bennett | Town Manager | 02-03-98 |
| | Garner | Peter Bine | Town Manager | 10-14-97 |
| | Holly Springs | Cecil Parker | Chief Public Safety | 12-02-97 |
| | Knightdale | Gary McConkey | Town Manager | 03-06-98 |
| | Morrisville | David Hodgkins | Town Manager | 02-23-98 |
| | Raleigh | Dempsey Benton | City Manager | 01-27-98 |
| | Wake County EMS | | | 02-17-98 |
| | Wake Forest | | | 09-22-97 |
| | Wendell | | | 10-13-97 |
| | Zebulon | | | 02-02-98 |
| <i>Warren</i> | | | | |
| | Warren County | | | 01-05-98 |
| | Warrenton | | | 02-09-98 |
| <i>Washington</i> | | | | |
| | Plymouth | Jack Barnes | Fire Chief | 02-09-98 |
| | Roper | Estelle Sanders | Mayor | 01-23-98 |
| | Washington County | | | 01-08-98 |
| <i>Watauga</i> | | | | |
| | Blowing Rock | Don Holycross | Town Manager | 08-21-97 |
| | Boone | Greg Young | Town Manager | 02-27-98 |
| | Seven Devils | Chess Hill | Town Manager | 02-09-98 |
| <i>Wayne</i> | | | | |
| | Eureka | Ricky Guthrie | Police Chief | 01-25-98 |
| | Mount Olive | Tim Holloman | Town Manager | 12-08-97 |
| | Pikeville | Robert Davy | Town Administrator | 11-06-97 |
| | Seven Springs | Deanna Grady | Town Clerk | 12-10-97 |
| | Wayne County | | | 07-07-98 |
| <i>Wilkes</i> | | | | |
| | Wilkesboro | | | 11-03-97 |

| <i>County</i> | <i>Name of unit</i> | <i>1st POC name</i> | <i>Title</i> | <i>Last Updated</i> |
|---------------|---------------------|---------------------|---------------------------|---------------------|
| <i>Wilson</i> | | | | |
| | Black Creek | Jeff Lucas | Public Utilites Superinte | 03-04-98 |
| | Lucama | Deron Geougue | Town Administrator | 02-05-98 |
| | Stantonsburg | | | 8/28/2000 |
| | Wilson | | | 02-05-98 |
| | Wilson County | | | 02-02-98 |
| <i>Yadkin</i> | | | | |
| | Boonville | Tim Collins | Public Works Director | 11-24-97 |
| | Yadkinville | | | 02-23-98 |
| <i>Yancey</i> | | | | |
| | Yancey County | L.T. McEntyre, Jr. | EM Coordinator | 01-08-2002 |

APPENDIX D

Landfills – Disaster Guidelines

MEMORANDUM

TO: TO WHOM IT MAY CONCERN

FROM: SOLID WASTE SECTION
DIVISION OF WASTE MANAGEMENT

DATE: 24 SEPTEMBER 1999
revised 27 September 1999
revised 07 March 2001
revised 24 July 2001

SUBJECT: EASTERN NC SOLID WASTE MANAGEMENT

THE FOLLOWING IS A LIST OF ALL COUNTIES IN THE EFFECTED AREA AND HOW WASTE MATERIALS (MSW, C&D, LCID AND YARD WASTE) ARE MANAGED AND WERE:

ANSON: MSW/C&D - GOING TO ALLIED REGIONAL LANDFILL IN POLKTON OFF OF HIGHWAY 74.(ANSON TRANSFERED MSW & C/D FROM TRANSFER STATION IN LILESVILLE TO UWHARRIE REGIONAL LF IN MONTGOMERY COUNTY IN THE PAST, NOT SURE WHEN SWITCH OCCURRED.)

LCID/YARD WASTE - GOING TO NOTIFIED SITES IN COUNTY AND OUT-OF COUNTY.

BEAUFORT: MSW - MSW IS ROUTED THRU THE TRANSFER STATION LOCATED ON FLANDERS FILTER ROAD OUTSIDE WASHINGTON, NC.

LCID/C&D/YARD WASTE - THE FOLLOWING WASTES ARE DISPOSED OF AT THE WASHINGTON COUNTY DEMOLITION LANDFILL LOCATED ON SR 1334 IN BATH, NC.

BERTIE: MSW/C&D - MSW/C&D IS LANDFILLED AT THE EAST CAROLINA LF, LOCATED ON SR 1225(REPUBLICAN ROAD - BETWEEN WINDSOR AND AULANDER, NC).

LCID/YARD WASTE - TOWN OF WINDSOR HAS A LCID 2 ACRE NOTIFICATION. CONTACT TOWN MANAGER OF WINDSOR.

BLADEN: MSW - MSW IS TRANSFERRED THRU BLADEN COUNTY TRANSFER STATION LOCATED ON MERCER MILL ROAD, ETOWN NC TO SAMPSON COUNTY DISPOSAL INC. LOCATED IN ROSEBORO, NC (EAST OF ROSEBORO ON HWY. 24).

C&D/LCID/YARD WASTE - LANDFILLED AT THE BLADEN COUNTY C&D LANDFILL SITE ON MERCER MILL ROAD. TWO OTHER LCID 2 AC. NOTIFIED SITES EXIST IN THE COUNTY.

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RNSWCK: MSW - FOUR TRANSFER STATIONS MANAGE AND TRANSFER TO SAMPSON COUNTY DISPOSAL INC IN ROSEBORO(SEE BLADEN).

C&D/LCID/YARD WASTE - C&D IS LANDFILLED AT THE BRUNSWICK COUNTY LF LOCATED ON SR 1401 OUTSIDE BOLIVIA AT BRUNSWICK COUNTY LF. NUMEROUS LCID 2 AC. NOTIFICATIONS LOCATED THRU OUT BRUNSWICK COUNTY.

CAMDEN: MSW - CAMDEN COUNTY DIRECT HAULS MSW TO THE PASQUOTANK COUNTY TRANSFER STATION LOCATED OUTSIDE OF ELIZABETH CITY.

C&D/LCID/YARD WASTE - NO PERMITTED SITES IN CAMDEN COUNTY.

CARTERET: MSW - TRANSFERRED FROM THE TRANSFER STATION LOCATED ON SR 1141(HIBBS ROAD) TO THE CRSWMA LF IN TUSCARORA, NC. YARD WASTE ALSO ACCEPTED AT CRSWMA FOR COMPOSTING.

C&D/LCID/YARD WASTE - MANAGED AT PHOENIX RECYCLING IN HAVELOCK.

CHATHAM: MSW/C&D - TRANSFERRED FROM TRANSFER STATION IN SILER CITY, OFF HIGHWAY 421, TO UWHARRIE ENVIRONMENTAL IN MONTGOMERY COUNTY, TROY NC. ALSO A NEW TRANSFER STATION FOR NEW CONSTRUCTION WASTE ONLY EXISTS ON PEA RIDGE ROAD OPERATED BY PCM CONSTRUCTION; HAULING NEW C&D WASTE TO COBLE'S C&D LF IN LIBERTY, ALAMANCE COUNTY NC.

LCID/YARD WASTE - GOING TO LCID NOTIFICATIONS IN CHATHAM COUNTY. ARRINGTON LCID UNDER GOING CLOSURE IN 2000/2001.

CHOWAN: MSW/C&D - TRANSFERRED TO EAST CAROLINA ENVIRONMENTAL THRU PERQUIMANS TRANSFER STATION LOCATED SR12?? BELVIDERE, NC.

LCID/YARD WASTE - PERQUIMANS 2 AC. LCID NOTIFIED SITE LOCATED ON SR 1202 BELVIDERE, NC.

COLUMBS: MSW/C&D - TRANSFERRED TO SAMPSON COUNTY DISPOSAL, ROSEBORO, NC THRU TRANSFER STATION LOCATED AT 345 LANDFILL ROAD(SR 1428), WHITEVILLE. LCID AND YARD WASTE MANAGED AT COLUMBUS COUNTY LCID LANDFILL UNIT(APPROX. 5 ACRES THAT WILL LAST FOR FIVE YEARS OR UNTIL 2005) SITE AT 345 LANDFILL ROAD(SR 1428).

LCID IS ALSO MANAGED BY 3 PRIVATE 2 ACRE NOTIFICATION LANDFILLS IN COLUMBUS COUNTY.

CRAVEN: MSW/YARD WASTE/LCID/C&D - LANDFILLED AT THE CRSWMA LF LOCATED IN TUSCARORA ON SR 1005.

revised 07 March 2001

revised 24 July 2001

CRAVEN: C&D - MANAGED BY PHOENIX RECYCLING IN HAVELOCK, NC LOCATED ON US 70. NOT IN OPERATION AS OF MID 2000. CLEAN UP ACTION PENDING.

LCID - FOUR PRIVATE LANDFILLS IN CRAVEN COUNTY.

YARD WASTE - CITY OF NEW BERN YW FACILITY, LOCATED ON PEMBROKE ROAD, NEW BERN NC.

CUMBERLAND: MSW - CUMBERLAND COUNTY HAS A LINED, SUBTITLED "D" LF LOCATED ON ANN ST. IN THE CITY OF FAYETTEVILLE.

C&D/LCID - DISPOSED OF AT THE CUMBERLAND LF LOCATED ADJACENT TO THE LINED LF AT ANN ST.

LCID/YARD WASTE-MANAGED AND COMPOSTED AT THE WILKES ROAD FACILITY LOCATED ON THE EAST SIDE OF FAYETTEVILLE, LOCATED SOUTH OF HWY 87.

CURRITUCK: MSW/C&D - TRANSFERRED TO EAST CAROLINA ENVIRONMENTAL FOR DISPOSAL LOCATED ON US HWY 158 CURRITUCK, NC. ALSO, NEW CONSTRUCTION WASTE CAN GO TO SOUNDSIDE RECYCLING IN POWELLS POINT NC. THIS SITE IS A T&P SITE FOR **NEW CONSTRUCTION WASTE ONLY. A PERMIT MODIFICATION MAY BE FORTHCOMING FOR TRANSFER ONLY OF DEMOLITION WASTE TO VA.**

LCID/YARD WASTE - GREEN ACRES LAND DEV. HAS AN AIR CURTAIN BURNER AND 2 AC. LCID NOTIFICATION SITE LOCATED IN POWELLS POINT. CONTACT JEFF NEWBERN AT 252-491-2121.

DARE: MSW - TRANSFERRED TO EAST CAROLINA LF.

LCID/C&D/YARD WASTE - DISPOSED OF AT THE DARE C&D LF LOCATED ON HWY 264 IN STUMPY POINT.

DUPLIN: MSW/C&D - TRANSFERRED TO SAMPSON COUNTY DISPOSAL IN ROSEBORO NC(4 MILES EAST OF ROSEBORO ON HWY. 24) FROM COUNTY TRANSFER STATION ON SR 1918 AT OLD COUNTY LANDFILL.

LCID/YARD WASTE - DISPOSED OF AT DUPLIN COUNTY LCID LANDFILL(APPROX. 5 ACRE CELL) AT OLD COUNTY LANDFILL ON SR 1918. ALSO, NUMEROUS LCID NOTIFICATIONS IN DUPLIN COUNTY(JOE GALLO HAS SPREAD SHEET ON NOTIFICATIONS)

DURHAM: MSW/C&D - TRANSFERRED TO VA. LANDFILL IN BRUNSWICK VA. BY ALLIED FROM TRANSFER STATION AT OLD COUNTY LANDFILL ON CLUB BLVD. WASTE INDUSTRIES WILL HAVE A OPERATIONAL TRANSFER STATION IN SPRING(APRIL/MAY) OF 2001 THAT WILL RECEIVED MSW/C&D TO BE TRANSFERRED TO SAMPSON COUNTY DISPOSAL.

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DURHAM: LCID/YARD WASTE - NUMEROUS LCID LANDFILLS IN COUNTY ALONG WITH WASTE INDUSTRIES LCID LANDFILL OFF OF ANGIER AVE.

EDGECOMBE: MSW - MANAGED AT THE EDGECOMBE COUNTY LF LOCATED ON SR 1601 OUTSIDE TARBORO, NC.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE EDGECOMBE COUNTY C&D LANDFILL LOCATED ON SR 1601.

FOUR PRIVATE LF LOCATED IN THE COUNTY TAKING ONLY LCID/YARD WASTE.

FRANKLIN: MSW/C&D - TRANSFERRED FROM COUNTY TRANSFER STATION LOCATED AT OLD COUNTY LANDFILL .

LCID/YARD WASTE - ONE OPERATING DEMO./LCID LF ON US 1 IN SOUTHERN FRANKLIN COUNTY(PERRY DEMO. LF)

GATES: MSW - DIRECT HAULED TO THE PERQUIMANS COUNTY TRANSFER STATION LOCATED IN BELVIDERE ON SR 1202. MSW IS TRANSFERRED TO THE EAST CAROLINA ENVIRONMENTAL LF IN BERTIE COUNTY.

C&D/LCID/YARD WASTE - NO PERMITTED SITES IN THE COUNTY.

GRANVILLE: MSW DIRECT HAUL TO UPPER PIEDMONT REGIONAL LANDFILL.

C&D/LCID WASTE IS LANDFILLED AT OXFORD C&D ON CLOSED MSW LANDFILL. THIS SITE HAS AIR CAPACITY UNTIL 2004?
YARD WASTE?????

GREENE: MSW - MSW IS DIRECT HAULED TO THE PITT COUNTY TRANSFER STATION FOR DISPOSAL AT THE EAST CAROLINA LF. PERMIT TO CONSTRUCT ISSUED TO GOLD LEAF REGIONAL LANDFILL IN FEB. 2001, MAY BE OPERATIONAL BY FALL 2001.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE GREENE COUNTY C&D LF LOCATED ON SR 1239 OUTSIDE OF SNOW HILL, NC.

HALIFAX: MSW - MSW GOES TO THE WASTE MANAGEMENT TRANSFER STATION LOCATED ON HWY 301 IN WELDON, NC.

C&D/LCID/YARD WASTE - HALIFAX COUNTY C&D LF LOCATED ON SR 1417 IN AURELIAN SPRINGS, NC.

TWO LCID PRIVATE LF'S LOCATED IN HALIFAX COUNTY.

HARNETT: MSW - MSW IS TRANSFERED FROM TWO TRANSFER STATIONS IN HARNETT COUNTY. DUNN-ERWIN LF LOCATED ON SR 1725 AND ANDERSON CREEK LF LOCATED ON SR 1164 IN SOUTHERN HARNETT COUNTY. BOTH TRANSFER STATIONS HAUL MSW TO UWHARRIE ENVIRONMENTAL IN TROY, MONTGOMERY COUNTY, NC.

C&D/LCID/YARD WASTE - DUNN-ERWIN LF HAS TWO DISPOSAL UNITS LOCATED ON SR 1725 (A LCID UNIT AND A C&D UNIT)

C&D/LCID/YARD WASTE - ANDERSON CREEK HAS ONE DISPOSAL UNIT FOR C&D AND LCID. YARD WASTE WILL BE ACCEPTED FOR MULCHING.

HERTFRD: MSW/C&D - TRANSFERED AND DIRECT HAULED TO EAST CAROLINA LF. HERTFORD COUNTY TRANSFER STATION LOCATED ON SR 1203, OUTSIDE WINTON, NC.

LCID/YARD WASTE - ??????????????

HOKE: MSW/C&D WASTE - TRANSFERED TO UWHARRIE ENVIRONMENTAL IN MONTGOMERY COUNTY, TROY NC FROM TRANSFER STATION LOCATED AT OLD HOKE COUNTY LANDFILL.

LCID/YARD WASTE - LANDFILLED AT HOKE COUNTY LCID LANDFILL ADJACENT TO OLD COUNTY LANDFILL. ALSO, NUMEROUS LCID 2 ACRE NOTIFICATIONS IN HOKE COUNTY.

HYDE: MSW/C&D - MSW IS DIRECT HAULED TO EAST CAROLINA ENVIRONMENTAL LF IN BERTIE COUNTY.

LCID/YARD WASTE - HYDE HAS TWO LCID NOTIFICATION SITES, ONE LOCATED IN SWAN QUARTER AND ONE IN ENGELHARD, FOR THE DISPOSAL OF LCID AND YARD WASTE.

JOHNSTN: MSW - MSW IS DISPOSED OF AT THE JOHNSTON COUNTY SUBTITLE "D" LF LOCATED ON SR 1503 OUTSIDE OF SMITHFIELD NC OFF OF HWY 210.

C&D/LCID - JOHNSTON COUNTY HAS A C&D UNIT, LOCATED ON SR 1503 OUTSIDE OF SMITHFIELD NC OFF OF HWY 210, FOR DISPOSAL OF C&D/LCID WASTE.

YARD WASTE - YARD WASTE IS ACCEPTED AT THE LANDFILL AND IS GROUND/MULCHED AND COMPOSTED.

JONES: MSW/C&D - MSW AND C&D ARE TRANSFERED TO SAMPSON COUNTY DISPOSAL FROM A COLLECTION SITE LOCATED AT THE OLD JONES COUNTY LANDFILL LOCATED OUTSIDE OF TRENTON.

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JONES: LCID/YARD WASTE - ONE PRIVATE 2 AC. LCID NOTIFICATION SITE IN JONES

COUNTY. SEE ATTACHED FORM.

LEE: MSW - TRANSFERRED TO UWHARRIE ENVIRONMENTAL IN TROY, MONTGOMERY COUNTY FROM TRANSFER STATION OWNED AND OPERATED BY WASTE MANAGEMENT, LOCATED ON WILKINS DRIVE OFF OF HWY 421 WEST OF SANFORD.

C&D/LCID WASTE - LANDFILLED AT LEE COUNTY C&D LANDFILL LOCATED IN LEMON SPRINGS AT OLD LEE COUNTY LF OFF OF SR 1177.

YARD WASTE - CITY OF SANFORD HAS A YW COMPOSTING SITE AT PUBLIC WORKS DEPARTMENT LOCATED ON NORTH 5TH STREET.

LENOIR: MSW - TRANSFERRED TO SAMPSON COUNTY DISPOSAL LOCATED ON HWY 24, ROSEBORO, SAMPSON COUNTY.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE LENOIR COUNTY C&D LF UNIT ON CLOSED MSWLF, LOCATED ON SR 1524, OUTSIDE OF LAGRANGE.

MARTIN: MSW - DIRECT HAULED BY WASTE MANAGEMENT TO EAST CAROLINA LF IN BERTIE COUNTY.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE MARTIN COUNTY C&D LF LOCATED ON SR 1440 OUTSIDE WILLIAMSTON, NC.

MONTGOMERY: MSW/C&D - LANDFILLED AT UWHARRIE ENVIRONMENTAL REGIONAL LF IN TROY, MONTGOMERY COUNTY.

LCID/YARD WASTE - MANAGED AT OLD MONTGOMERY COUNTY LF AT COMPOST FACILITY. ALSO, NUMEROUS LCID 2 ACRE NOTIFICATION SITES IN MONTGOMERY COUNTY.

MOORE: MSW - TRANSFERRED TO UWHARRIE ENVIRONMENTAL IN TROY, MONTGOMERY COUNTY FROM TRANSFER STATION OWNED AND OPERATED BY REPUBLIC WASTE INDUSTRIES d/b/a UWHARRIE ENVIRONMENTAL LOCATED AT OLD MOORE COUNTY LANDFILL OFF OF HWY 5 BETWEEN PINEHURST AND ABERDEEN.

C&D/LCID/YARD WASTE - MANAGED AT MOORE COUNTY LANDFILL LOCATED OFF OF HWY 5 BETWEEN PINEHURST AND ABERDEEN. ALSO, TWO PRIVATE LCID PERMITTED SITES EXIST IN MOORE COUNTY, STUMP HOLE AND WINFORD WILLIAMS.

NASH: MSW - TRANSFERRED TO BRUNSWICK, VA THRU CITY OF ROCKY MOUNT TRANSFER STATION.

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NASH: C&D/LCID/YARD WASTE - DISPOSED OF AT THE NASH COUNTY C&D LF LOCATED ON SR 1411 OUTSIDE OF NASHVILLE, NC.

TWO PRIVATE LCID LF IN NASH COUNTY.

NEW HAN: MSW/C&D - MANAGED BY NEW HANOVER INCINERATOR AND DISPOSED OF AT NEW HANOVER LF LOCATED ON NORTH HWY 421 WILMINGTON, NC.

YARD WASTE/LCID - WILMINGTON MATERIALS, CHARLES BLYTHE CAN COMPOST AND GRIND. TWO PRIVATE LCID LF IN COUNTY.

MSW - ALSO TRANSFERED BY WASTE MANAGEMENT TO SAMPSON COUNTY DISPOSAL THRU TRANSFER STATION LOCATED ON 3920 RIVER ROAD, WILMINGTON, NC.

NORTHMTN: MSW/C&D - DIRECT HAULED TO EAST CAROLINA LF.

LCID/YARD WASTE - ONE COUNTY OWNED AND ONE PRIVATE 2 AC. LCID NOTIFICATION SITE. SEE ATTACHED FORMS.

ONSLow: MSW/C&D - DISPOSED OF AT THE ONSLOW COUNTY LF LOCATED AT 415 MEADOWVIEW ROAD, JACKSONVILLE, NC.

MSW/C&D - CAMP LEJEUNE OPEATES A LINED LF FOR CAMP LEJEUNE WASTE ONLY.

LCID/YARD WASTE - DISPOSED OF AT ONSLOW COUNTY DEMO/LCID LF AT 415 MEADOWVIEW ROAD. ALOS, LCID/YARD WASTE - THREE PERMITTED PRIVATE LCID LF'S IN THE COUNTY, ALONG WITH SIX PLUS 2 AC. NOTIFIED SITES.

PAMLICO: MSW/C&D - TRANSFERED TO THE CRSWMA LF IN TUSCARORA FOR DISPOSAL THRU PAMLICO TRANSFER STATION LOCATED ON HWY 306 IN BAYBORO, NC. C&D/YARD WASTE/LCID - MANAGED AT PHOENIX RECYCLING IN HAVELOCK, NC.

PASQUOTNK: MSW - TRANSFERED TO EAST CAROLINA LF IN WINDSOR THRU TRANSFER STATION LOCATED ON SR 1144 OUTSIDE ELIZABETH CITY, NC.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE PASQUOTANK COUNTY LF LOCATED ON SR 1144, OUTSIDE ELIZABETH CITY, NC.

PENDER: MSW/C&D - TRANSFERED TO SAMPSON COUNTY DISPOSAL IN ROSEBORO, NC THRU THE PENDER COUNTY TRANSFER STATION LOCATED OFF OF HWY 17 NORTH IN HAMPSTEAD, NC.

LCID/YARD WASTE - RUNNING DEER LF, CLYDE WISECARVER, LOCATED ON HWY 210, ROCKY POINT (5 MILES NORTH OF HAMPSTEAD). LCID/YARD WASTE - TWO PRIVATED LCID LF 2 AC. NOTIFIED SITES.

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PERQUIMN: MSW/C&D - TRANSFERED TO EAST CAROLINA LF IN WINDSOR THRU PERQUIMANS COUNTY LF LOCATED ON SR 1202.

LCID/YARD WASTE - DISPOSED OF AT PERQUIMANS LCID 2 AC. NOTIFIED SITE LOCATED ON SR 1202.

PERSON: MSW/C&D - LANDFILLED AT UPPER PIEDMONT LANDFILL OFF OF HWY 158 IN EASTERN PERSON COUNTY.

LCID/YARD WASTE - MANAGED AT TWO PRIVATE LCID SITES, ALONG WITH A COUPLE 2 ACRE NOTIFICATION SITES.

PITT: MSW/C&D - TRANSFERRED TO EAST CAROLINA LF FOR DISPOSAL THRU PITT COUNTY TRANSFER STATION LOCATED ON SR 1276, GREENVILLE, NC.

LCID/YARD WASTE - MANAGED BY PITT COUNTY AT LANDFILL ON SR 1276 TO BE GROUND FOR MULCH.

C&D - TO EJE RECYCLING TO RECYCLE C&D. COUNTY HAS DROP OFF AT TRANSFER STATION. NEW C&D LANDFILL OPERATIONAL AROUND SUMMER 2001 AT C&D LANDFILL INC., ADJACENT TO EJE RECYCLING.

TWO PERMITTED LCID LF BY HARVEY LEWIS. ONE LOCATED ON SR 1725 AND ONE ON SR 1402/HWY 33.

RICHMOND: MSW/C&D - TRANSFERRED TO UWHARRIE ENVIRONMENTAL IN TROY, MONTGOMERY COUNTY FROM TRANSFER STATION OWNED BY RICHMOND COUNTY AND OPERATED BY REPUBLIC WASTE INDUSTRIES d/b/a UWHARRIE ENVIRONMENTAL LOCATED AT OLD RICHMOND COUNTY LANDFILL OFF OF SR 1306 WEST OF ROCKINGHAM NC.

LCID/YARD WASTE - LANDFILLED UNDER 2 ACRE NOTIFICATION AT OLF RICHMOND COUNTY LANDFILL AND ONE OTHER PRIVATE 2 ACRE NOTIFICATION SITE NEAR MOORE/RICHMOND COUNTY LINE.

ROBESON: MSW/C&D/LCID/YARD WASTE - DISPOSAL AT THE ROBESON COUNTY LF LOCATED ON NC 20, EAST OF ST. PAULS, NC.

LCID/YARD WASTE - TOWN OF RED SPRINGS, MAXTON, LUMBERTON HAVE 2 AC. LCID LF.

SAMPSON: MSW/C&D/LCID/YARD WASTE - DISPOSED OF AT SAMPSON COUNTY DISPOSAL INC LOCATED IN ROSEBORO, NC ON HWY 24.

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SCOTLAND: MSW - TRANSFERRED TO UWHARRIE ENVIRONMENTAL IN TROY, MONTGOMERY COUNTY FROM TRANSFER STATION OWNED AND OPERATED BY SCOTLAND COUNTY, LOCATED AT OLD SCOTLAND COUNTY LANDFILL OFF OF SR 1611 SOUTH OF LAURINBURG NC.

C&D WASTE - DISPOSED OF AT SCOTLAND COUNTY C&D UNIT ON THE CLOSED MSWLF.

LCID/YARD WASTE - MANAGED AT THE SCOTLAND COUNTY AIR CURTAIN BURNER SITE LOCATED OFF OF SR 1611, ADJACENT TO SCOTLAND COUNTY LANDFILL.

TYRELL: MSW/C&D - MSW AND C&D WASTES ARE DIRECT HAULED TO TRANSFER STATION IN MANTEO, DARE COUNTY THEN HAULED TO EAST CAROLINA ENVIRONMENTAL LF IN BERTIE COUNTY.

LCID/YARD WASTE - TYRELL COUNTY HAS ONE 2 AC. LCID NOTIFICATION SITE, LOCATED OFF HWY 94 OUTSIDE OF COLUMBIA, NC. SEE ATTACHED FORM.

VANCE: MSW/C&D - TRANSFERRED TO VA. OR UPPER PIEDMONT FROM TRANSFER STATION OWNED AND OPERATED BY WASTE INDUSTRIES LOCATED OFF OF HWY 39 NORTH OF THE TOWN OF HENDERSON.

LCID/YARD WASTE - ?????????

WARREN: MSW/C&D - TRANSFERRED TO VA. OR UPPER PIEDMONT FROM TRANSFER STATION OWNED AND OPERATED BY WARREN COUNTY, LOCATED OFF OF HWY 58 EAST OF WARRENTON.

LCID/YARD WASTE - ?????????

WASHINGTON: MSW - DIRECT HAULED TO EAST CAROLINA LF LOCATED IN BERTIE COUNTY.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE WASHINGTON COUNTY C&D LF LOCATED ON SR 1363 OUTSIDE OF ROPER, NC.

WAKE: MSW - DISPOSED OF AT THE NORTH WAKE LF LOCATED OFF OF DURANT ROAD, IN NORTH RALEIGH/WAKE COUNTY.

C&D - WAKE COUNTY HAS A C&D UNIT LOCATED AT THE OLD SOUTH WAKE (FELTONSVILLE) LF LOCATED OFF OF HWY 55 AT THE END OF OLD SMITHFIELD ROAD. SHOTWELL LANDFILL LOCATED ON SMITHFIELD ROAD IS UNDER CONSTRUCTION AND WILL STARTED RECEIVING C&D WASTE IN APRIL 2001. TWO NEW PROPOSED C&D LANDFILLS ARE IN THE WORKS. THE FIRST BY WASTE INDUSTRIES LOCATED SOUTH OF HOLLY SPRINGS AND THE SECOND BY RECYCLED MATERIALS INC. TO BE LOCATED EAST OF RALEIGH ON/OFF OLD BAUCOM ROAD AND AUBURN-KNIGHTDALE ROAD. A C&D TRANSFER STATION

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WAKE: EXISTS OFF OF THORNTON ROAD IN NORTH RALEIGH AND IS OPERATED BY PCM CONSTRUCTION FOR NEW CONSTRUCTION WASTE ONLY.

YARD WASTE - THE CITY OF RALEIGH HAS A YARD WASTE COMPOSTING FACILITY LOCATED OFF OF NEW HOPE ROAD EXT.

LCID/C&D - NUMEROUS PRIVATE LCID LANDFILLS, APPROX. 4, OPERATE IN THE WAKE COUNTY AREA AND ONE C&D(BFI HOLLY SPRINGS) LANDFILL LOCATED IN SOUTHERN WAKE COUNTY(ACTIVE AS OF MAY 2001 UNTIL JUNE 2002).

WAYNE: MSW/C&D/YARD WASTE/LCID - DISPOSED OF AT THE WAYNE COUNTY LF LOCATED ON SR 1129, DUDLEY, NC.

LCID/CLEAN WOOD - WASTE ENERGY ON HWY 117 DUDLEY, NC.

WILSON: MSW - TRANSFERED BY ALLIED(3031 BLACK CREEK ROAD) AND WASTE INDUSTRIES(2810 CONTENTNEA ROAD) TO BRUNSWICK, VA. FROM TRANSFER STATIONS LOCATED IN WILSON, NC.

C&D/LCID/YARD WASTE - DISPOSED OF AT THE WILSON COUNTY C&D LF LOCATED ON SR 1503, OUTSIDE WILSON, NC.

TO: JOE GALLO
FROM: JIM BARBER
DATE: 12 SEPTEMBER 2000
SUBJECT: MAXIMUM VOLUME OF C&D CAPACITY IN EASTERN N.C.

FAYETTEVILLE REGION FACILITIES:

1. BLADEN: NEW C&D LANDFILL - APPROX. 100,000 YD3 AVAILABLE, WITH SITE PREPARATION NECESSARY.
2. CUMBERLAND: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 500,000 YD3 AVAILABLE.
3. HARNETT(D/E): C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 150,000 YD3 AVAILABLE.
4. HARNETT(A/C): C&D LANDFILL UNIT - APPROX. 75,000 YD3 AVAILABLE, WITH SITE PREPARATION NECESSARY.
5. MOORE: C&D LANDFILL UNIT - APPROX. 100,000 YD3 AVAILABLE.
6. ROBESON: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 200,000 YD3 AVAILABLE.
7. SAMPSON: C&D LANDFILL UNIT - APPROX. 400,000 YD3 AVAILABLE, WITH SITE PREPARATION NECESSARY.
8. SCOTLAND: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 300,000 YD3 AVAILABLE.

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TO: JOE GALLO
FROM: JIM BARBER
DATE: 12 SEPTEMBER 2000
SUBJECT: MAXIMUM VOLUME OF C&D CAPACITY IN EASTERN N.C.

RALEIGH REGIONAL FACILITIES:

9. EDGECOMBE: C&d ON TOP OF CLOSED MSWLF UNIT – APPROX. 200,000 YD3 AVAILABLE, WITH SOME SITE PREPARATION NECESSARY.
10. GRANVILLE(OX): C&D ON TOP OF CLOSED MSWLF UNIT – APPROX. 75,000 YD3 AVAILABLE.
11. HALIFAX: C&D ON TOP OF CLOSED MSWLF UNIT – APPROX. 75,000 YD3 AVAILABLE.
12. JOHNSTON: C&D ON TOP OF CLOSED MSWLF UNIT – APPROX. 125,000 YD3 AVAILABLE.
13. LEE: C&D LANDFILL UNIT – APPROX. 60,000 YD3 AVAILABLE.
14. NASH: C&D LANDFILL UNIT – APPROX. 500,000 YD3 AVAILABLE.
15. NORTHHAMPTON: C&D LANDFILL UNIT – APPROX. 10,000 YD3 AVAILABLE.
16. WILSON: C&D ON TOP OF (2) CLOSED MSWLF UNIT – APPROX. 200,000 YD3 AVAILABLE.
17. WAKE: C&D ON TOP OF CLOSED MSWLF UNIT – APPROX. 50,000 YD3 AVAILABLE.

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TO: JOE GALLO
FROM: JIM BARBER
DATE: 12 SEPTEMBER 2000
SUBJECT: MAXIMUM VOLUME OF C&D CAPACITY IN EASTERN N.C.

WASHINGTON REGION FACILITIES:

18. BEAUFORT: C&D UNIT WITH APPROX. 75,000 YD3 AVAILABLE.
19. DARE: C&D LANDFILL UNIT - APPROX. 125,000 YD3 AVAILABLE.
20. GREENE: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 70,000 YD3 AVAILABLE.
21. LENIOR: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 350,000 YD3 AVAILABLE.
22. MARTIN: C&D LANDFILL UNIT - APPROX. 100,000 YD3 AVAILABLE.
23. PASQUOTANK: C&D LANDFILL UNIT - APPROX. 60,000 YD3 AVAILABLE
24. WASHINGTON: C&D LANDFILL UNIT - APPROX. 50,000 YD3 AVAILABLE, SITE NECESSARY.
25. WAYNE: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 350,000 YD3 AVAILABLE.

WILMINGTON REGION FACILITIES:

26. BRUNSWICK: C&D ON TOP OF CLOSED MSWLF UNIT - APPROX. 200,000 YD3 AVAILABLE.
27. COLUMBUS: C&D LANDFILL UNIT - APPROX. 90,000 YD3 AVAILABLE???

SOLID WASTE SECTION

CLARIFICATION OF MATERIALS ACCEPTABLE FOR DISPOSAL AT CONSTRUCTION/DEMOLITION LANDFILLS (CDLF), AND LAND CLEARING AND INERT DEBRIS LANDFILLS (LCID)

MAY 1, 1997

This memo provides clarification of the types of materials acceptable for disposal at a construction/demolition landfills, land clearing and inert debris landfills and at yard waste facilities.

Construction/demolition debris is defined in the statutes as waste or debris resulting solely from construction, remodeling, repair, or demolition operations on pavement, buildings, or other structures.

A construction/demolition debris landfill (CDLF) is not defined in the statutes or rules. They are generally permitted to accept construction/demolition debris, wastes acceptable for disposal in a land clearing-inert debris landfill, and other wastes approved by the Division.

A CDLF may accept asbestos waste for disposal as long as it is managed in accordance with Rule .0505(11)(d) of the solid waste management rules. In accordance with Rule .0505(11)(b), hazardous or liquid waste may not be accepted for disposal.

The Division may approve other wastes for disposal in CDLFs that are similar to wastes typically found in the land clearing-inert debris and construction/demolition waste streams. Examples would be wastes generated by a roofing shingle manufacturer, waste building materials from a mobile home manufacturer, and wooden pallets.

The Division may approve wastes, on a case-by-case basis, to be disposed in a CDLF that can be demonstrated to be "inert" through the Toxicity Characteristic Leaching Procedure(TCLP).

Land clearing debris is defined in the rules as waste that is generated solely through land clearing activities such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative matter.

A land clearing-inert debris landfill is defined in the rules as a facility for the land disposal of land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.

Yard trash is defined as solid waste resulting from landscaping and yard maintenance such as grass, tree limbs, and similar material.



HURRICANE CLEAN UP EMERGENCY GUIDELINES
**SITING & OPERATIONAL GUIDELINES FOR A
 TEMPORARY
 TRANSFER STATION SITE FOR MANAGING MSW WASTE**

When local governments are preparing temporary facilities for handling MSW (typically household garbage and commercial/industrial waste) resulting from the cleanup efforts due to hurricane damage, the following guidelines should be considered when establishing a temporary transfer station site.

These guidelines apply to temporary transfer stations transferring MSW to a regional landfill, where direct hauling would be impractical, or transferring MSW from remote locations to county facilities to alleviate truck congestion at the landfill facility and minimize inefficiencies with cleanup efforts. Arrangements should be made to screen out unsuitable materials, such as white goods and asbestos containing materials (ACM's).

TEMPORARY TRANSFER STATION SITES

Locating temporary transfer stations for managing MSW can be accomplished by contacting the Regional Solid Waste Section staff for evaluating potential sites and to revisit sites used in the past to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines, in addition to those in ATTACHMENT #5, are presented in locating a site for temporary transfer station" and are considered "minimum standards" for selecting a site for use:

- It is preferred that the temporary transfer station be located at a closed county MSW landfill, if the waste will be transferred to a regional landfill, if transferring of waste is to take place longer than thirty (30) days.
- Design features for a temporary transfer station will include at a minimum:
 - A. Concrete, asphalt or crushed aggregate base coarse (ABC stone or equivalent) for the tip floor;
 - B. "Jersey barriers" to contain waste tipped on the floor, with screening to minimize blowing paper and debris.
- Waste delivered to the temporary transfer station shall be placed in transfer trailers at the end of the working day, and all windblown/scattered debris shall be picked up at the end of the day.
- Sites, if located at a closed county landfill or another location within the county, should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.
- 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.
- Hauler unloading areas for incoming MSW should be at a minimum 100 feet from all surface waters

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of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

Storage areas, for loaded transfer trailers to be hauled to a regional landfill, shall be at least 50 feet from the site property boundaries, on-site buildings/structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.

Materials separated from incoming MSW (white goods, scrap metal, etc.) shall be at least 50 feet from site property lines. Other non-transferable MSW (C&D, large containers of liquid) shall be placed in containers and transported to the appropriate facilities as soon as possible.

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

The Division of Land Resources, Land Quality Section, should be contacted for assistance on good erosion control measures and permitting guidance if necessary for compliance with sedimentation and erosion control act.

Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.

When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of after hours emergency.

Final written approval is required from the Solid Waste Section to consider any debris management site to be closed. Closure of temporary transfer station sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the Solid Waste Section may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed.



TEMPORARY TRANSFER FACILITIES AT LANDFILLS

The following information, at a minimum, is required for applying for a temporary transfer station at closed MSW landfills.

1. Site plan or scale drawing showing the location of the facility, distances to waste, wells, buildings, property lines, streams, sediment basins, and other erosion control devices, traffic patterns, etc. **TEMPORARY TRANSFER STATIONS SHALL NOT BE LOCATED ON OR OVER A CLOSED DISPOSAL CELL/UNIT.**

2. Description of operational practices, in addition to Section .0402 Operational Requirements, to include:

- method of transfer (open top trailers, compactor units, 40 yard containers)

- Compliance with 15A NCAC 13B, Section .0505 - The portions of .0505 that apply specifically to transfer facilities are: (1)a,b; (4); (5)a,b; (7)b,c; (8)a,b,c; (9)a,b,c; (10)a,b,c; (11)a,b; (12)

3. A discussion of the facility's proposed policy regarding the acceptance of special wastes, animal carcasses, wwtp sludge, etc. The acceptance of these waste types could create problems, and certain wastes may require special handling or many have to be prohibited altogether (e.g., asbestos). The effect on the community should be considered when certain waste types are banned from acceptance at these facilities, and alternatives should be made available if possible. For example, if hatchery waste or animal carcasses are not to be accepted at a transfer facility, there should be guidance offered to the public regarding proper disposal. Consideration should be given to industrial wastes and whether or not they should be delivered directly to the disposal facility instead of to a transfer facility. The local government applying for approval to transfer waste should show us that they have considered all these types of issues that are pertinent to their jurisdiction.

4. How will washdown water be managed at the facility: will all liquids generated by the facility be captured/held in a holding tank and pumped and hauled to a local wastewater treatment plant or will cleaning of the facility consist of absorbents and sweeping.



C&D PROCESSING/RECYCLING FACILITIES

These are additional items and requirements that the Section should require for C & D processing facilities associated with the Application Requirements for Treatment and Processing Facilities, Section .0301 of 15A NCAC 13B:

1. Site Plan or scale drawing showing the location of the proposed facility along with the following items:
 - a. Property lines
 - b. Existing topography
 - c. Proposed grading with final grade
 - d. Sedimentation and Erosion control plan with permanent and temporary structures and an approval letter from the Land Quality Section.
 - e. Existing and any proposed buildings, structures for storage of materials, wells, utilities
 - f. Existing surface water features (ditches, ponds, swamps, etc.)
 - g. Access control features (gates, fences, earthen berms)
 - h. Existing and proposed roads
 - i. 100-year floodplain (FEMA Flood Insurance Rate Map with site indicated on it)
 - j. Letter from the appropriate agency that the proposed facility shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife (letter issued by Wildlife Department)
 - k. Letter from the appropriate agency that the proposed facility shall not damage or destroy an archaeological or historical site (letter issued by Archaeology & Historic Preservation)
 - l. Letter from the appropriate agency that the facility shall not cause an adverse impact on a state park, recreation or scenic area or any other lands included in the state nature and historic preserve (letter issued by Historic Sites Section)
 - m. Letter from the appropriate agency stating that the site is not located in a wetland
 - n. Groundwater table information shall be provided in the form of hand auger borings, test pits, or other suitable information indicating that a seasonal high groundwater elevation of four feet is available between incoming materials and proposed grade.
 - o. A letter from the local planning administrator or the agency that has zoning jurisdiction stating that the proposed facility meets all requirements of any applicable zoning ordinance.
 - p. Legal description of the property and a copy of the deed for the property with metes and bounds.
 - q. The facility shall meet the following minimum buffer requirements:
 1. 100 feet from the mixed stockpiled material, recycled material piles, waste material pile from all surface waters (on-site ponds, ditches and adjacent waters).
 2. 100 feet from mixed stockpiled material and segregated recycled materials to site property lines, on site and off site residential dwellings, commercial or public buildings, and wells.

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- r. If the property is owned by an individual(s)/Corporation that are not the proposed operators, notarized and signed affidavits provided by the Solid Waste Section from the landowners of the site
2. Operations Plan
 - a. A narrative describing the proposed operations that will take place at the facility relating to processing, handling and storage of materials received (types of containers used to hold non-recyclable materials, how long materials will remain on-site after processing, etc.)
 - b. A list of the recyclable materials targeted to be removed from the incoming mixed C&D Waste
 - c. A narrative describing how Asbestos Containing Materials (ACM's) will be screened for and how such materials will be handled if received (an approval letter from the Health Hazards Control Branch addressing an approved plan)
 - d. An estimate on how much material will be processed each day and how much non-recyclable material will be removed from the site to an approved landfill
 - e. The name and location of the landfill receiving the non-recyclable materials
 - f. Locations of stockpiles shown on the site plan, with proposed pile sizes, traffic lanes between piles, types of material in each pile
 - g. A listing of all proposed end uses for the recycled materials, including the name and location of the entity receiving the proposed materials. Letters of intent are sufficient for this item. If the information in this item is considered confidential, then documents shall be stamped as such and the Solid Waste Section will handle in accordance with applicable General Statutes.
 - h. A letter from the Local fire marshall/chief of the appropriate fire dept. that has jurisdiction over this facility that a incident at this facility will be responded to with the appropriate equipment
 - i. A list of all equipment to be utilized at the site for processing, handling and loading of materials

APPENDIX E

Temporary Staging Sites/ Reduction and Recycling

Appendix E-01



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES
ENVIRONMENTAL DIVISIONS NATURAL DISASTER RESPONSE EMERGENCY
TELEPHONE NUMBERS (RALEIGH)

| | |
|------------------------------|----------------|
| DIVISION OF AIR QUALITY | (919) 733-3340 |
| DIVISION OF LAND RESOURCES | (919) 733-3833 |
| LAND QUALITY SECTION | (919) 733-4574 |
| DIVISION OF WATER QUALITY | (919) 733-7015 |
| WATER QUALITY SECTION | (919) 733-5083 |
| GROUNDWATER SECTION | (919) 733-3221 |
| DIVISION OF WASTE MANAGEMENT | (919) 733-4996 |
| SOLID WASTE SECTION | (919) 733-0692 |
| HAZARDOUS WASTE SECTION | (919) 733-2178 |

Last Updated 6/21/99

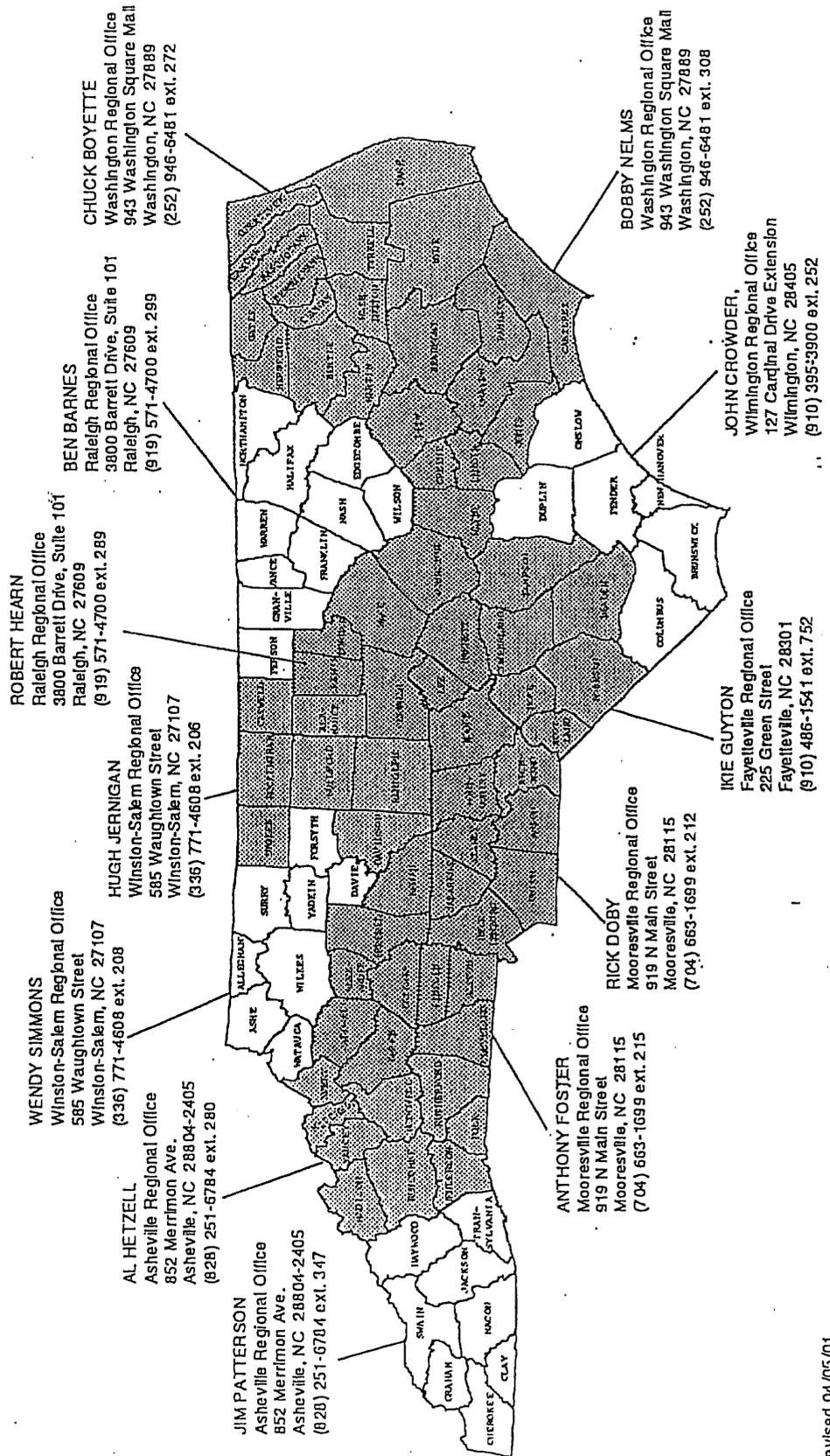
NC DENR - Division of Waste Management
SOLID WASTE SECTION - FIELD OPERATIONS BRANCH
 Raleigh Central Office located at 401 Oberlin Road, Suite 150
 Mailing address: 1646 Mail Service Center, Raleigh, NC 27699-1646
<http://waste.nctc.state.nc.us/SWHOME/fido.pl.htm>

MARK FRY
 EASTERN DISTRICT SUPERVISOR
 Fayetteville Regional Office
 225 Green Street
 Fayetteville, NC 28301
 (910) 486-1541 ext. 749

BRENT ROCKETT
 WESTERN DISTRICT SUPERVISOR
 Winston-Salem Regional Office
 585 Waughtown Street
 Winston-Salem, NC 27107
 (336) 771-4608 ext. 209

PHILIP J PRETE, BRANCH HEAD
 (919) 733-0692 ext. 252

FACILITY COMPLIANCE AND PLANNING ASSISTANCE
 Regional Staff Assigned Territories





Division of Waste Management - Solid Waste Section
Emergency Site Selection Evaluation Sheet
 Disaster Debris

Site Name _____ Contact _____

Site Location _____ Telephone # _____

County/City _____ UTM Coord. NAD27 _____ E/ _____ N

Address/Directions _____ WGS84 _____ E/ _____ N

_____ Size of Site: _____ Acres(s)

Intended Use of Site:

- _____ staging/storage for removal
- _____ staging/storage for chipping
- _____ staging/storage for burning

Comments _____

Type of Waste:

- _____ Vegetative
- _____ Construction and Demolition (C&D)

Comments _____

Buffers Required:

- _____ 1000 feet from residences/businesses (burning)
- _____ 100 feet from property boundaries and on-site structures
- _____ 100 feet from residences, private wells, and septic tank systems
- _____ 100 feet from surface waters
- _____ 250 feet from public wells (C&D)

Comments _____

Flood Plain or Flood Prone Areas (comments) _____

Wetlands (comments) _____

Erosion Control (comments) _____

Access, Site Security (comments) _____

Safety Issues - Power Lines, Traffic (comments) _____

Coordination with the Division of Air Quality (comments) _____

Coordination with Land Quality Section (comments) _____

Coordination with State Historic Preservation Office (SHPO)/Office of State Archaeology YES / NO
 (comments) _____

Coordination with Natural Heritage Program (endangered species) YES / NO
 (comments) _____

General Comments _____

_____ Date

_____ Solid Waste Section Representative



HURRICANE CLEAN UP EMERGENCY GUIDELINES
**VEGETATIVE/LAND CLEARING DEBRIS
 STAGING AREA SITING & OPERATIONAL
 GUIDELINES**

When local governments are preparing temporary facilities for handling debris resulting from the clean up efforts due to hurricane damage, the following guidelines should be considered when establishing storage and staging facilities.

The Solid Waste Regional staff on the attached list should be contacted to assist in selecting an appropriate site for staging areas.

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

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

CHIPPING/GRINDING SITES

Locating sites for chipping/grinding of vegetative and land clearing debris can be accomplished by contacting the Regional Solid Waste Section staff for evaluating potential sites and to revisit sites at future dates to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines are presented in locating a site for "chipping/grinding" and are considered "minimum standards" for selecting a site for use:

[] Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

[] Storage areas for incoming debris and processed material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

[] Storage areas for incoming debris and processed material shall be at least 100 feet from the site property boundaries and on-site buildings/structures. Management of processed material shall be in accordance with ATTACHMENT # 1, "GUIDELINES FOR REDUCING THE POTENTIAL FOR SPONTANEOUS COMBUSTION IN COMPOST/MULCH PILES."

[] Storage areas for incoming debris shall be located at least 100 feet from residential dwellings, commercial or public structures, potable water supply wells, and septic tanks with leach fields.
 Hurricane Clean Up Guidance

Appendix E-04**Vegetative/Land Clearing Sites**

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

[] The Division of Land Resources, Land Quality Section, should be contacted for assistance on good erosion control measures and permitting guidance, if necessary, for compliance with sedimentation and erosion control act.

[] Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

[] Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.

[] Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks. Sites should have adequate access that prohibits traffic from backing onto public Right-of-Ways or blocking primary and/or secondary roads to the site.

[] When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of an after hours emergency.

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

[] Final written approval is required from the Solid Waste Section to consider any debris management site to be closed. Closure of staging and processing sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the Solid Waste Section may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of sites shall be in accordance with ATTACHMENT #4, "DISASTER DEBRIS CLEAN UP GUIDELINES, CLOSURE AND RESTORATION OF TEMPORARY DEBRIS MANAGEMENT SITES."

[] Contact the Department of Pollution Prevention and Environmental Assistance, at 919-715-6500, for a list of contractors/suppliers of tub grinders and for a list of outlets for mulch/wood chips to be used as a boiler fuel.

AIR CURTAIN BURNER SITES

Locating sites that are intended for air curtain burning(ACB) operations is a coordinated effort between the Solid Waste Section and Division of Air Quality regional office staff for evaluating the surrounding areas and to reevaluate potential sites used in the past. The following guidelines are presented for selecting a ACB site and operational requirements once a site is in use:

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- Contact the local fire marshall or fire department for input into site selection in order to minimize the potential for fire hazards, other potential problems related to firefighting that could be presented by the location of the site, and to ensure that adequate fire protection resources area available in the event of an emergency.
- The requirements for ACB device(s), in accordance with Air Quality rules, 15A NCAC 2D .1900 to .1906, require the following buffers: a minimum of 500 feet from the ACB device to homes, dwellings and other structures and 250 feet from roadways. Contact the Regional office of Air Quality for updates or changes to their requirements.
- Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected. If ACB pit devices are utilized, a minimum two foot separation to the seasonal high water table is recommended. A larger buffer to the seasonal high water table may be necessary due to on-site soil conditions and topography.
- Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.
- Air Curtain Burners in use should be located at least 200 feet from on-site storage areas for incoming debris, on-site dwellings and other structures, potable water supply wells, and septic tanks and leaching fields.
- Wood ash stored on-site shall be located at least 200 feet from storage areas for incoming debris, processed mulch or tub grinders (if a grinding site and ACB site are located on the same property). Wood ash shall be wetted prior to removal from the ACB device or earth pit and placed in storage. If the wood ash is to be stored prior to removal from the site, then rewetting may be necessary to minimize airborne emissions.
- Wood ash to be land applied on site or off site shall be managed in accordance with ATTACHMENT # 2, "GUIDELINES FOR THE LAND APPLICATION OF WOOD ASH FROM STORM DEBRIS BURN SITES," and it shall be incorporated into the soil by the end of the operational day or sooner if the wood ash becomes dry and airborne.
- Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office or Division of Water Quality Regional Office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged, and a 100-foot buffer shall be maintained for all activities on-going at the site.
- The Division of Land Resources, Land Quality Section, should be contacted for assistance on good erosion control measures and permitting guidance if necessary for compliance with sedimentation and erosion control act.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump

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body trucks/trailers used to haul debris and the intense heat generated by the ACB device. Underground utilities need to be identified prior to digging pits for using the ACB device.

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

[] When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also include information as to whether only commercial haulers or the general public may deposit waste.

[] Closure of air curtain burner sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the Solid Waste Section may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of sites shall be in accordance with ATTACHMENT #4, "HURRICANE DEBRIS CLEAN UP GUIDELINES, CLOSURE AND RESTORATION OF TEMPORARY DEBRIS MANAGEMENT SITES."



GUIDELINES FOR REDUCING THE POTENTIAL FOR SPONTANEOUS COMBUSTION IN COMPOST OR MULCH PILES

When ground organic debris is put into piles, microorganisms can very quickly begin to decompose the organic materials. The microorganisms generate heat and volatile gases as a result of the decomposition process. Temperatures in these piles can easily rise to more than 160 degrees Fahrenheit. Spontaneous combustion can occur in these situations.

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

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

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



HURRICANE CLEAN UP EMERGENCY GUIDELINES
CONSTRUCTION AND DEMOLITION DEBRIS SITES
 - STAGING/TRANSFERRING
 - PROCESSING/RECYCLING
SITING AND OPERATIONAL GUIDELINES

When local governments are preparing temporary facilities for handling debris resulting from the cleanup efforts due to hurricane damage, the following guidelines should be considered when establishing staging/transfer sites for Construction & Demolition (C&D) and C&D recycling treatment and processing facilities.

The Solid Waste Section Regional Staff should be contacted to assist in selecting an appropriate site(s) for staging/transfer areas.

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

STAGING/TRANSFERRING SITES

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

[] Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

[] Hauler unloading areas for incoming C&D debris material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.

[] Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings/structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.

[] Materials separated from incoming C&D debris (white goods, scrap metal, etc.) shall be at least 50 feet from site property lines. Other non-transferable C&D wastes (household garbage, larger containers of liquid, household hazardous waste shall be placed in containers and transported to the appropriate facilities as soon as possible.

[] Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site; verification by the local Corps of Engineers office or Division of

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Water Quality Regional Office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.

[] The Division of Land Resources, Land Quality Section, should be contacted for assistance on good erosion control measures and permitting guidance if necessary for compliance with sedimentation and erosion control act.

[] Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

[] Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.

[] Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.

[] When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of after hours emergency.

[] Final written approval is required from the Solid Waste Section to consider any debris management site to be closed. Closure of processing/recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the Solid Waste Section may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of sites shall be in accordance with ATTACHMENT #4, "DISASTER DEBRIS CLEAN UP GUIDELINES, CLOSURE AND RESTORATION OF TEMPORARY DEBRIS MANAGEMENT SITES."

C&D TREATMENT & PROCESSING/RECYCLING SITES

Management of C&D debris and source separated materials to be recycled shall be in accordance with ATTACHMENT # 3, "C&D PROCESSING/RECYCLING FACILITIES" and the following additional conditions:

[] Contact the Health Hazards Control Branch at 919-733-0820 for information on managing asbestos containing materials(ACM's) or materials that are considered regulated asbestos containing materials.

[] Contact the Division of Pollution Prevention and Environmental Assistance at 919-715-6500 for an up to date copy of "DIRECTORY OF MARKETS FOR RECYCLABLE MATERIALS" and a listing of suppliers/contractors with tub grinders, maulers, and other processing equipment for the recycling of C&D waste.

[] Sites should be located outside of identifiable or known floodplain and flood prone areas; consult the Flood Insurance Rate Map for the location in your county to verify these areas. Due to heavy rains associated with hurricanes and saturated conditions that result, flooding may occur more frequently than normally expected.

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- Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc..
- Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.
- Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office or Division of Water Quality Regional Office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings/structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.
- The Division of Land Resources, Land Quality Section, should be contacted for assistance on good erosion control measures and permitting guidance if necessary for compliance with sedimentation and erosion control act.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris and the intense heat generated by the ACB device. Underground utilities need to be identified prior to digging pits for using the ACB device.
- Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also include information as to whether only commercial haulers or the general public may deposit waste.
- Final written approval is required from the Solid Waste Section to consider any debris management site to be closed. Closure of processing/recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the Solid Waste Section may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closure of sites shall be in accordance with ATTACHMENT #4, "HURRICANE DEBRIS CLEANUP GUIDELINES, CLOSURE AND RESTORATION OF TEMPORARY DEBRIS MANAGEMENT SITES."



DISASTER DEBRIS CLEAN UP GUIDELINES CLOSURE AND RESTORATION OF TEMPORARY DEBRIS MANAGEMENT SITES

Closure or reapproval should be accomplished within **30 days** of receiving the last load of debris.

Site Closure

Once a site is no longer needed, it should be closed in accordance with the following guidelines. **Closure is not considered complete until the following occurs:**

Material Removal

1. All processed and unprocessed vegetative material and inert debris shall be removed to a properly approved solid waste management site.
2. Tires must be disposed of at a scrap tire collection/processing facility; white goods and other metal scrap should be separated for recycling.
3. Burn residues shall be removed to a properly approved solid waste management site or land applied in accordance with the Division guidelines (see Attachment 2).
4. All other materials (unrecoverable metals, insulation, wall board, plastics, roofing material, painted wood, and other material from demolished buildings that is not inert debris (see #1 above) as well as inert debris that is mixed with such materials shall be removed to a properly permitted C & D recycling facility, C & D landfill, or municipal solid waste landfill.

Stabilization

Site shall be stabilized with erosion control measures, including establishment of vegetative cover, in accordance with regulations of the Division of Land Quality.

Agency Approval

The Division of Waste Management reserves the right to review any temporary site to determine if the provisions outlined herein have been adequately addressed.

Site Reapproval

Sites that were approved as temporary staging or processing sites will require reapproval for long-term storage, continuing reduction processing, permanent disposal if site is not closed out in accordance with guidelines stated here and in the Solid Waste Management Rules.

Sites shall be managed and monitored in accordance with the Solid Waste Management Rules and to



GUIDELINES FOR THE LAND APPLICATION OF WOOD ASH FROM STORM DEBRIS BURN SITES

1. Whenever possible, soil test data and waste analysis of the ash should be available to determine appropriate application rate.
2. In the absence of test data to indicate agronomic rates, application should be limited to 2 to 4 tons per acre/one time event. If additional applications are necessary, due to the volume of ash generated and time frame in which the ash is generated, then an ash management plan will be needed.
3. Ash should be land applied in a similar manner as agricultural limestone.
4. Ash should not be land applied during periods of high wind to avoid the ash blowing off the application sites.
5. Ash should not be land applied within 25 feet of surface waters or within 5 feet of drainage ways or ditches on sites that are stabilized with vegetation. These distances should be doubled on sites that are not vegetated and the ash should be promptly incorporated into the soil.
6. Records should be maintained to indicate where ash is applied and the approximate quantities of ash applied.
7. As an option to land application, ash may be managed at a permitted municipal solid waste landfill after cooled to prevent possible fire.
8. Assistance in obtaining soil test data and waste analysis of ash should be available through county offices of the N.C. Cooperative Extension Service.

**SEDIMENTATION CONTROL
NCDENR / Land Quality Section**

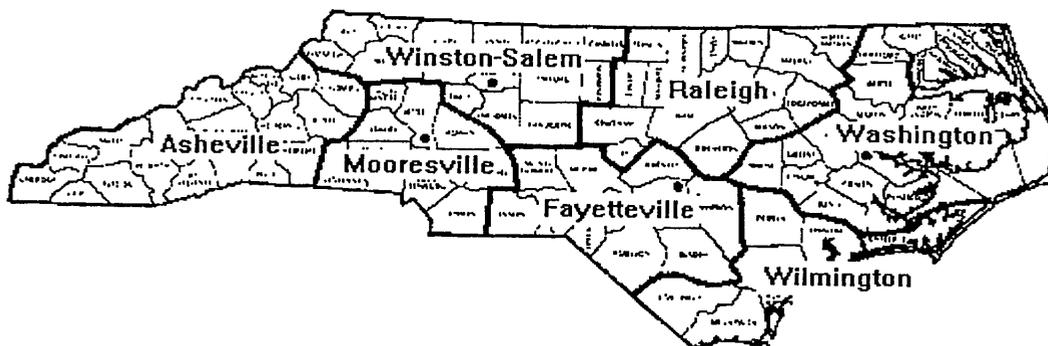
For pre-disaster planning and preliminary approval of Temporary Debris Storage/Reduction (TDSR) sites, contact the regional office in your area listed on the following page.

The regional officers of NC DENR Land Quality Section will dispatch a representative to assist local governments in the evaluation and preliminary approval of a TDSR site as it relates to site improvements that may require land-disturbing activities on one or more acres. Temporary sites used exclusively for TDSR activity may not require a sedimentation control plan; however, certain measures may be recommended to mitigate the potential effects of erosion and sedimentation on the site and surrounding property.

If the site is to be utilized for activities other than temporary storage and reduction of debris generated from a disaster, an approved erosion and sedimentation control plan must be submitted and approved prior to land-disturbing activity.

Copies of the following documents can be obtained through the regional offices of NC DENR Land Quality Section:

1. North Carolina General Statutes Chapter 113A Article 4, North Carolina Sedimentation Pollution Control Act of 1973
2. Financial Responsibility/Ownership Form, Sedimentation Pollution Control Act
3. North Carolina Administrative Code, Title 15A, Department of Environment and Natural Resources, Article 4, Sedimentation Control



North Carolina Department of Environmental and Natural Resources
Division of Land Resources
Land Quality Section
Regional Offices

Asheville Regional Office

Richard Phillips, P.E.
59 Woodfin Place
Asheville, NC 28801
(828) 251-6208

Washington Regional Office

Floyd Williams, P.G.
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

Fayetteville Regional Office

William E. (Toby) Vinson, P.E.
Wachovia Building
225 Green St., Suite 714
Fayetteville, NC 28301
(910) 486-1541

Wilmington Regional Office

Dan Sams, P.E.
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 395-3900

Mooresville Regional Office

Doug Miller, P.E.
919 North Main Street
Mooresville, NC 28115
(704) 663-1699

Winston-Salem Regional Office

Matt Gantt, P.E.
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-4600

Raleigh Regional Office

John Holley, P.E.
3800 Barrett Drive
Raleigh, NC 27609
(919) 571-4700

Raleigh Central Office

Francis M. Nevils, Jr., P.E.
Land Quality Section
1612 Mail Service Center
Raleigh, NC 27699-1612
(919) 733-4574

Internet: www.dlr.enr.state.nc.us.

Effective as of January 1, 2001

Open Burning Regulations Pertaining To Debris Disposal in the Case of Natural Disasters

Reference: 15A North Carolina Administrative Code 2D .1900

Concern: Use alternate disposal methods whenever possible. Open burn as a last resort. **Require the use of Air Curtain Burners in federally designated disaster areas. No material other than naturally occurring vegetation may be open burned. No “construction and demolition materials” may be open burned.**

Open Burning

Comply with any permitting requirements. The Division of Forest Resources normally requires permitting of land clearing materials.

Burn only naturally grown vegetative debris.

Burn only during approved hours.

Burn only when proper setbacks can be attained.

Properly operate and maintain open burning sites.

Above-Ground Open Burning Sites

Permits: No permits are required by the Division of Air Quality. Division of Forestry permits which are usually required for land-clearing open burning will probably be waived in the case of natural disasters.

Permissible Materials: Only naturally grown vegetation may be open burned. No construction and demolition materials, heavy oils, asphaltic materials such as shingles, tires, plastics, or other synthetic or man-made materials may be open burned.

Burning Hours: Normal burn hours are between 8:00am and 6:00pm. Burn hours may be waived or expanded by the Director of the Division of Air Quality dependent on amount of material to be burned.

Setbacks: The open burning should be at least 1,000 feet from any occupied structure. Prevailing winds should be away from any area which may be significantly affected by smoke, ash or other air pollutants from the burning. The burning should be at least 250 feet from roadways.

Proper Operation: The debris should be open burned in small piles to minimize smoke and ash.

Air Curtain Burners

Permits: Division of Air Quality permits are required when material is transported in from another site. This requirement may be waived for emergency burn sites operated less than nine months. Forestry permits may be waived by the Division of Forest Resources.

Permissible Materials: Only naturally occurring vegetation may be burned. Any construction or demolition debris should be removed from vegetative debris prior to burning. No heavy oils, asphaltic materials such as shingles, tires paper, plastics, etc. may be burned.

Burning Hours: Open burning may be conducted 24 hours except when poor atmospheric conditions exist. The Director of the Division of Air Quality may waive the times or shorten the burning hours dependent on the amount of material to be burned, citizens complaints, weather conditions, etc..

Setbacks: Burning shall occur no closer than 500 feet, or as otherwise approved, from any occupied structure.

Prevailing winds during the burning shall be away from any area which may be significantly affected by ash, smoke, or other air pollutants from the burning.

Burning shall be at least 250 feet from any roadway.

Proper Operation: Air curtain burners shall meet all manufacturer's specifications for operation and upkeep.

Visible emissions during normal operation shall not exceed 5 percent opacity when averaged over a six-minute period..

Visible emissions during start-up shall not exceed 35 percent opacity when averaged over a six-minute period.

Ash shall not be allowed to build up in the pit to a depth higher than one-third the depth of the pit.

Ash shall not build up to a point where it impedes combustion.

Operator shall water the ash prior to its removal from the pit.

Material shall not be loaded into the Air Curtain Burner in such a way that it protrudes above the top of the pit.

Record Keeping: The owner or operator shall keep a daily log of specific materials burned and amounts of materials burned in tons per day.

SECTION .1400 - SOLID WASTE COMPOST FACILITIES

This Solid Waste Section publication of rules in Section .1400 corrects typographical errors currently found in the North Carolina Administrative Code.

.1401 REQUIREMENT FOR PERMIT

(a) All persons whose purpose is or includes the production of compost from solid waste or solid waste co-composted with other wastes shall not construct, operate, expand or modify a facility until a currently valid permit for a solid waste compost facility is issued by the Division. This provision also applies to facilities that accept, store, or produce compost or mulch from yard waste or from residues from agricultural products and processing. General Provisions, siting, design, application, operational, distribution, and reporting requirements shall be in accordance with Rules .1402, .1403, .1404, .1405, .1406, .1407, and .1408 of this Section.

(b) Plans for a Large Type 3 or Type 4 Solid Waste Compost Facility Permit, or a permit for any facility located over a closed out disposal area shall be submitted in accordance with Rule .0202(a)(3) of this Subchapter. A minimum of four sets of plans shall be submitted within each application.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996.

.1402 GENERAL PROVISIONS FOR SOLID WASTE COMPOST FACILITIES

(a) Applicability. The provisions of this Rule apply to compost facilities that compost solid waste or co-compost solid waste with sludges that are not classified as a solid waste, functioning as a nutrient source. Facilities that co-compost with sewage sludge shall comply with all applicable federal regulations regarding sludge management at 40 CFR 501 and 503. 40 CFR 503, subpart B is hereby incorporated by reference, including subsequent amendments or additions. Copies of the Code of Federal Regulations may be obtained from the Solid Waste Section at 401 Oberlin Road, Suite 150, Raleigh, NC 27605 at no cost.

(b) The provisions of this Section do not apply to compost facilities that compost sludge with municipal solid waste functioning only as a bulking agent.

(c) Solid Waste Compost Facilities that have been permitted prior to the effective date of this Rule shall meet the requirements of this Section within one year of the effective date of this Rule, or, within two years if more than one hundred thousand dollars (\$100,000) of capital investment is necessary to comply with changes.

(d) Solid waste compost produced outside the State of North Carolina and imported into the state shall comply with the requirements specified in Rule .1407 of this Section.

(e) Compost that is disposed shall not count toward waste reduction goals.

(f) Solid waste compost facilities shall be classified based on the types and amounts of materials to be composted.

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- (1) Type 1 facilities may receive yard and garden waste, silvicultural waste, untreated and unpainted wood waste or any combination thereof.
- (2) Type 2 facilities may receive pre-consumer meat-free food processing waste, vegetative agricultural waste, source separated paper or other source separated specialty wastes, which are low in pathogens and physical contaminants. Waste acceptable for a Type 1 facility may be composted at a Type 2 facility.
- (3) Type 3 facilities may receive manures and other agricultural waste, meat, post consumer-source separated food wastes and other source separated specialty wastes or any combination thereof that are relatively low in physical contaminants, but may have high levels of pathogens. Waste acceptable for a Type 1 or 2 facility may be composted at a Type 3 facility.
- (4) Type 4 facilities may receive mixed municipal solid waste, post collection separated or processed waste, industrial solid waste, non solid waste sludges functioning as a nutrient source or other similar compostable organic wastes or any combination thereof. Waste acceptable for a Type 1, 2 or 3 facility may be composted at a Type 4 facility.
- (5) The listed waste types in Subparagraph (f)(2) of this Rule shall be considered to be low in pathogens and physical contaminants if handled so as to prevent development of contaminants or exposure to physical contamination. The listed waste types in Subparagraph (f)(3) of this Rule are likely to have high pathogens and low physical contamination. In determining whether a specific waste stream is acceptable for composting in a Type 2 or Type 3 facility, the Division shall consider the method of handling the waste prior to delivery to the facility as well as the physical characteristics of the waste. Testing for pathogens and physical contaminants may be required where a determination cannot be made based upon prior knowledge of the waste. Test methods shall be in accord with Appendices A and B to Table 3.
- (6) Small facilities are those that receive less than 1000 cubic yards of material for composting per quarter, and occupy less than two acres of land, except that a Small Type 1 facility shall process or store less than 6,000 cubic yards of material per quarter.
- (7) Large facilities are those that receive 1000 cubic yards or more of material for composting per quarter or occupy two acres or more of land, except that a Large Type 1 facility shall process or store more than 6,000 cubic yards of material per quarter.

(g) A permit is not required for the following operations:

- (1) Backyard composting.
- (2) Farming operations and silvicultural operations where the compost is produced from materials grown on the owner's land and re-used on the owner's land or in his associated farming operations and not offered to the public.
- (3) Small Type 1 Facilities meeting the following conditions:
 - (A) Notification of the Solid Waste Section prior to operation and on an annual basis as to:
 - (i) Facility location;

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(ii) Name, address and phone number of owner and operator;

(iii) Type and amount of wastes received;

(iv) Composting process to be used; and

(v) Intended distribution of the finished product.

(B) Agreement to operate in accordance with operational requirements as set forth in Rule.1406 and the setbacks in Rule .1404(a)(1) - (9) of this Section.

(C) Facility operates in accordance with all other state or local laws, ordinances, rules, regulations or orders.

(D) Facility is not located over closed-out disposal site.

(E) Safety measures are taken to prevent fires and access to fire equipment or fire fighting services is provided.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996.

.1403 GENERAL PROHIBITIONS FOR SOLID WASTE COMPOST FACILITIES

(a) Neither hazardous waste nor asbestos containing waste shall be accepted at a facility or processed into compost.

(b) Household hazardous waste shall not be accepted by a facility, except in an area designated by facility site plans for storage, and shall not be processed into compost.

(c) Any compost made from solid waste which cannot be used pursuant to the requirements of this Rule shall be reprocessed or disposed of pursuant to requirements of 15A NCAC 13B.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996.

.1404 SITING/DESIGN REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

(a) A site shall meet the following requirements at the time of initial permitting and shall continue to meet these requirements throughout the life of the permit only on the property owned or controlled by the applicant or by the landowner(s) at the time of permitting:

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- (1) A site located in a floodplain shall not restrict the flow of the 100-year flood; reduce the temporary storage capacity of the floodplain; or result in washout of solid waste so as to pose a hazard to human life, wildlife, land or water resources;
- (2) A 100-foot minimum buffer is required between all property lines and compost areas for Type 3 and 4 facilities, 50-foot for Type 1 or 2 facilities;
- (3) A 500-foot minimum buffer is required between compost areas and residences or dwellings not owned and occupied by the permittee, except that Type 1 and Small Type 2 and 3 facilities shall have a 200-foot minimum buffer;
- (4) A 100-foot minimum buffer is required between all wells and compost areas, except monitoring wells;
- (5) A 50-foot minimum buffer is required between perennial streams/ivers and compost areas;
- (6) A compost facility shall be located in accordance with 15A NCAC 2B .0200, Classification and Water Quality Standards Applicable to Surface Waters in North Carolina;
- (7) All portions of any compost facility located over a closed-out disposal area shall be designed with a pad adequate to protect the disposal area cap from being disturbed, as defined in Part (a)(10)(E) of this Rule, and there shall be no runoff from the pad onto the cap or side slopes of the closed out area;
- (8) A 25-foot minimum distance is required between compost areas and swales or berms to allow for adequate access of fire fighting equipment;
- (9) A site shall meet the following surface water requirements:
 - (A) A site shall not cause a discharge of materials or fill materials into waters or wetlands of the state that is in violation of Section 404 of the Clean Water Act;
 - (B) A site shall not cause a discharge of pollutants into waters of the state that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), under Section 402 of the Clean Water Act; and
 - (C) A site shall not cause non-point source pollution of waters of the state that violates assigned water quality standards;
- (10) A site shall meet the following groundwater requirements:
 - (A) A site shall not contravene groundwater standards as established under 15A NCAC 2L;
 - (B) Portions of a site used for waste receipt and storage, active composting, and curing shall have a soil texture finer than loamy sand and the depth to the seasonal high water table shall be maintained at least 12 inches for a Type 1 or 2 facility and 24 inches for a Type 3 facility, unless a pad is provided;
 - (C) A pad shall be provided for portions of a Type 4 facility used for waste receiving and storage, active composting, and curing;

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(D) A pad is not required for storage of finished product that is dried so as to pass the Paint Filter Liquids Test (EPA Method 9095), and for which the storage area is prepared in such a manner that water does not collect around the base of the stored material, and where the depth to the seasonal high watertable is maintained at least 12 inches; and

(E) The linear coefficient of permeability of pads required in accordance with this Rule shall not be greater than 1×10^{-7} centimeters per second. If natural soils are used, the liner must be at least 18 inches thick.

(b) For Subparagraphs (a)(2) through (a)(4) and Part (a)(10)(B) of this Rule, (dependent upon waste type, facility design, and regional topography) alternative minimum buffers or requirements may be increased if deemed necessary by the Division in order to protect public health and the environment or to prevent the creation of a nuisance.

(c) A site shall meet the following design requirements:

(1) A site shall not allow uncontrolled public access;

(2) A site shall meet the requirements of the Sedimentation Pollution Control Law (15A NCAC 4);

(3) A site shall meet the requirements of the Air Pollution Control Requirements (15A NCAC 2D) to minimize fugitive emissions and odors; and

(4) A site shall be designed to minimize odors at the property boundary.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996.

.1405 APPLICATION REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

(a) The following information is required for an application for a permit to construct and operate a proposed Type 1, or a Small Type 2 or 3 solid waste compost facility; unless the permitting requirements are exempted by Paragraph (g) of Rule .1402 of this Section:

(1) An aerial photograph or scaled drawing, where one inch is less than or equal to 400 feet, accurately showing the area within one-fourth mile of the proposed site's boundaries with the following specifically identified:

(A) Entire property owned or leased by the person proposing the facility;

(B) Location of all homes, wells, industrial buildings, public or private utilities, roads, watercourses, dry runs, and other applicable information regarding the general topography within 500 feet of the proposed facility; and

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- (C) Land use zoning of the proposed site.
- (2) A letter from the unit of government having zoning jurisdiction over the site which states that the proposed use is allowed within the existing zoning, if any, and that any necessary zoning approval or permit has been obtained.
- (3) An explanation of how the site complies with siting and design standards in Rule .1404 of this Section.
- (4) A detailed report indicating the following:
- (A) Waste type(s), source and estimated quantity of the solid waste to be composted, including the source and expected quantity of any bulking agent or amendment (if applicable), any expected recycle of bulking agent or compost, and any seasonal variations in the solid waste type or quantity; and
 - (B) For facilities that utilize natural soils as a pad, a soil evaluation of the site conducted by a soil scientist down to a depth of four feet, or to bedrock or evidence of a seasonal high watertable, to evaluate all chemical and physical soil properties and depth of the seasonal high water table.
- (5) Site plan at a scale where one inch is less than or equal to 100 feet to the inch that delineates the following:
- (A) Existing and proposed contours, at intervals appropriate to the topography;
 - (B) Location and elevations of dikes, trenches, and other water control devices and structures for the diversion and controlled removal of surface water;
 - (C) Designated setbacks and property lines;
 - (D) Proposed utilities and structures; and
 - (E) Areas for unloading, processing, active composting, curing, and storing of material.
- (6) A description of the operation of the facility, which must include at a minimum:
- (A) Name, address and phone number for the person responsible for the operation of the facility;
 - (B) List of personnel required and the responsibilities of each position;
 - (C) Operation plan for the facility;
 - (D) Special precautions or procedures for operating during wind, heavy rain, snow, freezing or other adverse conditions;
 - (E) A description of actions to be taken to minimize noise, vectors, air borne particulates, and odors; and
 - (F) A description of the ultimate use for the finished compost, method for removal from the site, and a contingency plan for disposal or alternative usage of residues or finished compost that cannot be used in the expected manner due to poor quality or change in market conditions.
- (7) A report on the design of the facility, including:

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(A) Design capacity of the facility;

(B) A process flow diagram of the entire facility, including the type, size, and location of all major equipment, and feedstock flow streams. The flow streams shall indicate the quantity of materials on a wet weight and volumetric basis;

(C) The means for measuring, shredding, mixing, and proportioning input materials;

(D) Anticipated process duration, including receiving, preparation, composting, curing, and distribution;

(E) A description of the location of all temperature, air and any other type of monitoring points, and the frequency of monitoring;

(F) A description of how the temperature control and monitoring equipment will demonstrate that the facility meets the requirements in Rule .1406 Items (10), (11), or (12) of this Section, as appropriate for the feedstock;

(G) The method of aeration provided and the capacity of aeration equipment; and

(H) A description of the method to control surface water run-on and run-off; and the method to control, collect, treat, and dispose of leachate generated.

(8) A description of the label or other information source that meets the requirements of Rule .1407(k) of this Section.

(9) Plans and specifications for the facility, including manufacturer's performance data for all equipment selected.

(10) A detailed operation and maintenance manual outlining:

(A) A quality assurance plan for the process and final product which lists the procedures used in inspecting incoming material, monitoring, sampling and analyzing the compost process and final product, testing schedule, and recordkeeping requirements;

(B) Contingency plans detailing corrective or remedial action to be taken in the event of equipment breakdown; non-conforming waste delivered to the facility; spills, and undesirable conditions such as fires, vectors and odors; and

(C) An explanation of how the facility will comply with operational requirements as outlined in Rule .1406 of this Section, detailed operational information and instruction, an outline of reports to be submitted in compliance with this Section, and safety instructions.

(11) As built drawings where applicable.

(b) The following information is required for an application for a permit to construct a proposed Large Type 2 or 3 or a Type 4 solid waste compost facility:

(1) An aerial photograph or scaled drawing, where one inch is less than or equal to 400 feet, accurately showing the area within one-fourth of the mile of the proposed site's boundaries with the following specifically identified:

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- (A) Entire property owned or leased by the person proposing the site;
 - (B) Location of all homes, wells, industrial buildings, public or private utilities and roads, watercourses, dry runs, and other applicable information regarding the general topography within one-fourth mile; and
 - (C) Land use and zoning of the proposed site.
- (2) A letter from the unit of government having zoning jurisdiction over the site which states that the proposed use is allowed within the existing zoning, if any, and that any necessary zoning approval or permit has been obtained.
- (3) An explanation of how the site complies with siting and design standards in Rule .1404 of this Section.
- (4) A detailed report indicating the following:
- (A) Waste type(s), source and quantity of the solid waste to be composted, including the source and expected quantity of any bulking agent or amendment (if applicable), any expected recycle of bulking agent or compost, and any seasonal variations in the solid waste type or quantity;
 - (B) For facilities which utilize natural soils as a pad, a soil evaluation of the site conducted by a soil scientist down to a depth of four feet or to bedrock or evidence of a seasonal high water table, to evaluate all chemical and physical soil properties and depth of the seasonal high water table.
- (5) Site plans at a scale where one inch is less than or equal to 100 feet to the inch that delineates the following:
- (A) Existing and proposed contours, at intervals appropriate to the topography;
 - (B) Location and elevations of dikes, trenches, and other water control devices and structures for the diversion and controlled removal of surface water;
 - (C) Designated setbacks, buffer zones and property lines;
 - (D) Proposed utilities and structures;
 - (E) Access roads, details on traffic patterns;
 - (F) Areas for unloading, processing, active composting, curing, and storage of material;
 - (G) Areas for unloading, processing, and storing recyclables, household hazardous waste, and other materials, where applicable;
 - (H) Proposed surface and groundwater monitoring locations;
 - (I) Flood plains and wetlands; and
 - (J) Benchmarks.
- (6) A description of the operation of the facility, which must include at a minimum:
- (A) Name, address and phone number for the person responsible for the operation of the facility;

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- (B) Operation plan for the facility;
 - (C) List of personnel required and the responsibilities of each position;
 - (D) A schedule for operation, including days and hours that the facility will be open, preparations before opening, and procedures to be followed after closing for the day;
 - (E) For mixed waste processing facilities, a plan for removing and disposal of household hazardous waste from the waste stream;
 - (F) Special precautions or procedures for operating during wind, heavy rain, snow, freezing or other adverse conditions;
 - (G) A description of actions to be taken to minimize noise, vectors, air borne particulates, and odors; and
 - (H) A description of the ultimate use for the finished compost, method for removal from the site, and a contingency plan for disposal or alternative usage of residues or finished compost that cannot be used in the expected manner due to poor quality or change in market conditions.
- (7) A report on the design of the facility, including:
- (A) Design capacity of the facility;
 - (B) A process flow diagram of the entire facility, including the type, size, and location of all major equipment, and feed stock flow streams. The flow streams shall indicate the quantity of material on a wet weight and volumetric basis;
 - (C) A description and sizing of the storage facilities for amendment, bulking agent, solid waste, recyclables, household hazardous waste and finished compost;
 - (D) The means for measuring, shredding, mixing, and proportioning input materials;
 - (E) Anticipated process duration, including receiving, preparation, composting, curing, and distribution;
 - (F) The separation, processing, storage, and ultimate disposal of non-compostable materials, if applicable;
 - (G) A description of the location of all temperature, air and any other type of monitoring points, and the frequency of monitoring;
 - (H) A description of how the temperature control and monitoring equipment will demonstrate that the facility meets the requirements in Rule .1406 Items (10), (11), or (12) of this Section, as appropriate for the feedstock;
 - (I) The method of aeration, including turning frequency or mechanical aeration equipment and aeration capacity;

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(J) A description of the air emission and control technologies;

(K) A description of the method to control surface water run-off; and the method to control, collect, treat, and dispose of leachate generated; and

(L) A description of any recycling or other material handling processes used at the facility.

(8) A description of the label or other information source that meets the requirements of Rule .1407(k) of this Section.

(9) Engineering plans and specifications for the facility, including manufacturer's performance data for all equipment selected.

(c) The following information is required for reviewing an application for a permit to operate a Type 4 or Large Type 2 or 3 solid waste composting facility:

(1) Contingency plans detailing corrective or remedial action to be taken in the event of equipment breakdown; air pollution; non-conforming waste delivered to the facility; spills, and undesirable conditions such as fires, particulates, noise, vectors, odors, and unusual traffic conditions;

(2) A detailed operation and maintenance manual. The manual must contain general design information, a discussion of compliance with operational requirements as outlined in Rule .1406 of this Section, detailed operational information and instruction, equipment maintenance, list of personnel, required personnel training, outline of reports to be submitted in compliance with this Section, and safety instructions;

(3) A quality assurance plan for the process and final product which lists the procedures used in inspecting incoming materials; monitoring, sampling and analyzing the compost process and final product, testing schedule, and record keeping requirements;

(4) A fact sheet and process flow diagram that summarizes actual equipment sizing, aeration capacity, detention times, storage capacity, and flow rates (wet weight and volumetric) for the system and equipment chosen;

(5) As-built drawings;

(6) A copy of all applicable local, state, and federal permits and approvals necessary for the proper operation of the facility; and

(7) Product marketing and distribution plan.

(d) An application for a permit modification shall be required for changes in facility ownership, an increase in facility capacity, or the addition of new feedstock materials.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996.

.1406 OPERATIONAL REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

Any person who maintains or operates a solid waste compost facility shall maintain and operate the site to conform with the following practices:

(1) Plan and Permit Requirements:

(A) Construction plans and conditions of permit shall be followed; and

(B) A copy of the permit, plans, and operational reports shall be maintained on site at all times.

(2) Adequate erosion control measures shall be practiced to prevent on-site erosion and to control the movement of soil or contaminants from the site.

(3) Surface water shall be diverted from the operational, compost curing, and storage areas.

(4) Leachate shall be contained on site treated to meet the standards of the off-site disposal method.

(5) Access and Security Requirements:

(A) Large sites shall be secured by means of gates, chains, berms, fences, or other security measures demonstrated to provide equivalent protection approved by the Division, to prevent unauthorized entry.

(B) An operator shall be on duty at the site at all times while the facility is open for public use to ensure compliance with operational requirements and access to such facilities shall be controlled.

(C) The access road to the site shall be of all-weather construction and maintained in good condition.

(6) A site shall only accept those solid wastes that it is permitted to receive.

(7) Safety Requirements:

(A) Open burning of solid waste is prohibited.

(B) Equipment shall be provided to control accidental fires and arrangements made with the local fire protection agency to immediately provide fire-fighting services when needed.

(C) Personnel training shall be provided to insure that all employees are trained in site specific safety, remedial, and corrective action procedures.

(8) Sign Requirements:

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(A) Signs providing information on waste that can be received, dumping procedures, the hours during which the site is open for public use, the permit number and other pertinent information shall be posted at the site entrance.

(B) Traffic signs/markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.

(C) Signs shall be posted stating that no hazardous waste, asbestos containing waste, or medical waste can be received at the site.

(9) Monitoring Requirements:

(A) Specified monitoring and reporting requirements shall be met.

(B) The temperature of all compost produced shall be monitored sufficiently to ensure that the pathogen reduction criteria is met.

(10) Compost process at Type 1 facilities shall be maintained at or above 55 degrees Celsius (131 degrees F) 3 days and aerated to maintain elevated temperatures.

(11) Types 2, 3 and 4 facilities shall maintain the compost process at a temperature above 40 degrees Celsius (104 degrees F) for 14 days or longer and the average temperature for that time shall be higher than 45 degrees Celsius (113 degrees F) or, Types 2, 3 and 4 facilities shall meet the vector attraction reduction requirements in 40 CFR 503.33(b)(4) or (7). Requirements of 40 CFR 503.33(b)(4) and (7) are hereby incorporated by reference, including any subsequent amendments or additions.

(12) The composting process shall qualify as a process to further reduce pathogens for all Type 3 and Type 4 facilities. The following are acceptable methods:

(A) The windrow composting method, in which the following requirements apply: Aerobic conditions shall be maintained during the compost process. A temperature of 131 degrees F (55 degrees Celsius) or greater shall be maintained in the windrow for at least 15 days. During the high temperature period, the windrow shall be turned at least five times.

(B) The static aerated pile composting method, in which the following requirements apply: Aerobic conditions shall be maintained during the compost process. The temperature of the compost pile shall be maintained at 131 degrees F (55 degrees Celsius) or greater for at least three days.

(C) The within-vessel composting method, in which the temperature in the compost piles shall be maintained at a minimal temperature of 131 degrees F (55 degrees Celsius) for at least three days.

(13) Nitrogen bearing wastes shall be incorporated as necessary to minimize odor and the migration of nutrients.

(14) Miscellaneous Requirements:

(A) The finished compost shall meet the classification and distribution requirements outlined in Rule .1407 of this Section.

(B) The quality of the final product shall determine the allowable uses as outlined

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in Rule .1407 of this Section.

(C) The final product shall be approved by the Solid Waste Section as outlined in Rule .1407 Subparagraph (6)(b) of this Section.

(i) Non-compostable solid waste and unacceptable compost shall be disposed in a solid waste management facility permitted to receive the particular type of waste under 15A NCAC 13B.

(ii) The amount of compost stored at the facility shall not exceed the designed storage capacity.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29. Eff. December 1, 1991; Amended Eff. June 1, 1996.

.1407 CLASSIFICATION/DISTRIBUTION OF SOLID WASTE COMPOST PRODUCTS

(a) Compost shall not be applied to the land or sold or given away if the concentration of any metal exceeds the concentration in 40 CFR 503.13(b)(3) [See Table 1 below], unless the concentration of all metals are less than the values in 40 CFR 503.13(b)(1) and records are maintained to show compliance with the cumulative and annual metal levels in 40 CFR 503.13(b)(2) and (4).

Table 1

| Metals | Concentration mg per kg |
|----------|----------------------------|
| Arsenic | 41 |
| Cadmium | 39 |
| Copper | 1500 |
| Lead | 300 |
| Mercury | 17 |
| Nickel | 420 |
| Selenium | 36 |
| Zinc | 2800 |

(b) Solid waste compost shall be classified based on Table 2:

Table 2

| Grade | Manmade Inerts % dry wt. of inerts | Pathogen Reduction | Metal Concentration |
|-------|------------------------------------|--------------------|---------------------|
| A | #6 | PFRP | Table 1 |
| B | >6 | NA | 40 CFR 503.13(b)(1) |

(c) Man made inerts shall not exceed 1 inch in size.

(d) Distribution of the defined grades shall be as follows:

- (1) Grade A compost shall have unlimited, unrestricted distribution. This product may be distributed directly to the public;
- (2) Grade B compost shall be restricted to distribution for land and mine reclamation, silviculture, and agriculture (on non-food chain crops) projects; and
- (3) Compost or mulch that is produced at a Type 1 facility and that contains minimal pathogenic organisms, is free from offensive odor, and contains no sharp particles that would cause injury to persons handling the compost, shall have unrestricted applications and distributions if directions are provided with the compost product.

(e) Solid waste compost products may not be distributed or marketed until the permittee has provided adequate test data to the Division as outlined in Rule .1408 of this Section. Within 30 days of receipt of the test data, the Division shall approve or deny the distribution and marketing of the product based upon the compost classification and distribution scheme. As long as the test data required in Rule .1408 of this Section continues to verify that compost is produced to the specifications of this Rule, the Division's approval to distribute the compost shall be ongoing.

(f) The applicant is responsible for meeting any applicable requirements of the North Carolina Department of Agriculture, Fertilizer Section concerning the distribution of this product.

(g) If the owner intends to distribute the product, the owner shall provide instructions to the user on any restrictions on use and recommended safe uses and application rates. The following information shall be

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provided on a label or an information sheet and a copy of the label or information sheet shall be submitted to the Solid Waste Section:

- (1) Classification grade as outlined in Paragraph (d) of this Rule;
- (2) Recommended uses;
- (3) Application rates;
- (4) Restrictions on usage; and
- (5) Total N (for products containing sludge).

History Note: Authority G.S. 130A-309.11; Eff. December 1, 1991; Amended Eff. June 1, 1996.

.1408 METHODS FOR TESTING AND REPORTING REQUIREMENTS

(a) The compost product from Type 2, 3, and 4 facilities shall be sampled and analyzed as follows:

- (1) A composite sample of the compost produced at each compost facility shall be analyzed at intervals of every 20,000 tons of compost produced or every six months, whichever comes first, for test parameters for each Type of facility as designated in Table 3 of this Rule. Standard methods equivalent to those in Table 3 may be approved by the Division.

Table 3

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| Parameter | Unit | Facility | Test Method |
|----------------|----------------|----------|-----------------------------------|
| Foreign Matter | % | all | see Subparagraph (d) of this Rule |
| Arsenic | mg/kg dry wt. | Type 4 | See Appendix A |
| Cadmium | mg/kg dry wt. | all | |
| Chromium | mg/kg dry wt. | Type 4 | |
| Copper | mg/kg dry wt. | all | |
| Lead | mg/kg dry wt. | all | |
| Mercury | mg/kg dry wt. | Type 4 | |
| Nickel | mg/kg dry wt. | all | |
| Selenium | mg/kg dry wt. | Type 4 | |
| Zinc | mg/kg dry wt. | all | |
| Pathogens | See Appendix B | all | See Appendix B |
| Total N | % | see * | Kjeldahl |

* Total N required for products containing sludge subject to 40 CFR 503.

The parameters listed in Table 3 of this Rule may also be determined by methods accepted by the North Carolina Department of Agriculture.

(2) Sample collection, preservation, and analysis shall assure valid and representative results pursuant to a Division-approved quality assurance plan. At least three individual samples (of equal volume) shall be taken from each batch produced in separate areas along the side of the batch. Each sampling point shall be at a depth of two to six feet into the pile from the outside surface of the pile. Samples that have been analyzed for metals shall be composited and accumulated over a six month period or at intervals of every 20,000 tons of product produced, whichever comes first. Any sample collected for testing for pathogens and nutrients shall be a representative composit sample of the compost and shall be processed within a period of time required by the testing procedure.

(3) Compost containing sewage sludge shall be tested in accordance with 40 CFR 503, Subpart B.

(4) The Division may decrease or increase the parameters to be analyzed or the frequency of analysis based upon monitoring data, changes in the waste stream or

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processing, or information regarding the potential for presence of toxic substances that are not on the list of monitoring parameters.

(5) Foreign matter content shall be determined by passing a dried, weighed sample of the compost product through a one-quarter inch screen. EPA Method 160.3 shall be used to dry the sample. The material remaining on the screen shall be visually inspected, and the foreign matter that can be clearly identified shall be separated and weighed. The weight of the separated foreign matter divided by the weight of the total sample shall be determined and multiplied by 100. This shall be the percent dry weight of the foreign matter content.

(b) Record Keeping: All facility owners or operators shall record and maintain records for a minimum of five years. Records shall be available for inspection by Division personnel during normal business hours and shall be sent to the Division upon request:

- (1) Daily operational records must be maintained, which include, at a minimum, temperature data (length of the composting period) and quantity of material processed;
- (2) Analytical results on compost testing;
- (3) The quantity, type and source of waste received;
- (4) The quantity and type of waste processed into compost;
- (5) The quantity and type of compost produced by product classification; and
- (6) The quantity and type of compost removed for use or disposal, by product classification, and the market or permitted disposal facility.

(c) Annual Reporting: An annual report for the period July 1 to June 30 shall be submitted by all facility owners or operators to the Division by August 1, 1996 and every August 1 thereafter and shall contain:

- (1) The facility name, address, and permit number;
- (2) The total quantity in tons, with sludge values expressed in dry weight, and type of waste received at the facility during the year covered by the report, including tons of waste received from local governments of origin;
- (3) The total quantity in tons, with sludge values expressed in dry weight, and type of waste processed into compost during the year covered by the report;
- (4) The total quantity in tons and type of compost produced at the facility, by product classification, during the year covered by the report;
- (5) The total quantity in tons and type of compost removed for use or disposal from the facility, by product classification, along with a general description of the market if for use during the year covered by the report;
- (6) Monthly temperature monitoring to support Rule .1406 of this Section; and
- (7) Results of tests required in Table 3 of this Rule.

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(d) Yearly totals of solid waste received and composted shall be reported back to the local government of origin for annual recycling reporting.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. June 1, 1996.

.1409 APPROVAL OF ALTERNATIVE PROCEDURES AND REQUIREMENTS

(a) An owner or operator of a composting facility, subject to the provisions of this Rule, may request in writing the approval of an alternative procedure for the facility or the compost that is produced. The following information shall be submitted to the Solid Waste Section:

- (1) The specific facility for which the exception is requested;
- (2) The specific provisions of this Section for which the exception is requested;
- (3) The basis for the exception;
- (4) The alternate procedure or requirement for which the approval is sought and a demonstration that the alternate procedure or requirement provides equivalent protection of the public health and the environment; and
- (5) A demonstration of the effectiveness of the proposed alternate procedure.

(b) An individual may request in writing the approval of a solid waste composting pilot or demonstration project for the purpose of evaluating the feasibility of such a project. The following information shall be submitted to the Solid Waste Section:

- (1) The owner, operator, location, and contact numbers for the project;
- (2) The specific primary waste stream for which the project is to be evaluated;
- (3) The specific time frame for the project;
- (4) The estimated amount of each type of waste or bulking material to be composted;
- (5) The basis for running the pilot or demonstration project;
- (6) A description of all testing procedures to be used;
- (7) A description of the process to be used, including the method of composting and details of the method of aeration;
- (8) The expected final usage or disposal of the final product; and

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(9) An outline of the final report to be submitted to the Solid Waste Section upon completion of the project.

(c) For Paragraph (a) of this Rule, the Division will review alternative procedures only to the extent that adequate staffing is available.

(d) Permits shall not be required for primary and secondary school educational projects that take place on the school grounds and that receive less than one cubic yard of material per week.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Eff. April 18, 1996; Amended Eff. June 1, 1996.

| COMPANY | Name | Address | City | St | ZIP | Phone | Fax | Email | Material Description |
|---------------------------------|-----------------------|-----------------------|---------------|----|-------|------------|------------|-------------------------|--|
| ADSCO, LLC. | Eric Adams | P.O. Box 2477 | Marion | NC | 28752 | 8286592473 | 8286592473 | | Wood Waste -- Land-Clearing Debris |
| American Property Experts, Inc. | Jason Thompson | 606 Sunnyvale Drive | Wilmington | NC | 28412 | 9107931460 | 9107936227 | | Scrap Lumber Wood Waste -- Mobile Recyclers Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |
| Andrews Wood Products, Inc. | Roy D. Andrews | P.O. Box 2789 | Lenoir | NC | 28645 | 8287582071 | 8287582071 | | Wood Waste -- Boiler Fuel Wood Waste -- Mobile Recycler Wood Waste -- Boiler Fuel |
| Axel Demolition & Salvage | James Klemic | P.O. Box 341 | Hillsborough | NC | 27278 | 9196448244 | 4342951503 | | Concrete & Brick Scrap Lumber |
| B & B Top Soil Mine, Inc. | Billie Ann Andrews | 1800 Harlin Road | Durham | NC | 27704 | 9194776328 | 9194714857 | bhtop123@aol.com | Yard Waste Concrete & Brick Drywall (Gypsum) Scrap Lumber Wood Waste -- Land-Clearing Debris |
| Bo Dodson Trucking | Bo Dodson | 1777 Amos Town Road | Sandy Ridge | NC | 27046 | 3368713705 | | | Wood Waste -- Boiler Fuel |
| Boral Brick and Tile | Mark Shepard | P.O. BOX 1249 | Salisbury | NC | 28145 | 7046360131 | | | Wood Waste -- Boiler Fuel |
| Brooks Contractors | Dean Brooks | 1195 Beal Road | Goldston | NC | 27252 | 9198375914 | 9198375097 | brooksco@centernet.net | Yard Waste |
| Charles Blythe Equipment Co. | Charles Blythe | po box 69 | Trenton | NC | 28585 | 8006350907 | | | Wood Waste -- Boiler Fuel |
| Corn Products | Tom Vannoy | P.O. Box 12939 | Winston-Salem | NC | 27117 | 3367858802 | 3367858809 | tom.vannoy@cornprod.com | Wood Waste -- Mobile Recyclers Wood Waste -- Boiler Fuel |
| Craven County Wood Energy | Jim Wellborn | 201 Executive Parkway | New Bern | NC | 28562 | 2526339525 | 2526336048 | | Wood Waste -- Boiler Fuel |
| Cunningham Brick Company, Inc. | Richard W. Cunningham | 701 N Main Street | Lexington | NC | 27292 | 8006726181 | 3364726181 | | Concrete & Brick -- Mobile Recyclers |
| D. R. Banks | Richard Banks, Jr. | 946 Hicks Chapel Loop | Marion | NC | 28752 | 8287564645 | 8287564448 | banksww@wnclink.com | Wood Waste -- Mobile Recyclers Yard Waste |
| Dillard Excavating Co. | Phillip Dillard | P.O. Box 991 | Sylva | NC | 28779 | 8285868278 | | | Wood Waste -- Mobile Recyclers |
| E. S. & J. Enterprises | Glen Carroll | 1555 Holland Road | Autryville | NC | 28318 | 9105676138 | 9105672891 | | Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |

| COMPANY | Name | Address | City | St | ZIP | Phone | Fax | Email | Material Description |
|---|-------------------|-----------------------|--------------|----|------------|------------|------------|-------------------------|--|
| ECOFL0, Inc. | Jerry Forgey | 2750 Patterson Street | Greensboro | NC | 27407 | 3368557925 | 3368554139 | | Wood Waste -- Land-Clearing Debris |
| EJE Recycling and Disposal, Inc. | Judson Whitehurst | 802 Recycling Lane | Greenville | NC | 27834 9907 | 2527528274 | 2527529016 | ejerecycle@starband.net | Concrete & Brick Wood Waste -- Land-Clearing Debris |
| Environmental Recycling Alternatives, Inc. | Greg Meurs | P.O. Box 6417 | High Point | NC | 27265 2053 | 3368698785 | 3368694940 | ERAREcycles@aol.com | Scrap Lumber Yard Waste Wood Waste -- Land-Clearing Debris |
| Federal Paper Board Company, Inc. | Phil Anderson | P.O. Box 8 | Riegelwood | NC | 28456 0008 | 9106556375 | 9106559416 | | Drywall (Gypsum) Wood Waste -- Boiler Fuel |
| Ford Container Inc. | Joel Ford | PO Box 36322 | Charlotte | NC | 28236 6322 | 7043778834 | 7043778836 | | Drywall (Gypsum) Scrap Lumber |
| Genwove Us Ltd | Andrew Robertson | P.O. Box 310 | Indian Trail | NC | 28079 0310 | 7048217628 | 7048216559 | arobertson@gww.com | Wood Waste -- Boiler Fuel |
| Georgia Pacific | Royce Nobles | PO Box 589 | Whiteville | NC | 28472 0589 | 9106425041 | 9106429091 | | Wood Waste -- Boiler Fuel |
| Georgia Pacific OSB Plant | Charles McLendon | PO Box 308 | Dudley | NC | 28333 | 9197364385 | | | Wood Waste -- Boiler Fuel |
| Gold Hill Road Landscape Supply and LCID Landfill | Al Morton | 385 Gold Hill Road | Ashboro | NC | 27203 8260 | 3366297175 | 3366296821 | | Scrap Lumber Wood Waste -- Land-Clearing Debris |
| Greenville Paving and Grinding | Steven Jones | P.O. Box 7088 | Greenville | NC | 27835 7088 | 2527528842 | 2527520970 | | Wood Waste -- Mobile Recycler |

Appendix

| COMPANY | Name | Address | CITY | St | ZIP | Phone | Fax | Email | Material Description |
|--|-------------------|-------------------------|---------------|----|------------|-----------------|------------|------------------------------------|---|
| US Materials - Material Salvage and Recycling | James Kirkpatrick | P.O. Box 1936 | Burlington | NC | 27216 1335 | 9194999322 | 9194992097 | | Wood Waste -- Mobile Recycler Concrete & Brick Asphalt Pavement Concrete & Brick -- Mobile Recyclers |
| Guy Shavender Trucking, Inc. | Lynwood Kennedy | P.O. Box 206 | Panteago | NC | 27860 0206 | 8006822447 | 2529436434 | | Wood Waste -- Boiler Fuel Wood Waste -- Mobile Recycler |
| Habitat for Humanity of Wake County ReUse Center | Adam Deck | 2400 Alwin Ct. | Raleigh | NC | 27604 1402 | 9198336768 x231 | 9198338256 | adam@habitatwake.org | Scrap Lumber |
| Habitat For Humanity Restore, Alamance County | Dean Minnich | 2286 N. Church Street | Burlington | NC | 27217 | 3362228191 | | habitat1@netzero.net | Concrete & Brick Scrap Lumber |
| Henredon Furniture Industries | Joe Harrill | P.O. Box 70 | Morganton | NC | 28680 0070 | 8284375261 | 8284379076 | jharrill@henredon.com | Wood Waste -- Boiler Fuel |
| Hensons', Inc. | Ellis Fincher | P.O. Box 1060 | Tryon | NC | 28782 | 8288595836 | 8288599091 | | Wood Waste -- Boiler Fuel Yard Waste Wood Waste -- Land-Clearing Debris |
| Hickory White Furniture | William Smith | P.O. Box 998 | Hickory | NC | 28601 0998 | 8283222640 | 8283223942 | smithw@sherrillfurniture.com | Wood Waste -- Mobile Recycler Wood Waste -- Boiler Fuel |
| International Aggregate, Inc. | Derwin Charles | 268 Derann Drive | Timberlake | NC | 27583 | 3363644247 | 3363644247 | cdcharles@charter.net | Concrete & Brick Asphalt Pavement Concrete & Brick -- Mobile Recyclers |
| Jackson Paper Manufacturing Co. | Johnny Extine | P.O. Box 667 | Sylva | NC | 28779 0667 | 8285865534 | 8285866755 | | Wood Waste -- Boiler Fuel |
| Jordan Tree Service | Pete Jordan | 1477 Glicrest Farm Road | Wake Forest | NC | 27587 | 9195563173 | 9195568605 | pete@jordantree.com | Wood Waste -- Mobile Recycler Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |
| Kincaid Furniture Co. | Delbert Cline | 240 Pleasant Hill Rd. | Hudson | NC | 28638 | 8287282808 | 8287280266 | delbert.cline@kincaidfurniture.com | Wood Waste -- Boiler Fuel |
| LP Corp | J.K. Reavis | P.O. Box 98 | Roaring River | NC | 28669 0098 | 3366962751 | 3366963410 | | Wood Waste -- Land-Clearing Debris Wood Waste -- Boiler Fuel |

| COMPANY | Name | Address | City | St | ZIP | Phone | Fax | Email | Material Description |
|---|------------------|------------------------|---------------|----|-------|------------|-------------|------------------------------|---|
| Material Reclamation, LLC | Chris Roof | 421 Raleigh View Road | Raleigh | NC | 27610 | 9198353655 | 9198353622 | ctroof@dhgc.com | Concrete & Brick Drywall (Gypsum) Scrap Lumber Asphalt Pavement |
| McGraw, Inc. | John McGraw | 11205 Pearmes Road | Charlotte | NC | 28269 | 7045986969 | 7045986968 | | Concrete & Brick |
| Mountain Organic Materials, LLC | Craig Coker | PO Box 2440 | Candler | NC | 28715 | 8286659899 | 8286658165 | mmcraig@earthlink.net | Wood Waste -- Boiler Fuel |
| Neal's Pallet Co., Inc. | Neal Sparrow | 8808 Wilkinson Blvd. | Charlotte | NC | 28214 | 7043938568 | 7043995313 | | Scrap Lumber |
| Pallet Express | Michael Briggs | 2821 Assembly Road | Greensboro | NC | 27405 | 8002220987 | 3366214444 | | Wood Waste -- Boiler Fuel |
| Pallet Recycling Service | Sammy Brewer | 9859 Hwy 42 | Bear Creek | NC | 27207 | 3365813250 | 3365813766 | | Scrap Lumber |
| Pine Hall Brick Company | Preston McMillon | P.O. Box 836 | Madison | NC | 27025 | 3364272036 | 3365487153 | | Wood Waste -- Boiler Fuel |
| Profile Products | Tim Andrews | 219 Simpson Street | Conover | NC | 28613 | 8283274165 | 8283289826 | landrews@profileproducts.com | Scrap Lumber |
| Progressive Soil Farms | Rodney Fulton | 4506 Arnold Road | Lexington | NC | 27295 | 3367313418 | 3367316677 | | Yard Waste |
| Recycled Materials, Inc. | Fred Jones | 538 Old Mt. Olive Hwy. | Dudley | NC | 28333 | 9197350004 | 9197358555 | | Yard Waste Concrete & Brick Scrap Lumber Wood Waste -- Land-Clearing Debris |
| RJ Brewer Grinding Services | Ron Brewer | 3733 Kidd Lane | Charlotte | NC | 28216 | 7043995500 | 7043938701 | | Wood Waste -- Mobile Recycler |
| Ross and Associates | Ben Ross | PO BOX 99794 | Raleigh | NC | 27624 | 9197827070 | 9195709549 | benross01@earthlink.net | Roofing Material |
| Shuford Lumber | Richard Shuford | P.O. Box 1201 | Marion | NC | 28752 | 8287249499 | 8287249534 | | Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |
| Site So Kleen | James Britt | 125 Briarcreek Dr | Winston-Salem | NC | 27107 | | | jbritt2@trnad.rr.com | Concrete & Brick Scrap Lumber Drywall (Gypsum) Roofing Material |
| Soundside Recycling and Materials, Inc. | Racy Newbern | 105 Windy Hill Court | Aydlett | NC | 27916 | 2524918719 | 252491-5454 | knewbern@aginet.com | Roofing Material Concrete & Brick Drywall (Gypsum) Scrap Lumber |

| COMPANY | Name | Address | City | St | ZIP | Phone | Fax | Email | Material Description |
|--------------------------------------|---------------|--------------------------|---------------|----|------------|-------------------|------------|------------------------------|---|
| Stonecutter Mills Corporation | Kim Warner | 300 Dallas Street | Spindale | NC | 28160 | 8282862341 ext 24 | 8282877280 | kwsmc@stonecuttermills.com | Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |
| TODCO, Inc. | Todd Warford | 1123 Roy Lopp Rd. | Lexington | NC | 27292 | 3362482001 | 3362488835 | towarford@lexcommcinc.net | Wood Waste -- Mobile Recyclers Wood Waste -- Boiler Fuel Yard Waste Scrap Lumber Wood Waste -- Land-Clearing Debris |
| Tri-County Industries, Inc. | Ray Omdorff | 1250 Atlantic Avenue | Rocky Mount | NC | 27801 2710 | 2529773800 | 2529772283 | | Scrap Lumber |
| TRIGEN-Biopower, Inc. | Max Doggett | 141 Laurel Hill | Rutherfordton | NC | 28139 | 8282860380 | 8282861229 | psindogget@aol.com | Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris Yard Waste |
| Union Gypsum | Steve Davis | PO Box 276 | Marshville | NC | 28103 0276 | 7046242077 | 7046242806 | | Drywall (Gypsum) |
| W.E. Garrison Company, Inc. | Ryan Creech | 6117 Fayetteville Road | Raleigh | NC | 27603 | 9197724144 | 9197724860 | | Wood Waste -- Land-Clearing Debris Scrap Lumber |
| W.N.C. Pallet | Brent Orr | PO Box 38 | Candler | NC | 28715 | 8286675426 | 8286654759 | borr@wncpallet.com | Wood Waste -- Boiler Fuel Wood Waste -- Mobile Recyclers |
| Waste Reduction Products Corporation | Mark Booth | PO Box 529 | Goldston | NC | 27252 0529 | 9198984105 | 9198982914 | | Drywall (Gypsum) |
| Weyerhaeuser Company | Jack Godwin | P.O. BOX 280 | Ayden | NC | 28513 | 2527467217 | 2527465181 | jack.godwin@weyerhaeuser.com | Wood Waste -- Boiler Fuel |
| Weyerhaeuser Paper Company | Ken Hardison | P.O. BOX 787 | Plymouth | NC | 27962 | 2527938249 | | | Wood Waste -- Boiler Fuel Wood Waste -- Land-Clearing Debris |
| Williamete Industries | Daryl Keeling | P.O. Box 230 | Moncure | NC | 27559 | 9195422311 | 9195426646 | | Wood Waste -- Boiler Fuel |
| Wilmington Materials, Inc. | Kyle McIntyre | P.O. Box 209 | Wilmington | NC | 28402 | 9107634560 | 9107622815 | | Yard Waste Concrete & Brick Wood Waste -- Land-Clearing Debris |
| Wilson and Son Grinding | Dwight Murphy | 3716 Mt. Zion Church Rd. | Mebane | NC | 27302 | 3365781916 | 3365780006 | hwilson@netpath.net | Concrete & Brick -- Mobile Recyclers Wood Waste -- Land-Clearing Debris Wood Waste -- Mobile Recyclers Asphalt Pavement Yard Waste |

Appendix F-12

| COMPANY | Name | Address | City | St | ZIP | Phone | Fax | Email | Material Description |
|---------------------|-----------|------------------|-----------|----|-------|------------|------------|-------|----------------------------------|
| Yesterday's Windows | Don Payne | 65 Brownwood Ave | Asheville | NC | 28806 | 8282599936 | 8282599936 | | Scrap Lumber Concrete & Brick |

APPENDIX F

North Carolina Department of
Transportation

NCDOT DIVISION & DISTRICT ENGINEER LISTING (Revised 1/15/2002)

| DIV | Title | Name | Address / C.S. No / Telephone | DISTRICT | District Engineer | Address | C.S. No. | Telephone |
|---|--------------------|-----------------------|-------------------------------|----------|----------------------|-------------------------------------|----------|--------------|
| | Division Engineer | D.R. Conner, PE | 113 Airport Dr., Suite 100 | 1 | G.A. Byrum, PE | PO Box 1405 Elizabeth City 27909 | 10-31-04 | 252-331-4737 |
| | Div. Maint. Engr. | A.W. Roper, PE | Edenton 27932 | 2 | C.W. Bridgers, PE | PO Box 748 Ahoskie 27910 | 10-12-05 | 252-332-4021 |
| | Div. Constr. Engr. | R.E. Capehart, PE | 10-51-02 (Hertford) | 3 | S.D. Baker | PO Box 928 Plymouth 27962 | 16-15-01 | 252-793-4568 |
| | Div. Oper. Engr. | J.D. Jennings, PE | 252-482-7977 | | | | | |
| 2 | Division Engineer | C. E. Lassiter, PE | PO Box 1587 | 1 | D.R. Taylor, PE | 1701 W. 5th St. Washington 27889 | 16-05-01 | 252-946-3689 |
| | Div. Maint. Engr. | D.A. Allgood, PE | Greenville 27835 | 2 | A.C. Everett | 209 S.Glenburnie Rd. New Bern 28560 | 16-60-04 | 252-514-4716 |
| | Div. Constr. Engr. | B.E. Eatmon, PE | 01-44-25 | 3 | R.E. Davenport, PE | 1629 Hwy 258S Kinston 28504 | 01-23-26 | 252-527-0053 |
| | Div. Oper. Engr. | W. Nottingham, PE | 252-830-3490 | | | | | |
| 3 | Division Engineer | H.A. Pope, PE | 124 Division Dr. | 1 | R. Vause, PE | 410 New Bridge St. Suite 7A | 11-03-31 | 910-346-2040 |
| | Div. Maint. Engr. | D.L. Thomas, PE | Wilmington 28401 | 2 | K.E. Fussell, PE | 220 N. Blvd. Clinton 28328 | 11-31-04 | 910-592-6174 |
| | Div. Constr. Engr. | J.E. Blair, PE | 04-11-03 | 3 | D.R. Cumbo, PE | 300 Div. Dr. Wilmington 28401 | 04-11-03 | 910-251-2655 |
| | Div. Oper. Engr. | J.W. Provost, PE | 910-251-5724 | | | | | |
| 4 | Division Engineer | J.H. Trogdon, III, PE | PO Box 3165 | 1 | B.A. Mills | PO Box 98 Halifax 27839 | 07-43-10 | 252-583-5861 |
| | Div. Maint. Engr. | R.B. Bunn, III, PE | Wilson 27893 | 2 | L.R. Ward, PE | 3013 US 64A Nashville 27866 | 07-73-07 | 252-459-2128 |
| | Div. Constr. Engr. | W.L. Oglesby, PE | 01-53-26 | 3 | T.M. Little, PE | 2671 US 70W Goldsboro 27530 | 01-10-01 | 919-731-7938 |
| | Div. Oper. Engr. | J.C. Eatmon, PE | 252-237-6164 | | | | | |
| 5 | Division Engineer | J.G. Nance, PE | 2612 N.Duke St. | 1 | B.H. Jones | 4009 District Dr. Raleigh 27607 | 51-31-00 | 919-733-2814 |
| | Deputy Div. Engr. | J. W. Bowman, PE | Durham 27704 | 2 | R.H. Cooper | 815 Stadium Dr. Durham 27704 | 17-27-03 | 919-560-6854 |
| | Div. Maint. Engr. | R.E. Greene, PE | 17-27-03 | 3 | S.G. Capps, PE | PO Box 205 Henderson 27536 | 07-23-13 | 252-492-0111 |
| | Div. Constr. Engr. | T.N. Parrot, PE | 919-560-6851 | | | | | |
| Div. Oper. Engr. | J. Hopkins, PE | | | | | | | |
| 6 | Division Engineer | T.R. Gibson, PE | PO Box 1150 | 1 | R.J. Nelson, PE | PO Box 2157 Lumberton 28359 | 14-92-03 | 910-618-5546 |
| | Div. Maint. Engr. | R.K. Murphy, Jr., PE | Fayetteville 28302 | 2 | R.R. Stone, PE | PO Box 1150 Fayetteville 28302 | 14-55-24 | 910-486-1496 |
| | Div. Constr. Engr. | T.C. Pittman, PE | 14-55-24 | 3 | R.E. Crumpler, PE | PO Box 27 Whiteville 28472 | 04-21-04 | 910-642-3760 |
| | Div. Oper. Engr. | G.W. Burns, PE | 910-486-1493 | | | | | |
| 7 | Division Engineer | J.M. Mills, PE | PO Box 14996 | 1 | D.C. Kimes | PO Box 766 Graham 27253-0766 | 17-40-02 | 336-570-6833 |
| | Deputy Div. Engr. | E.M. Cowan, PE | Greensboro | 2 | S.L. Hall | PO Box 14996 Greensboro | 02-16-44 | 336-334-3161 |
| | Div. Maint. Engr. | T.J. Dyer, PE | 27415-4996 | 3 | J.B. Hunsinger | PO Box 2513 Reidsville 27323-2513 | 02-29-27 | 336-634-5644 |
| | Div. Constr. Engr. | J.B. Wall, PE | 02-16-44 | | | | | |
| Div. Oper. Engr. | P.P. Eason, PE | 336-334-3192 | | | | | | |
| 9 | Division Engineer | W. F. Rosser, PE | PO Box 1067 | 1 | J.L. Picklesimer, PE | PO Box 1164 Asheboro 27203 | 13-62-07 | 336-629-1423 |
| | Div. Maint. Engr. | R.W. Hancock, PE | Aberdeen 28315 | 2 | J.A. Clendenin | PO Box 1067 Aberdeen 28315 | 03-51-05 | 910-944-7621 |
| | Div. Constr. Engr. | T. Johnson, PE | 03-51-05 | 3 | K.R. Hendrick, PE | 219 Clemmer Road Rockingham | 03-80-04 | 910-582-7075 |
| | Div. Oper. Engr. | G.R. Sproles, Jr., PE | 910-944-2344 | | | 28379 (Hamlet) | | |
| 9 | Division Engineer | S.P. Ivey, PE | 2125 Cloverdale | 1 | C.T. Corriher, PE | 4770 S. Main St. Salisbury 28147 | 05-31-01 | 704-639-7560 |
| | Div. Maint. Engr. | M.T. Patton, PE | Winston-Salem 27103 | 2 | M.C. Shaffner | 2135 Cloverdale Ave. | 13-12-04 | 336-761-2410 |
| | Div. Constr. Engr. | K.E. Raulston, PE | 13-12-04 | | | Winston-Salem 27103 | | |
| | Div. Oper. Engr. | D.W. Spainhour, PE | 336-761-2200 | | | | | |
| 10 | Division Engineer | B.G. Payne, PE | 716 W. Main St. | 1 | J.K. Wilson, III | 615 Concord Rd. Albemarle 28001 | 03-21-01 | 704-982-0104 |
| | Deputy Div. Engr. | B.S. Moose, PE | Albemarle 28001 | 2 | D. Diggs, PE | PO Box 190 Newell 28126 | 05-13-10 | 704-596-6900 |
| | Div. Maint. Engr. | P.T. Moxley, PE | 03-21-01 | 3 | D.R. Hearne, PE | 130 S. Sutherland Ave. | 03-05-02 | 704-289-1397 |
| | Div. Constr. Engr. | T. Boland, PE | 704-982-0101 | | | Monore 28112 | | |
| Div. Oper. Engr. | L.N. Gordon, PE | | | | | | | |
| 11 | Division Engineer | R.C. McCann, PE | PO Box 250 | 1 | C.C. Reinhardt, PE | PO Box 558 Elkin 28621 | 09-80-02 | 336-835-4241 |
| | Div. Maint. Engr. | M.A. Pettyjohn, PE | N.Wilkesboro 28659 | 2 | M.L. Bolick | PO Box 1460 Boone 28607 | 15-91-02 | 828-265-5380 |
| | Div. Constr. Engr. | T. Beaver, PE | 15-13-32 | 3 | D.J. Tetzlaff | PO Box 250 N. Wilkesboro 28659 | 15-13-32 | 336-667-9117 |
| | Div. Oper. Engr. | W.O. Atkins, PE | 336-667-9111 | | | | | |
| 12 | Division Engineer | M.L. Holder, PE | PO Box 47 | 1 | D.D. Reece | PO Box 47 Shelby 28150-0047 | 06-53-02 | 704-480-2080 |
| | Div. Maint. Engr. | J.C. Lamb, Jr., PE | Shelby 28150-0047 | 2 | C.B. Lunsford | 124 Prison Camp Rd. Statesville | 09-33-19 | 704-876-3947 |
| | Div. Constr. Engr. | D.C. Grissom, PE | 06-53-03 | | | 28687 | | |
| | Div. Oper. Engr. | R.D. Chandler, PE | 704-480-9020 | | | | | |
| 13 | Division Engineer | F.D. Martin, PE | PO Box 3279 | 1 | G.R. Spangler | 3931 NC 226S Marion 28752 | 12-91-02 | 828-652-3344 |
| | Div. Maint. Engr. | S.A. Moore, PE | Asheville 28802 | 2 | K.A. Wilson, PE | PO Box 3279 Asheville 28802 | 12-60-02 | 828-298-2741 |
| | Div. Constr. Engr. | M.R. Phillips, PE | 12-60-02 | | | | | |
| | Div. Oper. Engr. | K.J. Putnam, PE | 828-251-6171 | | | | | |
| 14 | Division Engineer | R.G. Watson, PE | PO Box 37 | 1 | E.A. Green, PE | 4142 Haywood Rd. | 06-98-20 | 828-891-7911 |
| | Div. Maint. Engr. | J. J. Swain, Jr., PE | Sylva 28779 | 2 | C.R. Styles, PE | Horse Shoe 28742 | 08-30-03 | 828-488-2131 |
| | Div. Constr. Engr. | J.B. Setzer, PE | 08-23-15 | 3 | B.C. Burch, PE | PO Box 250 Bryson City 28713 | 08-54-01 | 828-321-4105 |
| | Div. Oper. Engr. | R.E. Moore, PE | 828-586-2141 | | | PO Box 1551 Andrews 28901 | | |
| J.D. Goins, PE, Chief Engineer - Operations | | | | | | | | 919-733-7621 |
| D.A. Allsbrook, Jr., PE, Deputy Chief Engineer - Operations | | | | | | | | 919-733-2330 |
| W.S. Varnedoe, PE, State Maintenance & Equipment Engineer | | | | | | | | 919-715-5662 |
| R. Canales, PE, State Construction & Materials Engineer | | | | | | | | 919-715-5662 |

http://www.doh.dot.state.nc.us/operations/DOT_englist/



District / County Maintenance Engineer Directory

| COUNTY | # | DIV. | DIST. | DIST. ENGINEER | CO. MAINTENANCE ENGINEER |
|-----------|----|------|-------|---|--|
| Alamance | 47 | 7 | 1 | Chad Kimes 336/570-6833 – Graham | Mike Venable 336/570-6815 – Graham |
| Alexander | 78 | 12 | 2 | Clay Lunsford 704/876-3947 – Statesville | Vacant 828/632-2164 – Taylorsville |
| Alleghany | 70 | 11 | 1 | Charles Reinhardt 336/835-4241 – Elkin | Brandon Whitaker 336/372-2206 – Yackinville |
| Anson | 65 | 10 | 3 | Ritchie Hearne 704/289-1397 – Monroe | Rick Baucom 704/694-2436 – Polkton |
| Ashe | 71 | 11 | 3 | Doug Tetzlaff 336/667-9117 – N. Wilkesboro | Danny Miller 336/246-5287 – West Jefferson |
| Avery | 72 | 11 | 2 | Martin Bolick 828/265-5380 – Boone | Johnny Brown 828/733-2776 – Boone |
| Beaufort | 15 | 2 | 1 | Danny Taylor 252/946-3689 – Washington | Allen Lewis 252/946-3054 – Washington |
| Bertie | 01 | 1 | 2 | Win Bridgers 252/332-4021 – Ahoskie | Lydia McKeel 252/332-2765 – Union |
| Bladen | 42 | 6 | 3 | Robert Crumpler 910/642-3760 – Whiteville | Drew Cox 910/862-3396 – Elizabethtown |
| Brunswick | 23 | 3 | 3 | Dan Cumbo 910/251-2655 – Wilmington | Vacant 910/754-6527 – Shalotte |
| Buncombe | 84 | 13 | 2 | Kenny Wilson 828/298-2741 – Asheville | Matt Taylor 828/298-0397 – Asheville |
| Burke | 85 | 13 | 1 | Gary Spangler 828/652-3344 – Marion | Bruce Taylor 828/438-6274 – Morganton |
| Cabarrus | 66 | 10 | 1 | Joseph Wilson, III 704/982-0104 – Albemarle | Janice Bobo 704/436-9316 – Mt. Pleasant |
| Caldwell | 73 | 11 | 2 | Martin Bolick 828/265-5380 – Boone | Michael Poe 828/726-2512 – Lenoir |
| Camden | 02 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Ronnie Sawyer 252/331-4778 – Eliz. City |
| Carteret | 16 | 2 | 2 | Aaron Everett 252/514-4716 – New Bern | David Livingston 252/223-4811 – Newport |
| Caswell | 48 | 7 | 3 | John Hunsinger, Jr. 336/634-5644 – Reidsville | Herbert McDowell, III 336/694-6101 – Yanceyville |
| Catawba | 79 | 12 | 2 | Clay Lunsford 704/876-3947 – Statesville | Max Abernethy 828/466-5519 – Newton |

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| | | | | | |
|------------|----|----|---|---|--|
| Chatham | 52 | 8 | 1 | Jeff Picklesimer 336/629-1423 – Asheboro | Benny Sloan 919/742-3431 – Siler City |
| Cherokee | 91 | 14 | 3 | Brian Burch 828/321-4105 – Andrews | Wesley Grindstaff 828/321-4105 – Robbinsville |
| Chowan | 03 | 1 | 3 | Sterling Baker 252/793-4568 – Plymouth | Darrick Lee 252/792-2503 - Williamston |
| Clay | 92 | 14 | 3 | Brian Burch 828/321-4105 – Andrews | Ralph Cannady 828/321-4105 – Hayesville |
| Cleveland | 80 | 12 | 1 | Don Reece 704/480-5402 – Shelby | Larry Carpenter, Jr. 704/480-5425 – Shelby |
| Columbus | 43 | 6 | 3 | Robert Crumpler 910/642-3760 – Whiteville | Freddie Edwards 910/642-7597 – Whiteville |
| Craven | 17 | 2 | 2 | Aaron Everett 252/514-4716 – New Bern | Ken Mason 252/514-4731 – Newbern |
| Cumberland | 44 | 6 | 2 | Ray Stone 910/486-1496 – Fayetteville | Jerry Taylor 910/486-1421 – Fayetteville |
| Currituck | 04 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Tommy Tilley 252/473-2990 – Manteo |
| Dare | 05 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Tommy Tilley 252/473-2990 – Manteo |
| Davidson | 60 | 9 | 1 | Chris Corriher 704/639-7560 – Salisbury | Mark Crook 336/249-7001 – Lexington |
| Davie | 61 | 9 | 2 | Mike Shaffner 336/761-2410 – Winston-Salem | John Rhyne 336/751-2400 – Mocksville |
| Duplin | 24 | 3 | 2 | Karen Fussell 910/592-6174 – Clinton | Linwood Reynolds 910/296-0689 – Kenansville |
| Durham | 35 | 5 | 2 | Rodney Cooper 919/560-6854 – Durham | Shane Parker 919/477-2814 – Durham |
| Edgecombe | 29 | 4 | 1 | Andy Mills 252/583-5861 – Halifax | Bobby Lewis 252/823-2982 – Tarboro |
| Forsyth | 62 | 9 | 2 | Mike Shaffner 336/761-2410 – Winston-Salem | Gary Neal 336/896-7014 – Winston-Salem |
| Franklin | 36 | 5 | 3 | Scott Capps 252/492-0111 – Henderson | Jonathan Tyndall 919/496-3212 – Bunn |
| Gaston | 81 | 12 | 1 | Don Reece 704/480-5402 – Shelby | Johnny Murdock 704/922-3777 – Dallas |
| Gates | 06 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Ronnie Sawyer 252/331-4778 – Eliz. City |
| Graham | 93 | 14 | 3 | Brian Burch 828/321-4105 – Andrews | Wesley Grindstaff 828/321-4105 – Robbinsville |
| Granville | 37 | 5 | 2 | Rodney Cooper 919/560-5854 – Durham | Mark Cooney 919/693-8164 – Oxford |
| Greene | 18 | 2 | 3 | Ron Davenport 252/527-0053 – Kinston | Preston Hunter 252/747-3933 – Maury |
| Guilford | 49 | 7 | 2 | Lane Hall 336/334-3161 – Greensboro | Paul Ingram 336/668-2464 – Sandy Ridge 336/375-5475 - Camp Burton Office |

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| | | | | | |
|-------------|----|----|---|--|--|
| Halifax | 30 | 4 | 1 | Andy Mills 252/583-5861 – Halifax | Denny Landen 252/583-2811 – Halifax |
| Harnett | 45 | 6 | 2 | Ray Stone 910/486-1496 – Fayetteville | Keith Anderson 910/893-3605 – Lillington |
| Haywood | 94 | 14 | 2 | Rick Styles, 828/488-2131 – Bryson City | Don Carpenter 828/456-5633 – Clyde |
| Henderson | 95 | 14 | 1 | E.A. Green 828/891-7911 – Horse Shoe | Mark Gibbs 828/891-7911 – Hendersonville |
| Hertford | 07 | 1 | 2 | Win Bridgers 252/332-4021 – Ahoskie | Lydia McKeel 252/332-2765 – Ahoskie |
| Hoke | 53 | 8 | 2 | Joe Clendenin 910/944-7621 – Aberdeen | Johnny Ransdell 919/875-3952 – Raeford |
| Hyde | 08 | 1 | 3 | Sterling Baker 252/946-3689 – Plymouth | Shawn Mebane 252/797-4598 – Creswell |
| Iredell | 82 | 12 | 2 | Clay Lunsford 704/876-3947 – Statesville | Doug McNeal 704/876-1696 – Statesville |
| Jackson | 96 | 14 | 2 | Rick Styles, 828/488-2131 – Bryson City | Johnny Metcalfe 828/586-6019 – Sylva |
| Johnston | 31 | 4 | 3 | Tim Little 919/731-7938 – Goldsboro | Chris Pendergraph 919/934-6176 – Smithfield |
| Jones | 19 | 2 | 3 | Ron Davenport 252/527-0053 – Kinston | Preston Hunter 252/448-3711 – Trenton |
| Lee | 54 | 8 | 2 | Joe Clendenin 910/944-7621 – Aberdeen | Johnny Ransdell 919/775-3122 – Sanford |
| Lenoir | 20 | 2 | 3 | Ron Davenport 252/527-0053 – Kinston | Preston Hunter 252/527-6422 – Kinston |
| Lincoln | 83 | 12 | 1 | Don Reece 704/480-5402 – Shelby | Tommy Richardson 704/735-5212 – Lincolnton |
| Macon | 97 | 14 | 3 | Brian Burch 828/321-4105 – Andrews | Ralph Cannady 828/321-4105 – Franklin |
| Madison | 86 | 13 | 2 | Kenny Wilson 828/298-2741 – Asheville | Ron Brazil 828/649-2222 – Marshall |
| Martin | 09 | 1 | 3 | Sterling Baker 252/946-3689 – Plymouth | Darrick Lee 252/792-2503 – Williamston |
| McDowell | 87 | 13 | 1 | Gary Spangler 828/652-3344 – Marion | Lonnie Watkins 828/652-4024 – Marion |
| Mecklenburg | 67 | 10 | 2 | Davis Diggs 704/596-6900 – Newell | Rick Mason (Charlotte) 704/596-5782 & Sidney Farrar (Paw Creek) 704/394-8321 |
| Mitchell | 88 | 13 | 1 | Gary Spangler 828/652-3344 – Marion | Lonnie Watkins 828/652-4024 – Marion |
| Montgomery | 55 | 8 | 3 | Kevin Hedrick 910/582-7075 – Rockingham | Harold Matthews 910/576-3667 – Troy |
| Moore | 56 | 8 | 2 | Joe Clendenin 910/944-7621 – Aberdeen | Sarah Foster 910/947-2233 – Carthage |
| Nash | 32 | 4 | 2 | Lynn Ward 252/459-2128 – Nashville | Ronnie Keeter 252/459-2762 – Nashville |
| New | 25 | 3 | 3 | Dan Cumbo 910/251-2655 – | Scott Cooke 910/251-5736 – Wilmington |

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| Hanover | | | | Wilmington | |
|-------------|----|----|---|---|---|
| Northampton | 10 | 1 | 2 | Win Bridgers 252/332-4021 – Ahoskie | Jack Liverman 252/534-4031 – Jackson |
| Onslow | 26 | 3 | 1 | Robert Vause 910/346-2040 – Jacksonville | Warren Wethington 910/455-3777 – Jacksonville |
| Orange | 50 | 7 | 1 | Chad Kimes 336/570-6833 – Graham | Chuck Edwards 919/732-4330 – Hillsborough |
| Pamlico | 21 | 2 | 2 | Aaron Everett 252/514-4716 – New Bern | Ken Mason 252/514-4731 – New Bern |
| Pasquotank | 11 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Ronnie Sawyer 252/331-4778 – Eliz. City |
| Pender | 27 | 3 | 1 | Robert Vause 910/346-2040 – Jacksonville | Glenn Crews 910/259-5413 – Burgaw |
| Perquimans | 12 | 1 | 1 | Gretchen Byrum 252/331-4737 – Elizabeth City | Ronnie Sawyer 252/331-4778 – Eliz. City |
| Person | 38 | 5 | 2 | Rodney Cooper 919/560-5854 – Durham | Billy Timberlake 910/599-5255 – Roxboro |
| Pitt | 22 | 2 | 1 | Danny Taylor 252/946-3689 – Washington | Woody Jarvis 252/830-3142 – Greenville |
| Polk | 98 | 14 | 1 | Ed Green 828/891-7911 – Horse Shoe | Chuck Dumas 828/891-7911 – Rosman |
| Randolph | 57 | 8 | 1 | Jeff Picklesimer 336/629-1423 – Asheboro | Tommy McManus 336/625-2078 – Asheboro |
| Richmond | 58 | 8 | 3 | Kevin Hedrick 910/997-9164 – Rockingham | Charles Vick 910/997-9164 – Rockingham |
| Robeson | 46 | 6 | 1 | Bob Nelson 910/618-5546 – Lumberton | Gene McKethan 910/618-5543 – Lumberton |
| Rockingham | 51 | 7 | 3 | John Hunsinger, Jr. 336/634-5644 – Reidsville | Henry Adkins 336/634-5642 – Wentworth |
| Rowan | 63 | 9 | 1 | Chris Corriher 704/639-7560 – Salisbury | Chuck White 704/639-7563 – Salisbury |
| Rutherford | 89 | 13 | 1 | Gary Spangler 828/652-3344 – Marion | McCray Coates 828/286-3433 – Spindale |
| Sampson | 28 | 3 | 2 | Karen Fussell 910/592-6174 – Clinton | Vacant 910/592-1434 – Clinton |
| Scotland | 59 | 8 | 3 | Kevin Hedrick 910/997-9164 – Rockingham | Bill McClendon 910/369-2645 – Wagram |
| Stanly | 68 | 10 | 1 | Joseph Wilson, III 704/982-0104 – Albemarle | Ranette Davis 704/983-5146 – Albemarle |
| Stokes | 64 | 9 | 2 | Mike Shaffner 336/761-2410 – Winston-Salem | Kent Boyer 336/593-8541 – Walnut Cove |
| Surry | 74 | 11 | 1 | Charles Reinhardt 336/835-4241 – Elkin | Travis Spicer 336/386-8273 – Dobson |
| Swain | 99 | 14 | 2 | Rick Styles, 828/488-2131 – Bryson City | Johnny Metcalfe 828/586-6019 – Bryson City |

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| | | | | | |
|--------------|-----|----|---|--|---|
| Transylvania | 100 | 14 | 1 | Ed Green 828/891-7911 – Horse Shoe | Chuck Dumas 828/891-7911 – Columbus |
| Tyrrell | 13 | 1 | 3 | Sterling Baker 252/793-4568 – Plymouth | Shawn Mebane 252/797-4598 – Creswell |
| Union | 69 | 10 | 3 | Ritchie Hearne 704/289-1397 – Monroe | Marc Morgan 704/283-5941 – Monroe |
| Vance | 39 | 5 | 3 | Scott Capps 252/492-0111 – Henderson | Terri-Lynn Poppe 919/257-3938 – Henderson |
| Wake | 40 | 5 | 1 | Brandon Jones 919/733-2814 – Raleigh | Jerry Linder 919/733-4768 – Raleigh |
| Warren | 41 | 5 | 3 | Scott Capps 252/492-0111 – Henderson | Terri-Lynn Poppe 919/257-3938 – Warrenton |
| Washington | 14 | 1 | 3 | Sterling Baker 252/793-4568 – Plymouth | Shawn Mebane 252/797-4598 – Creswell |
| Watauga | 75 | 11 | 2 | Martin Bolick 828/265-5380 – Boone | Johnny Brown 828/265-5378 – Boone |
| Wayne | 33 | 4 | 3 | Tim Little 919/731-7938 – Goldsboro | Ricky Bell 252/731-7966 – Goldsboro |
| Wilkes | 76 | 11 | 3 | Doug Tetzlaff 336/667-9117 – N. Wilkesboro | Bob Bumgarner 336/667-9119 – North Wilkesboro |
| Wilson | 34 | 4 | 2 | Lynn Ward 252/731-7938 – Nashville | Lindsey Ethridge 252/237-6164 – Wilson |
| Yadkin | 77 | 11 | 1 | Charles Reinhardt 336/835-4241 – Elkin | Brandon Whitaker 336/372-2206 – Yadkinville |
| Yancey | 90 | 13 | 2 | Kenny Wilson 828/298-2741 – Asheville | Ron Brazil 828/649-2222 – Marshall |

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

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CHAPTER 6C. TEMPORARY TRAFFIC CONTROL ELEMENTS

Section 6C.01 Temporary Traffic Control Plans

Support:

A temporary traffic control plan describes temporary traffic control measures to be used for facilitating road users through a work zone. Temporary traffic control plans play a vital role in providing continuity of safe and efficient road user flow when a work zone, incident, or other event temporarily disrupts normal road user flow. Important auxiliary provisions that cannot conveniently be specified on project plans can easily be incorporated into Special Provisions within the temporary traffic control plan.

Temporary traffic control plans range in scope from being very detailed to simply referencing typical drawings contained in this Manual, standard approved highway agency drawings and manuals, or specific drawings contained in the contract documents. The degree of detail in the temporary traffic control plan depends entirely on the complexity of the situation.

Guidance:

Temporary traffic control plans should be prepared by persons knowledgeable (for example, trained and/or certified) about the fundamental principles of temporary traffic control and work activities to be performed. The design, selection and placement of temporary traffic control devices for a temporary traffic control plan should be based on engineering judgment.

Coordination should be made between adjacent or overlapping projects to check that duplicate signing is not used and to check compatibility of traffic control between adjacent or overlapping projects.

Traffic control planning should be completed for all highway construction, utility work, maintenance operations, and incident management including minor maintenance and utility projects prior to occupying the temporary traffic control zone.

Option:

Provisions may be incorporated into the project bid documents that enable contractors to develop an alternate temporary traffic control plan.

Modifications of temporary traffic control plans may be necessary because of changed conditions or a determination of better methods of safely and efficiently handling road users.

Guidance:

This alternate or modified plan should have the approval of the responsible highway agency prior to implementation.

Provisions for effective continuity of transit service should be incorporated into the temporary traffic control planning process. Often, public transit buses cannot efficiently be detoured in the same manner as other vehicles (particularly for short-term maintenance projects). The temporary traffic control plan should provide for features such as temporary bus stops, pull-outs, and satisfactory waiting areas for transit patrons, if applicable (see Section 10A.05 for additional light rail transit issues to consider for temporary traffic control).

Provisions for effective continuity of railroad service and acceptable access to abutting property owners and businesses should also be incorporated into the temporary traffic control planning process.

Reduced speed limits should be used only in the specific portion of the temporary traffic control zone where conditions or restrictive features are present. However, frequent changes in the speed limit should be avoided. A temporary traffic control plan should be designed so that vehicles can safely travel through the temporary traffic control zone with a speed limit reduction of no more than 16 km/h (10 mph).

A reduction of more than 16 km/h (10 mph) in the speed limit should be used only when required by restrictive features in the temporary traffic control zone. Where restrictive features justify a speed reduction of more than 16 km/h (10 mph), additional driver notification should be provided. The speed limit should be stepped down in advance of the location requiring the lowest speed, and additional temporary traffic control warning devices should be used.

Reduced speed zoning (lowering the regulatory speed limit) should be avoided as much as practical because drivers will reduce their speeds only if they clearly perceive a need to do so.

Support:

Research has demonstrated that large reductions in the speed limit, such as a 50 km/h (30 mph) reduction, increase speed variance and the potential for crashes. Smaller reductions in the speed limit of up to 16 km/h (10 mph) cause smaller changes in speed variance and lessen the potential for increased crashes. A reduction in the regulatory speed limit of only up to 16 km/h (10 mph) from the normal speed limit has been shown to be more effective.

Section 6C.02 Temporary Traffic Control Zones

Support:

A temporary traffic control zone is an area of a highway where road user conditions are changed because of a work zone or an incident through the use of temporary traffic control devices, police, or other authorized officials.

A work zone is an area of a highway with construction, maintenance, or utility work activities. A work zone is typically marked by signs, channelizing devices, barriers, pavement markings, and/or work vehicles. It extends from the first warning sign or rotating/strobe lights on a vehicle to the END ROAD WORK sign or the last temporary traffic control device.

An incident area is an area of a highway where temporary traffic controls are imposed by authorized officials in response to a road user incident, natural disaster, or special event.

Section 6C.03 Components of Temporary Traffic Control Zones

Support:

Most temporary traffic control zones are divided into four areas: the advance warning area, the transition area, the activity area, and the termination area. Figure 6C-1 illustrates these four areas. These four areas are described in Sections 6C.04 through 6C.07.

Section 6C.04 Advance Warning Area

Support:

The advance warning area is the section of highway where road users are informed about the upcoming work zone or incident area.

Option:

The advance warning area may vary from a single sign or rotating/strobe lights on a vehicle to a series of signs in advance of the temporary traffic control zone activity area.

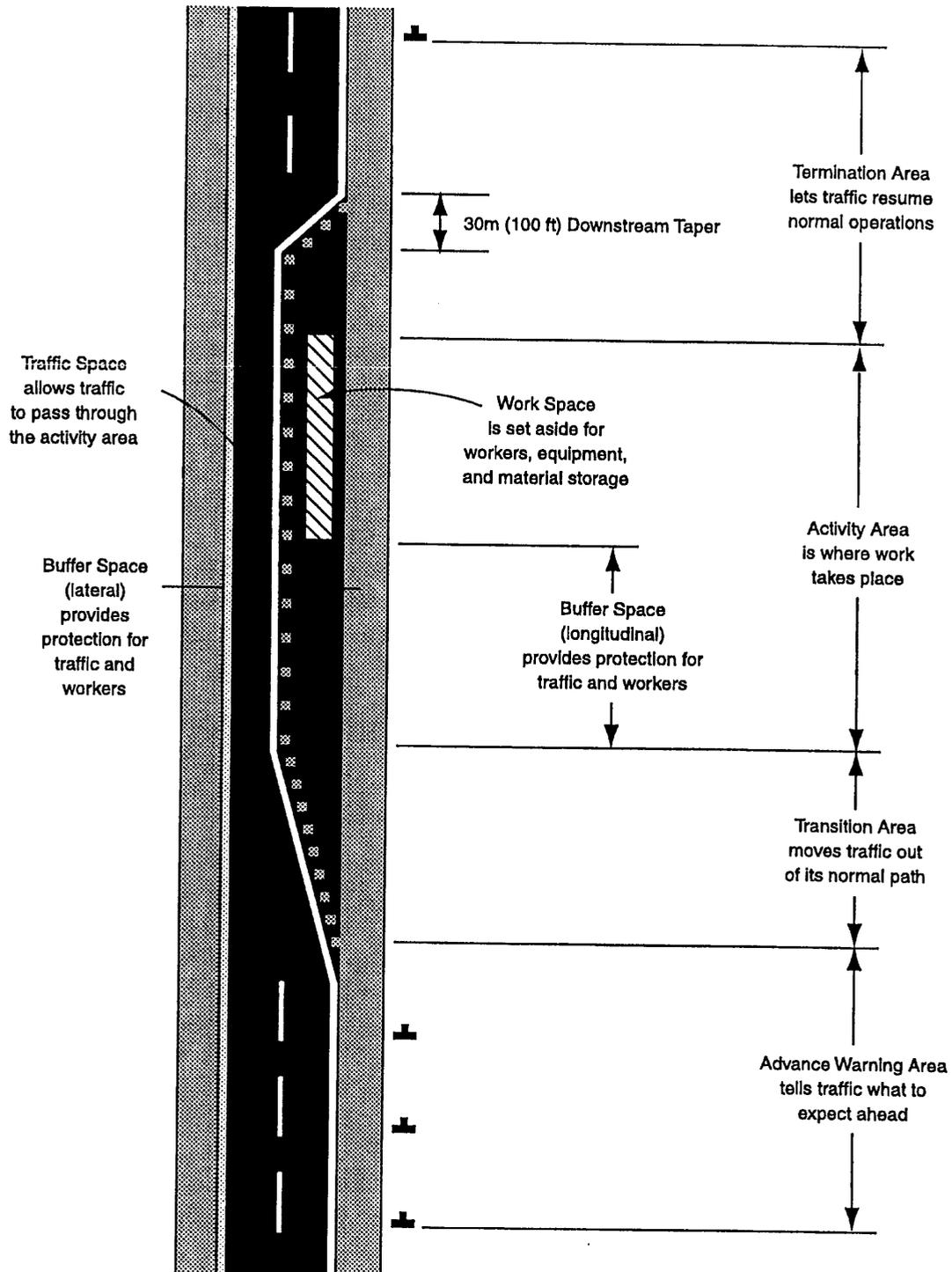
Guidance:

Typical distances for placement of advance warning signs on expressways and freeways should be longer because drivers are conditioned to uninterrupted flow. Therefore, the advance warning sign placement should extend on these facilities as far as 800 m (0.5 mi) or more.

On urban streets, the effective placement of the first warning sign in meters (feet) should range from 0.75 to 1.5 times the speed limit in km/h (4 to 8 times the speed limit in mph), with the high end of the range being used when speeds are relatively high. When a single advance warning sign is used (in cases such as low-speed residential streets), the advance warning area can be as short as 30 m (100 ft). When two or more advance warning signs are used on higher-speed streets, such as major arterials, the advance warning area should extend a greater distance (see Table 6C-1).

Since rural highways are normally characterized by higher speeds, the effective placement of the first warning sign in meters (feet) should be substantially longer—from

Figure 6C-1. Component Parts of a Temporary Traffic Control Zone



Legend

➔ Direction of travel

Table 6C-1. Suggested Advance Warning Sign Spacing

| Road Type | Distance Between Signs** | | |
|----------------------|--------------------------|-------------|-------------|
| | A | B | C |
| Urban (low speed)* | 30 (100) | 30 (100) | 30 (100) |
| Urban (high speed)* | 100 (350) | 100 (350) | 100 (350) |
| Rural | 150 (500) | 150 (500) | 150 (500) |
| Expressway / Freeway | 300 (1,000) | 450 (1,500) | 800 (2,640) |

* Speed category to be determined by highway agency

** Distances are shown in meters (feet). The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three-sign series encountered by a driver approaching a temporary traffic control zone.)

1.5 to 2.25 times the speed limit in km/h (8 to 12 times the speed limit in mph). Since two or more advance warning signs are normally used for these conditions, the advance warning area should extend 450 m (1,500 ft) or more for open highway conditions (see Table 6C-1).

Option:

Advance warning may be eliminated when the activity area is sufficiently removed from the road users' path so that it does not interfere with the normal flow.

Section 6C.05 Transition Area

Support:

The transition area is that section of highway where road users are redirected out of their normal path.

Standard:

When redirection of the road users' normal path is required, they shall be channelized from the normal path to a new path.

Support:

In mobile operations, the transition area moves with the work space. Transition areas usually involve strategic use of tapers, which because of their importance are discussed separately in detail.

Section 6C.06 Activity Area

Support:

The activity area is the section of the highway where the work activity takes place. It is comprised of the work space, the traffic space, and the buffer space.

The work space is that portion of the highway closed to road users and set aside for workers, equipment, and material, and a shadow vehicle if one is used upstream. Work spaces are usually delineated for road users by channelizing devices or, to exclude vehicles and pedestrians, by temporary barriers.

Option:

The work space may be stationary or may move as work progresses.

Guidance:

Since there may be several work spaces (some even separated by several kilometers or miles) within the project limits, each work space should be adequately signed to inform road users and reduce confusion.

Support:

The traffic space is the portion of the highway in which road users are routed through the activity area.

The buffer space is a lateral and/or longitudinal area that separates road user flow from the work space or an unsafe area, and might provide some recovery space for an errant vehicle.

Guidance:

Neither work activity nor storage of equipment, vehicles, or material should occur within a buffer space.

Option:

Buffer spaces may be positioned either longitudinally or laterally with respect to the direction of road user flow. The activity area may contain one or more lateral or longitudinal buffer spaces.

A longitudinal buffer space may be placed in advance of a work space.

The longitudinal buffer space may also be used to separate opposing road user flows that use portions of the same traffic lane, as shown in Figure 6C-2.

Support:

Typically, the buffer space is formed as a traffic island and defined by channelizing devices. When a formidable device, such as a shadow vehicle or an arrow panel, is placed in such an island, only the area in front of the device functions as a buffer.

Option:

The lateral buffer space may be used to separate the traffic space from the work space, as shown in Figures 6C-1 and 6C-2, or such areas as excavations or pavement-edge drop-offs. A lateral buffer space also may be used between two travel lanes, especially those carrying opposing flows.

Guidance:

The width of a lateral buffer space should be determined by engineering judgment.

Option:

When work occurs on a high-volume, highly congested facility, an incident management vehicle storage space may be provided so that emergency vehicles (for example, tow trucks) can respond quickly to road user incidents.

Guidance:

If used, an emergency-vehicle storage area should not extend into any portion of the buffer space.

Section 6C.07 Termination Area

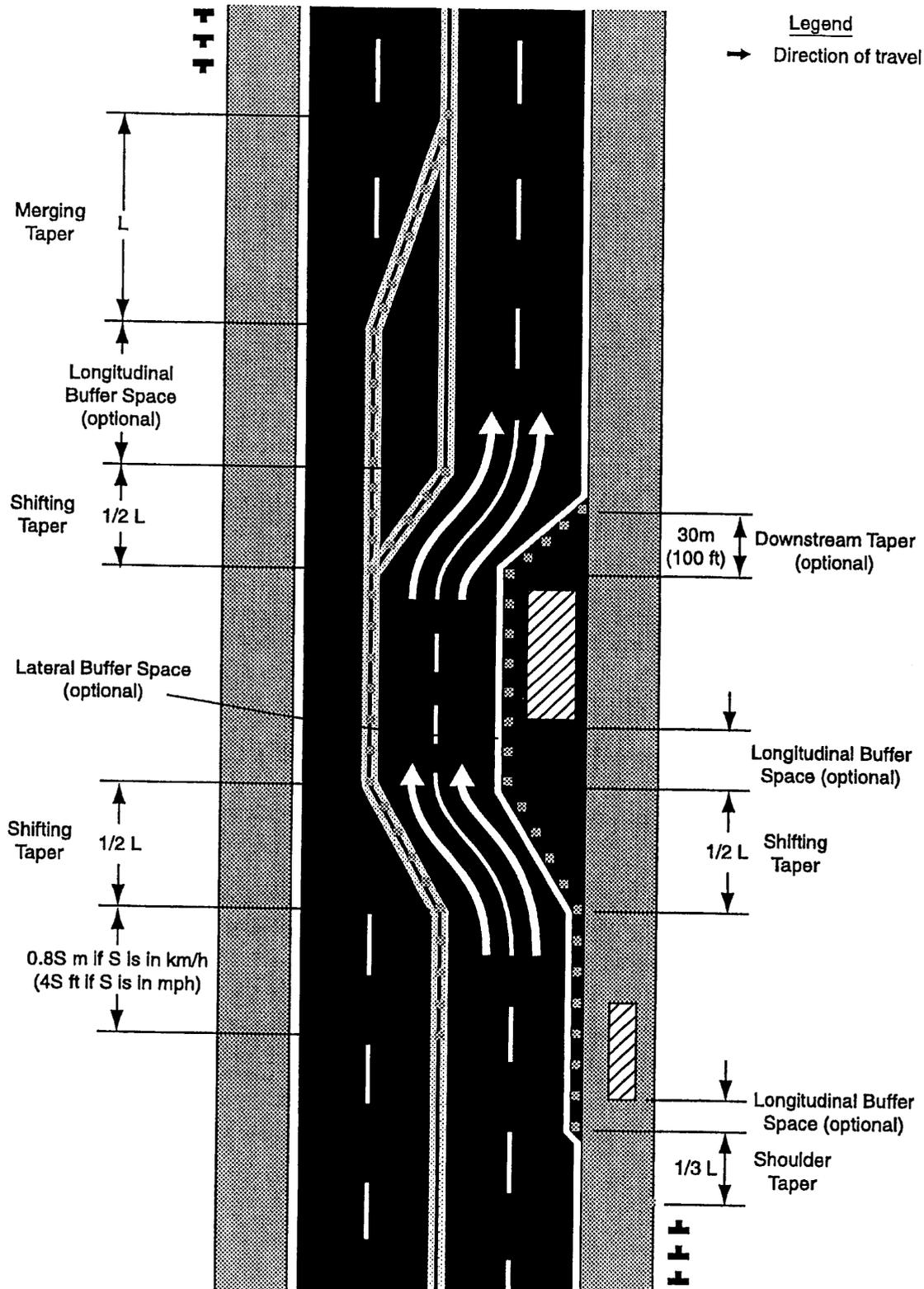
Standard:

The termination area shall be used to return road users to their normal path. The termination area shall extend from the downstream end of the work area to the END ROAD WORK signs, if posted.

Option:

An END ROAD WORK sign, a Speed Limit sign, or other signs may be used to inform road users that they can resume normal operations.

Figure 6C-2. Types of Tapers and Buffer Spaces



Section 6C.08 Tapers**Option:**

Tapers may be used in both the transition and termination areas. Whenever tapers are to be used in close proximity to an interchange ramp, crossroads, curves, or other influencing factors, the length of the tapers may be adjusted.

Support:

Tapers are created by using a series of channelizing devices and/or pavement markings to move traffic out of or into the normal path. Types of tapers are shown in Figure 6C-2.

Longer tapers are not necessarily better than shorter tapers (particularly in urban areas characterized by short block lengths, driveways, etc.) because extended tapers tend to encourage sluggish operation and to encourage drivers to delay lane changes unnecessarily. The test concerning adequate lengths of tapers involves observation of driver performance after temporary traffic control plans are put into effect.

Guidance:

The criteria for determining the taper length (L) is shown in Table 6C-2 and should be the minimum used.

The maximum distance in meters (feet) between devices in a taper should not exceed 0.2 times the speed limit in km/h (1.0 times the speed limit in mph).

Support:

A merging taper requires the longest distance because drivers are required to merge into common road space.

Guidance:

A merging taper should be long enough to enable merging drivers to have adequate advance warning and sufficient length to adjust their speeds and merge into a single lane before the end of the transition.

Support:

A shifting taper is used when a lateral shift is needed. When more space is available, a longer than minimum taper distance can be beneficial. Changes in alignment can also be accomplished by using horizontal curves designed for normal highway speeds.

Guidance:

A shifting taper should have a length of approximately 0.5 L (see Table 6C-2).

Table 6C-2. Taper Length Criteria for Temporary Traffic Control Zones

| Type of Taper | Taper Length (L)* |
|---------------------------------|------------------------|
| Merging Taper | at least L |
| Shifting Taper | at least 0.5L |
| Shoulder Taper | at least 0.33L |
| One-Lane, Two-Way Traffic Taper | 30 m (100 ft) maximum |
| Downstream Taper | 30 m (100 ft) per lane |

* Formulas for L are as follows:

For speed limits of 60 km/h (40 mph) or less:

$$L = \frac{WS^2}{155} \quad (L = \frac{WS^2}{60})$$

For speed limits of 70 km/h (45 mph) or greater:

$$L = \frac{WS}{1.6} \quad (L = WS)$$

Where: L = taper length in meters (feet)

W = width of offset in meters (feet)

S = posted speed limit, or off-peak

85th-percentile speed prior to work starting,
or the anticipated operating speed in km/h (mph)

Support:

A shoulder taper may be beneficial on a high-speed roadway where shoulders are part of the activity area and are closed, or when improved shoulders might be mistaken as a driving lane. In these instances, the same type, but abbreviated, closure procedures used on a normal portion of the roadway can be used.

Guidance:

If used, shoulder tapers should have a length of approximately 0.33 L (see Table 6C-2). If a shoulder is used as a travel lane, either through practice or during a temporary traffic control activity, a normal merging or shifting taper should be used.

Option:

A downstream taper may be useful in termination areas to provide a visual cue to the driver that access is available back into the original lane or path that was closed.

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Guidance:

When used, a downstream taper should have a minimum length of approximately 30 m (100 ft) per lane with devices placed at a spacing of approximately 6.1 m (20 ft).

Support:

The one-lane, two-way taper is used in advance of an activity area that occupies part of a two-way roadway in such a way that a portion of the road is used alternately by traffic in each direction.

Guidance:

Traffic should be controlled by a flagger or temporary traffic signal (if sight distance is limited), or a STOP or YIELD sign. A short taper having a maximum length of 30 m (100 ft) with channelizing devices at approximately 6.1 m (20 ft) spacings should be used to guide traffic into the one-way section.

Support:

An example of a one-lane, two-way traffic taper is shown in Figure 6C-3.

Section 6C.09 Detours and Diversions

Support:

A detour is a temporary rerouting of road users onto an existing highway in order to avoid a temporary traffic control zone.

Guidance:

Detours should be clearly signed over their entire length so that road users can easily use existing highways to return to the original highway.

Support:

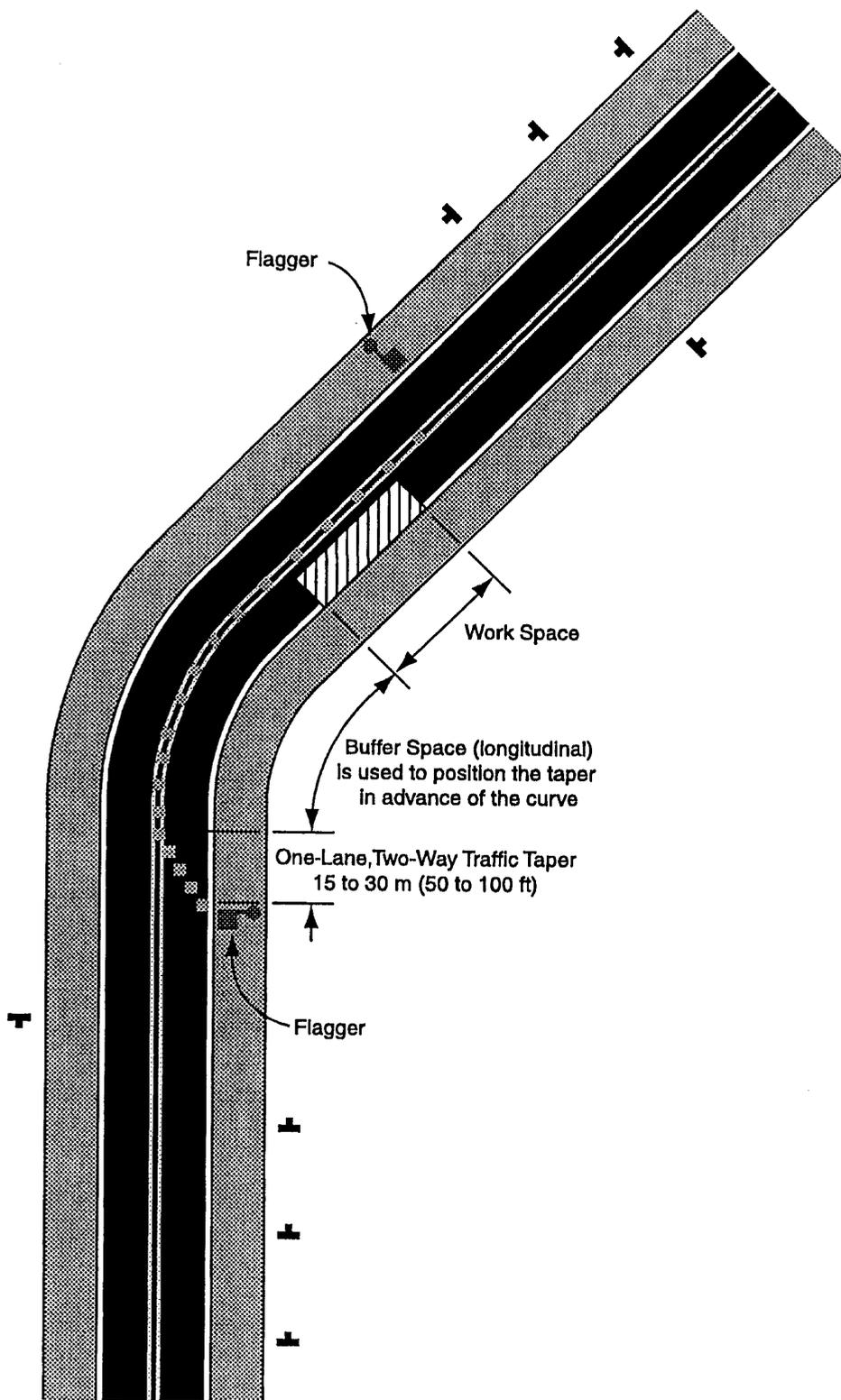
A diversion is a temporary rerouting of road users onto a temporary highway or alignment placed around the work area.

Section 6C.10 One-Lane, Two-Way Traffic Control

Standard:

When traffic in both directions must use a single lane for a limited distance, movements from each end shall be coordinated.

Figure 6C-3. Example of a One-Lane, Two-Way Traffic Taper



Guidance:

Provisions should be made for alternate one-way movement through the constricted section via methods such as flagger control, a flag transfer, a pilot car, traffic control signals, or stop or yield control.

Control points at each end should be chosen to permit easy passing of opposing lanes of vehicles.

If traffic on the affected one-lane roadway is not visible from one end to the other, then flagging procedures, a pilot car, or traffic control signal should be used to control opposing traffic flows.

Support:

At a spot constriction, such as an isolated pavement patch on highways with lower speeds and adequate sight distance, the movement of traffic through one-lane, two-way constrictions tends to be self-regulating.

Section 6C.11 Flagger Method of One-Lane, Two-Way Traffic Control

Option:

When a one-lane, two-way temporary traffic control zone is short enough to allow a flagger to see from one end of the zone to the other, traffic may be controlled by either a single flagger or by a flagger at each end of the section.

Guidance:

When a single flagger is used, the flagger should be stationed on the shoulder opposite the constriction or work space, or in a position where good visibility and traffic control can be maintained at all times. When good visibility and traffic control cannot be maintained by one flagger station, traffic should be controlled by a flagger at each end of the section. One of the flaggers should be designated as the coordinator. Flaggers should be able to communicate with each other orally, electronically, or with manual signals. These manual signals should not be mistaken for flagging signals.

Section 6C.12 Flag Transfer Method of One-Lane, Two-Way Traffic Control

Support:

The driver of the last vehicle proceeding into the one-lane section is given a red flag (or other token) and instructed to deliver it to the flagger at the other end. The opposite flagger, upon receipt of the flag, then knows that it is safe to allow traffic to move in the other direction.

A variation of this method is to replace the use of a flag with an official pilot car that always follows the last road user vehicle proceeding through the section.

Guidance:

The flag transfer method should be employed only where the one-way traffic is confined to a relatively short length of a road, usually not more than 1.6 km (1 mi) in length.

Section 6C.13 Pilot Car Method of One-Lane, Two-Way Traffic Control

Option:

A pilot car may be used to guide a queue of vehicles through the temporary traffic control zone or detour.

Guidance:

The operation of the pilot vehicle should be coordinated with flagging operations or other controls at each end of the one-lane section. The pilot car should have the name of the contractor or contracting authority prominently displayed.

Standard:

The PILOT CAR FOLLOW ME (G20-4) sign shall be mounted at a conspicuous location on the rear of the vehicle.

Section 6C.14 Temporary Traffic Control Signal Method of One-Lane, Two-Way Traffic Control

Option:

Traffic control signals may be used to control motor vehicle traffic movements in one-lane, two-way temporary traffic control zones (see Figure 6H-12 and Chapter 4G).

Section 6C.15 Stop or Yield Control Method of One-Lane, Two-Way Traffic Control

Option:

STOP or YIELD signs may be used to control traffic on low-volume roads at a one-lane, two-way work zone when drivers are able to see the other end of the one-lane, two-way operation and have sufficient visibility of approaching vehicles.

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Guidance:

If the STOP or YIELD sign is installed for only one direction, then the STOP or YIELD sign should face road users who are driving on the side of the roadway that is closed for the work activity area.

CHAPTER 6E. FLAGGER CONTROL

Section 6E.01 Qualifications for Flaggers

Standard:

A flagger shall be a person who provides temporary traffic control.

Guidance:

Because they are responsible for road user safety, and because they make frequent contact with the public, flaggers should have the following minimum qualifications:

- A. Sense of responsibility for the safety of the public and the workers;
- B. Adequate training in safe temporary traffic control practices;
- C. Average intelligence;
- D. Good physical condition, including sight, mobility, and hearing;
- E. Mental alertness and the ability to react in an emergency;
- F. Courteous but firm manner; and
- G. Neat appearance.

Section 6E.02 High-Visibility Clothing

Standard:

For daytime work, the flagger's vest, shirt, or jacket shall be either orange, yellow, yellow-green, or a fluorescent version of these colors. For nighttime work, similar outside garments shall be retroreflective. The retroreflective material shall be either orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 300 m (1,000 ft). The retroreflective clothing shall be designed to clearly identify the wearer as a person.

Guidance:

When uniformed law enforcement officers are used, high-visibility clothing as described above should be worn by the law enforcement officer.

Section 6E.03 Hand-Signaling Devices**Support:**

Hand-signaling devices, such as STOP/SLOW paddles, lights, and red flags, are used to control road users through temporary traffic control zones.

Guidance:

The STOP/SLOW paddle should be the primary and preferred hand-signaling device because the STOP/SLOW paddle gives road users more positive guidance than red flags. Use of flags should be limited to emergency situations.

Standard:

The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. STOP/SLOW paddles shall be at least 450 mm (18 in) wide with letters at least 150 mm (6 in) high and should be fabricated from light semirigid material. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. When used at night, the STOP/SLOW paddle shall be retroreflectorized.

Option:

The STOP/SLOW paddle may be modified to improve conspicuity by incorporating white flashing lights. Two lights may be installed and centered vertically above and below the STOP legend, or centered horizontally on either side of the STOP legend. Instead of the above two-light arrangement, one light may be centered below the STOP legend.

Standard:

Flags, when used, shall be a minimum of 600 mm (24 in) square, made of a good grade of red material, and securely fastened to a staff that is approximately 900 mm (36 in) in length.

Guidance:

The free edge of a flag should be weighted so the flag will hang vertically, even in heavy winds.

Standard:

When used at nighttime, flags shall be retroreflectorized red.

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Section 6E.04 Flagger Procedures

Support:

The use of paddles and flags by flaggers are illustrated in Figure 6E-1.

Standard:

The following methods of signaling with paddles shall be used:

- A. To stop road users, the flagger shall face road users and aim the STOP paddle face toward road users in a stationary position with the arm extended horizontally away from the body. The free arm shall be held with the palm of the hand above shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body. The flagger shall motion with the free hand for road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body.

Option:

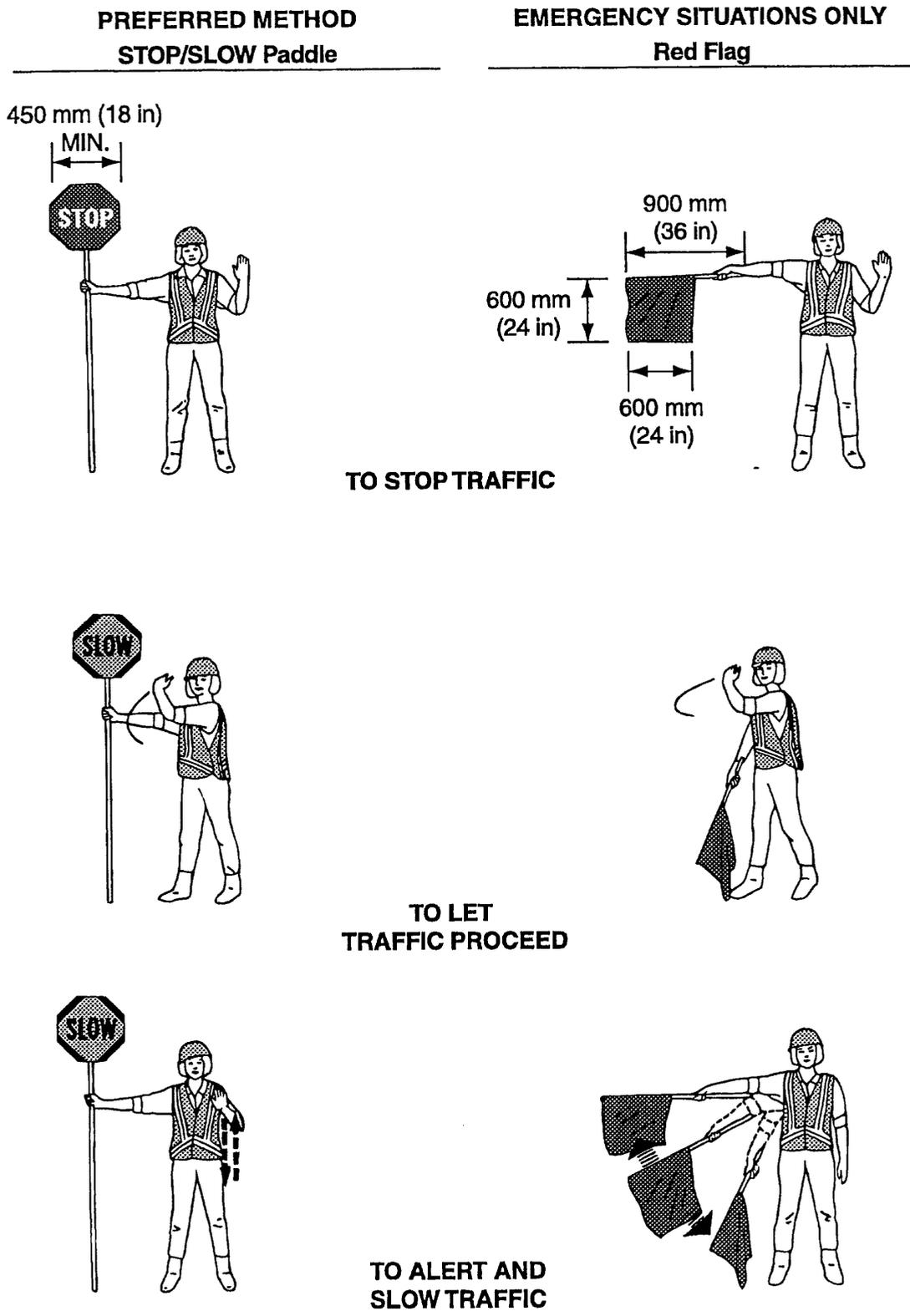
To further alert or slow traffic, the flagger holding the SLOW paddle face toward road users may motion up and down with the free hand, palm down.

Standard:

The following methods of signaling with a flag shall be used:

- A. To stop road users, the flagger shall face road users and extend the flag staff horizontally across the road users' lane in a stationary position so that the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand above the shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall stand parallel to the road user movement and with flag and arm lowered from the view of the road users, and shall motion with the free hand for road users to proceed. Flags shall not be used to signal road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to

Figure 6E-1. Use of Hand-Signaling Devices by Flaggers



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straight down without raising the arm above a horizontal position. The flagger shall keep the free hand down.

Section 6E.05 Flagger Stations

Standard:

Flagger stations shall be located far enough in advance of the work space so that approaching road users will have sufficient distance to stop before entering the work space.

Support:

Guidelines for determining the distance of the flagger station in advance of the work space are shown in Table 6E-1.

Option:

The distances shown in Table 6E-1 may be increased for downgrades and other conditions that affect stopping distance.

Guidance:

Flagger stations should be preceded by proper advance warning signs. At night, flagger stations should be illuminated.

The flagger should stand either on the shoulder adjacent to the road user being controlled or in the closed lane prior to stopping road users. A flagger should only stand in the lane being used by moving road users after road users have stopped. The flagger should be clearly visible to the first approaching road user at all times. The flagger also should be visible to other road users. The flagger should be stationed sufficiently in advance of the workers to warn them (for example, with audible warning devices such as horns, whistles, etc.) of approaching danger by out-of-control vehicles. The flagger should stand alone, never permitting a group of workers to congregate around the flagger station.

Option:

At a spot constriction, the flagger may have to take a position on the shoulder opposite the closed section in order to operate effectively.

Table 6E-1 may be used to determine the visibility distance for road users approaching the flagger.

At spot lane closures where adequate sight distance is available for the safe handling of traffic, the use of one flagger may be sufficient.

Table 6E-1. Distance of Flagger Station in Advance of the Work Space

| Speed* (km/h) | Distance (m) | Speed* (mph) | Distance (ft) |
|------------------|-----------------|-----------------|------------------|
| 30 | 10 | 20 | 35 |
| 40 | 15 | 25 | 55 |
| 50 | 30 | 30 | 85 |
| 60 | 45 | 35 | 120 |
| 70 | 65 | 40 | 170 |
| 80 | 85 | 45 | 220 |
| 90 | 110 | 50 | 280 |
| 100 | 135 | 55 | 335 |
| 110 | 170 | 60 | 415 |
| 120 | 205 | 65 | 485 |

* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed

APPENDIX G

Other Guidelines/ Programs

Hurricane Recovery Checklist

Prepared by N.C. Division of Coastal Management

| Recovery Need | Proposed Activity | Requirements | What to do |
|--|--|--|--|
| Protection of imminently threatened structures (erosion scarp within 20 feet of structure) | Install sandbags | <ul style="list-style-type: none"> CAMA and Corps of Engineers General Permits Approval from U.S. Fish & Wildlife Service and N.C. Wildlife Resources Commission* | Contact nearest DCM and COE offices. <i>NOTE: DCM and Corps will contact Wildlife Resources Commission and Fish & Wildlife Service.</i> |
| | Bulldoze beach seaward of mean high water line to rebuild dune or construct emergency berm | <ul style="list-style-type: none"> DCM determination of imminent threat Corps of Engineers General or Individual Permit Approval from U.S. Fish & Wildlife Service and N.C. Wildlife Resources Commission* | Contact nearest DCM and COE offices. <i>NOTE: DCM and Corps will contact Wildlife Resources Commission and Fish & Wildlife Service.</i> |
| | Bulldoze beach landward of high tide line | <ul style="list-style-type: none"> DCM determination of imminent threat Approval should be sought from U.S. Fish & Wildlife Service and N.C. Wildlife Resources Commission to determine potential effect on turtle nests.* | Contact nearest DCM office, Fish & Wildlife Service and WRC sea turtle coordinator. |
| Repairing frontal or primary dunes in front of non-imminently threatened structures | Bulldoze beach seaward of mean high water line | <ul style="list-style-type: none"> CAMA Major Permit Corps of Engineers Individual Permit Approval from U.S. Fish & Wildlife Service and N.C. Wildlife Resources Commission* | Contact nearest DCM office and COE offices. <i>NOTE: DCM and Corps will contact WRC and Fish & Wildlife Service.</i> |
| Damaged infrastructure | Replace road | <ul style="list-style-type: none"> CAMA Permit or Exemption Other federal or state approvals may be needed. | Contact nearest DCM office for assistance and coordination. |
| | Replace utility lines or pipes | <ul style="list-style-type: none"> CAMA Permit or Exemption Other federal or state approvals may be needed. | Contact nearest DCM office for assistance and coordination. |
| Sand on roads | Remove sand | <ul style="list-style-type: none"> CAMA Exemption <i>NOTE: Generally, sand pushed off road and contained in right-of-way is exempt.</i> Other federal or state approvals may be needed. | Contact nearest DCM office for assistance and coordination. |
| Debris on beach | Remove debris from beach | <ul style="list-style-type: none"> No CAMA or Corps permit required Consideration of potential sea turtle impacts | Contact nearest DCM office or local permit officer and WRC sea turtle coordinator for assistance. |



Hurricane Recovery Checklist

| | | | |
|---|-----------------------|--|--|
| Damaged or destroyed septic system (damage greater than 50% of value) | Replace septic system | <ul style="list-style-type: none"> CAMA Minor Development Permit <i>NOTE: Vegetation line determination for required oceanfront setback will be made on a lot-by-lot basis.</i> | Local building inspector will determine extent of damage. If it is greater than 50% of the system's value, then contact CAMA local permit officer or nearest DCM office to apply for a CAMA permit. |
| Damaged or destroyed home (damage greater than 50% of value) | Replace home | <ul style="list-style-type: none"> CAMA Minor Development Permit <i>NOTE: Vegetation line determination for required oceanfront setback will be made on a lot-by-lot basis.</i> | Local building inspector will determine extent of damage. If damage is greater than 50% of the home's value, then contact CAMA local permit officer or nearest DCM office to apply for a CAMA permit. |
| Damaged or destroyed piers, docks and boatlifts (greater than 50% of value) | Replace structure | <ul style="list-style-type: none"> CAMA Exemption, General or Major Development Permit Corps of Engineers General Permit | Local building inspector will determine extent of damage. If damage is greater than 50% of the structure's value, then contact nearest DCM office to apply for CAMA exemption or permit. |
| Damaged or destroyed decks and walkways | Replace structure | <ul style="list-style-type: none"> CAMA Exemption or Minor Development Permit <i>NOTE: Walkways conforming to certain dimensions are generally exempt from permit requirements.</i> | Local building inspector will determine extent of damage. If damage is greater than 50% of the structure's value, then contact local permit officer or nearest DCM office to apply for CAMA exemption or permit. |
| Damaged parking pads and swimming pools | Replace pad or pool | <ul style="list-style-type: none"> If damaged less than 50% of value, a CAMA Exemption is granted. If damaged greater than 50%, a CAMA Permit is needed. | Local building inspector will determine extent of damage. If damage is greater than 50% of the structure's value, then contact local permit officer or nearest DCM office to apply for CAMA permit. |

**Approval is required April 1-Nov. 15 during nesting season for piping plovers and May 1-Nov. 15 for sea turtles.*

N.C. Division of Coastal Management

1638 Mail Service Center
Raleigh, NC 27699-1638
919-733-2293
1-888-4RCOAST
Fax: 919-733-1495
Director: Donna Moffitt

Asst. Director for Permits & Enforcement: Charles Jones (252-808-2808)



Hurricane Recovery Checklist

| | |
|--|---|
| Elizabeth City District 1367 U.S. 17 South Elizabeth City, NC 27909 252-264-3901 Fax: 252-264-3723 District Manager: Ted Sampson | Morehead City District 151-B Hwy. 24 Hestron Plaza II Morehead City, NC 28557 252-808-2808 Fax: 252-247-3330 District Manager: Ted Tyndall |
| Washington District 943 Washington Square Mall Washington, NC 27889 252-946-6481 Fax: 252-975-3716 District Manager: Terry Moore | Wilmington District 127 Cardinal Drive Ext. Wilmington, NC 28405-3845 910-395-3900 Fax: 910-350-2004 District Manager: Bob Stroud |
| U.S. Army Corps of Engineers Regulatory Field Offices | |
| 69 Darlington Ave. Wilmington, N.C. 28403 910-251-4511 Fax: 910-251-4025 | PO Box 1000 Washington, NC 27889-1000 252-975-1616 Fax: 252-948-0478 |
| N.C. Wildlife Resources Commission | |
| David Allen Nongame Coastal Project Leader N.C. Wildlife Resources Commission 355 Paul Dr. Trenton, NC 28585 252-448-1546 | |
| U.S. Fish & Wildlife Service | |
| David Rabon U.S. Fish & Wildlife Service PO Box 33726 Raleigh, NC 27636-3726 919-856-4520, ext. 16 | |

| Coastal County Emergency Management Offices | |
|--|--------------|
| Beaufort | 252-946-2046 |
| Bertie | 252-794-5300 |
| Brunswick | 910-253-4376 |
| Camden | 252-335-4444 |
| Carteret | 252-728-8470 |
| Chowan | 252-482-4365 |
| Craven | 252-636-6608 |
| Currituck | 252-232-2115 |
| Dare | 252-473-3355 |
| Gates | 252-357-1394 |
| Hertford | 252-358-7861 |
| Hyde | 252-926-5711 |
| New Hanover | 910-341-4300 |
| Onslow | 910-347-4270 |
| Pamlico | 252-745-4131 |
| Pasquotank | 252-335-4444 |
| Pender | 910-259-1210 |
| Perquimans | 252-426-5646 |
| Tyrrell | 252-796-2286 |
| Washington | 252-793-4114 |





NORTH CAROLINA STATE ANIMAL RESPONSE TEAM

[About SART](#)

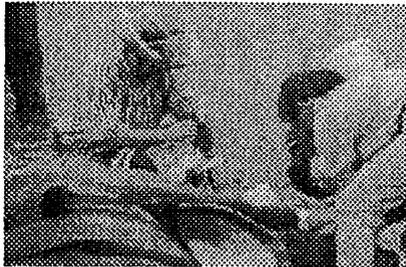
[County Links](#)

[Farmers](#)

[Pet Owners](#)

[Contact Us](#)

About SART



The North Carolina State Animal Response Team was founded after Hurricane Floyd, during which more than 3 million domestic and farm animals were lost. Many could have been saved by a coordinated emergency response plan.

SART is based on the principles of the Incident Command System developed by the Federal Emergency Management Agency (FEMA), and involves a coordinated effort of over 30 government and animal organizations. Meetings are held on the third Wednesday of each month at the Emergency Operations Center in the Administration Building on Jones Street in downtown Raleigh. Meetings are from 9:00 to 11:30 am, and are open to the public.

Our structure is organized on the grassroots level with County Animal Response Teams (CART). CARTs are under the jurisdiction of the county Emergency Management Coordinator, and include local professionals including Animal Control Officers, Cooperative Extension, Sheriff's Personnel, Veterinarians, Forestry Officers, Animal Industry leaders and concerned citizens. To find out more about the CART in your area, go to "County Links".

SART SECTIONS

[Organizational Chart](#)

[Planning
Operations](#)

- [Field Operations](#)
- [Search and Rescue](#)
- [Shelter](#)
- [Veterinary Services](#)
- [Dead and Disposal](#)
- [Industry Specialist](#)

[Logistics](#)

[Finance/Administration](#)

[County Links](#)

[Donations or Volunteers](#)



NORTH CAROLINA STATE ANIMAL RESPONSE TEAM

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Animal Burial Guidelines During A Declared Emergency

State Animal Response Team

Introduction

Hurricane Floyd on September 15, 1999 combined with the weather conditions before and immediately after this hurricane resulted in the most severe flooding and devastation in North Carolina history. The flooding caused an estimated \$813 million in agricultural losses affecting 32,000 farmers. In addition to crop loss, there was significant loss of livestock including 2,860,827 poultry, 28,000 swine, and 619 cattle. Disposal of dead animals was a significant problem. Proper burial and disposal will prevent potential public health problems resulting from large numbers of dead and decaying animals including the spread of harmful pathogens, ground and surface water contamination, and pest control. In certain situations, burial of dead animals may be the best alternative for immediate disposal. These guidelines are designed to insure burial is done in a safe and effective manner.

Legal Authority

North Carolina General Statute 106-403 (NCGS) Disposition of dead domesticated animals states that it is the responsibility of the owner or person in charge of his domesticated animals to bury dead animals appropriately within 24 hours after knowledge of the death. It is the responsibility of the municipal or county government to designate appropriate persons to dispose of any domestic dead animals whose owner cannot be identified. (See attached copy of NCGS 106-403 and companion opinion from the Attorney General's Office dated June 8, 1984.)

The NC Department of Agriculture - Veterinary Division is the lead state agency to oversee animal disposal as regulated under existing Administrative Rules, specifically, **Subchapter 52C - Control of Livestock Diseases: Miscellaneous Provisions, Section .0100 - Diseased and Dead Animals** (See Attached)

The State Health Director and by extension the Local Health Director in each county is charged with preventing health risks and disease and promoting a safe and healthful environment according to **NCGS 130A, Articles 1-20**. To the extent that dead animals become a threat to human health, the State and Local Health Director has broad authority to investigate and act on matters to protect health.

The Environmental Management Commission protects the groundwater quality in the State of North Carolina through rules established in **15A NCAC Subchapter 2L - "Classifications and Water Quality Standards Applicable to the Groundwaters of North Carolina."** These rules establish groundwater quality standards that may not be exceeded without a permit issued under the authority of the Commission. The Groundwater Section of the Division of Water Quality is responsible for the administration and enforcement of these rules. Any surface or subsurface activity that has the potential to cause groundwater standards to be exceeded is subject to the regulatory authority of the Commission.

Scope

While it is recognized that there are multiple types and degrees of emergencies that could create

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the need for dead animal burial, these guidelines focus on the most common cause and the most recent experience, flooding and electrical outages. For example, guidelines for managing dead animals during a foreign animal disease emergency may differ and would be managed through the State Veterinarian.

These guidelines are intended to address dead animal disposal during a declared emergency and therefore do not take the place of the dead animal disposal that occurs under the normal permitted operation of a farm. The Governor can declare a state of emergency in North Carolina with or without a federal declaration of the same.

Emergency Planning

Each farm operation shall make specific plans for animal disposal in the event of an emergency. When burial is determined to be the disposal method of choice, an attempt should be made first to bury the dead animals on the farm according to these guidelines. If proper burial is not possible on the farm then plans should be made for alternative sites.

Burial Standards

1. The bottom of the hole where dead animals are to be buried should be 3 feet above the seasonal high water table wherever possible and at least 12 inches above the seasonal high water table. (Farm owners may contact the local NRCS agency or the local health department for assistance in determining the seasonal high water table.)
2. Standing water in the hole does not preclude animal burial as long as the bottom of the hole is at least 12 inches above the seasonal high water table, not in an area of standing water, and the other conditions for proper burial are met.
3. There must be at least 3 feet of soil covering any buried animal. This can be interpreted to mean soil mounded over the animals above the adjacent ground level.
4. The burial site must be at least 300 feet from any existing stream or public body of water.
5. The burial site must be at least 300 feet from any existing public water supply well.
6. The burial site must be at least 100 feet from any other type of existing well.
7. The burial site cannot include any portion of a waste lagoon or lagoon wall.
8. In the case where the burial site is in a waste disposal spray field, the burial site is not available for subsequent waste spraying until a new viable crop is established on the site.
9. The burial site shall be located so as to minimize the effect of stormwater runoff.
10. Burial is not permitted in the tiled area of an underdrained field.
11. A record of the location of the approved site (GPS latitude and longitude coordinates if available), the burial history of each burial site to include the date, species, head count and age must be kept by the owner and reported to the Local Health Director who will in turn report this information to the appropriate State agency - DENR Division of Water Quality, Groundwater Section.
12. Farm owners and operators are encouraged to consider measures that could be taken prior to an imminent emergency that could reduce the impact on the farm and the environment.

Collective Burial Site

A collective burial site may be designated to serve one or more counties in the event of a large-scale emergency whereby individual farm sites are not available. The responsibility for disposal of dead animals remains with the owner, lessee, or person in charge of any land upon which any domesticated animals die. The county or municipality should identify an appropriate burial site(s) with the capacity to bury up to 5% of the steady state live weight of livestock in that jurisdiction. The use of an existing county or municipal landfill as a dead animal burial site is legal and preferred.

Burial Site Location

Best farm practices suggest that burial sites with the capacity to handle the type and number of animals most likely to be needed during an emergency for each farm operation be identified prior to the emergency. It is recommended that the emergency burial plan be incorporated into the farm's existing conservation plan.

Contact Information

- N.C. Department of Environment and Natural Resources
Division of Water Quality/Groundwater Section
Arthur Mulberry - Section Chief
1636 Mail Service Center
Raleigh, NC 27699-1636
(919)733-3221
- N.C. Department of Health and Human Services
Division of Public Health/Epidemiology and Communicable Disease Section
Dr. Steve Cline - Section Chief
1902 Mail Service Center
Raleigh, NC 27699-1902
(919)733-3421
- SART (State Animal Response Team)



NORTH CAROLINA STATE ANIMAL RESPONSE TEAM

[About SART](#)[County Links](#)[Farmers](#)[Pet Owners](#)[Contact Us](#)

Dead and Disposal Section Coordinators:

[Dr. Jim Kittrell](#)[Dr. Dan Wilson](#)

Purpose:

The dead/disposal subcommittee's responsibility is to present information to each county regarding removal of large populations of dead animals following a disaster. This information should allow each county to develop a plan for handling such a situation. Additionally the dead/disposal subcommittee will present recommendation to the counties and state regarding dead animal removal and disposal following a disaster.

Dead Animal Disposal Following a Disaster

Farm Plan

Each producer should have a disaster plan that consists of the following:

- Evacuation route and equipment to move animals
- On site designated land for burial
- Site needs to be adequate size and depth to accommodate population size.
- Site should have accessible in trucks (i.e. culverts over ditch)
- Spray fields can be used, but spraying can't resume until foliage has covered burial site.
- Determine a contact person to report damages and requests assistance
 - County extension, company representative, emergency management coordinator.

County Plan

- Located all premises containing large populations of animals.
- Determine county contact person for administering dead animal emergencies
 - County health director
 - County extension agent
 - Other emergency management person
- Prearrange contract for resources to handle dead animal removal, burial and disposal
- Clean out crews. (People to remove dead animals) Poultry producers hire these

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people to clean out poultry houses. Typically have supplies such as bobcats and dump trucks.

- Equipment for handling / hauling dead animals
(Examples: Bobcats, Front-end loaders, backhoes, trackhoes, sealable or leakproof trucks for transporting dead, plastic for lining trucks, latches for sealing trucks or large incinerators for burning the dead.)
- Make arrangements with other counties for resources and land space

Priority on how to handle dead

- 1st consider rendering
- 2nd consider burial
- 3rd consider composting
- 4th consider incineration

Rendering

- Must be done rapidly (24-48 hrs) following disaster.

Burial

- **Animal Burial Guidelines During A Declared Emergency**

Composting

- Primarily for poultry
- High maintenance
- Possible used for cover until burial arrangement could be made.

Incineration

- Worked poorly in the past
- Consider last option due to past track record of improper fuel, costly, create logjam, air quality problem, inefficient, poorly trained personnel and ash disposal.
- Plan for rapid restoration of power to rendering facilities, feed mills and processing plants.

State Plan

- Designate contact person that counties can request assistance from
- Work out financing so counties can arrange local contracts with understanding of reimbursement.
- Inform governor's office and Agriculture commissioner's office of SART's activities so during an emergency the press is properly informed with the plan of action.
- Arrange press packet for SART/CART
- Prearrange press release information relating to dead animals and public health.
- Keep access roads clear to rendering plants, feed mills and processing plants
- Real time information on road obstructions/ closings.
- May need to lift slaughter plant kill limits during disaster to allow for facility repairs.
- May need to relax regulation during disaster in order to handle problem best under emergency circumstances.
- Consider joint state agreements for disposal of dead. (Indianapolis was discussed as possible disposal site, \$2/ mile is normal shipping cost.

Updates

Recommendations from the SART Industry Committee

Farm Emergency Plan Recommendations

Each producer should have an emergency plan that consists of the following:

- Evacuation route and equipment to move animals
- Provide health care for the well and injured
- Alternative feed water and power supply to meet needs of animals
- Burial site for emergencies on farm and an off site back up location
 - Participation by public health, DWQ, NCDA, CES in site development
 - Site needs to be of adequate size and depth to accommodate population size.
 - Per regulation, burial should be 3 ft. deep and 300 feet from any public body of water. Further recommendations are being developed.
 - All resources needed to bury on that farm listed. Site accessible in trucks
 - Spray fields can be used, but land used is not considered as part of the field required size until foliage returns.
- Contact person(s) on farm identified to their farming structure (when applicable), County Animal Response Team (CART) and State Animal Response Team (SART).
 - Alternative methods to deliver communication, to report damages, and requests assistance e.g. phone, neighbor, cell phone, computer etc.
- Posted Emergency numbers including 911, local emergency management coordinator, and CART

County Emergency Plan Recommendations

- Add CART contact person and number to Emergency management directory.
- Involve county and state agencies (agriculture, animals control, animals industry leaders, air and water quality, extension emergency management and public health, local veterinarians etc.) with stake in animal emergencies in informational meetings and CART development. .
 - Associate dead animal disposal persons with county debris removal persons.
 - Develop County Resource list including prearranged person that can dig holes, transport feed and animals, power and water as well as handle dead animal removal, burial and disposal e.g. poultry clean out crews hired clean out poultry houses. Typically they have supplies such as bobcats and spreader trucks
- Equipment for handling / hauling dead animals
(Examples: Bobcats, front-end loaders, backhoes, trackhoes, sealable or leakproof trucks for transporting dead, plastic for lining trucks, latches for sealing trucks or large incinerators for burning the dead.)
 - Make arrangements with other counties for resources and land space
- Hold information meeting to develop plans with all state?? holders in attendance
- Provide veterinary care for rescued farm animals the well and injured
- Develop and inform all parties of the priorities for handling of dead animals:
 - 1st rendering
 - 2nd burial
 - 3rd composting

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- 4th incineration
- Rendering must be done rapidly (24-48 hours) following emergency.
- County Land for burying dead animals (Only used during an emergency)
 - Participation by public health, DWQ, NCDA, CES in site development
 - Often cannot render and should consider such land spaces as landfills, old landfills, transfer stations, debris collection sites, forestry land or military land.
 - Site need seasonal high water table at 12 to 15 feet below surface or greater
 - Three (3) feet of cover, 6 - 8 feet for burial, three (3) above water table
 - Site should have road access.
 - County maintained record of land used for emergency burial on farms and in county
- Develop resource list and equipment list to predetermine contractor for county associated with debris removal.
- Composting
- Primarily for poultry
 - High maintenance
 - Possibly use for cover until burial arrangement could be made.
- Incineration worked poorly in the past.
 - Consider last option due to past track record of improper fuel, costliness, creation of logjam, air quality problem, inefficiency, poorly trained personnel and ash disposal.
 - Prearrange press releases and information/education program (Public Information Officer).
- Prioritize restoration of power to rendering facilities, feed mills and processing plants.
- Develop CART /Resource directory and resource contracts prior to emergency.
- Develop informational and educational program with prearranged press releases/public service announcements via the Public Information Officer.

State Plans

- Designate contact person whom counties can request assistance from.
- Work out financing so counties can arrange local contracts with understanding of reimbursements.
- Develop communication plan to inform all state agencies about SART's activities so that during an emergency, the press is properly informed of the plans of action.
 - Arrange press packets for SART/CART.
 - Prearrange press release information relating to dead animals and public health.
- Keep access roads clear to rendering plants, feed mills and processing plants.
- Real time information on road obstructions/closings.
- May need to lift slaughter plant kill limits during emergency to allow for facility repairs.
- Adjust environmental regulation during emergency in order to avoid public health concerns during emergencies.
- Determine early in the emergency if animal emergency constitutes a public health threat.
- Determine resources available to dead animal disposal early during emergency.
- Develop definite communication plan.

APPENDIX H

Example Debris Plan/
Contracts/ Legal Documents

**SCOPE OF WORK EXAMPLE
UNIT PRICE CONTRACT FOR DEBRIS REMOVAL**

1.0 GENERAL

1.1 The purpose of this contract is to provide debris clearing and removal response assistance to [LOCATION; i.e. "North Carolina counties" or "Mobile and Baldwin Counties in Alabama"] which have been declared disaster areas by the President because of the effects of [NAME OF DISASTER].

2.0 SERVICES

2.1 The Contractor shall provide for debris removal from the area(s) outlined on the attached maps, and described as: [DESCRIPTION OF WORK AREA].

2.2 The debris shall be taken to the dumpsite(s) indicated on the attached maps, located at [LOCATION (S) OF DUMPSITE(S)].

2.3 The total amount of debris to be removed under this contract is estimated to be [QUANTITY].

2.4 The work shall consist of clearing and removing any and all "eligible" debris (see section 4.0 for a definition of eligible debris) primarily from the public right-of-way (ROW) of streets and roads, as directed by the Contracting Officer's Representative (COR). Work will include 1) examining debris to determine whether or not debris is eligible, burnable or non burnable, 2) loading the debris, 3) hauling the debris to an approved dumpsite or landfill, and 4) dumping the debris at the dumpsite or landfill. Ineligible debris will not be loaded, hauled, or dumped under this contract. Burnable debris will be loaded separately from non-burnable debris. Mixed loading of burnable and non-burnable will be kept to a minimum. The COR will determine the appropriate dumpsite for mixed loads.

2.5 Debris removal shall include all eligible debris found on the ROW within the area designated by the COR. The COR may specify any eligible debris within the ROW which should not be removed, or which should be removed at a later time. The Contractor shall make as many passes through the designated area as required by the COR. The Contractor shall not move from one designated work area to another designated work area without prior approval from the COR. Any eligible debris, such as fallen trees, which extends onto the ROW from private property shall be cut at the point where it enters the ROW, and that part of the debris which lies within the ROW shall be removed. The Contractor shall not enter onto private property during the performance of this contract.

2.6 The Contractor shall conduct the work so as not to interfere with the disaster response and recovery activities of Federal, State, tribal and local governments or agencies, or of any public utilities.

2.7 The government reserves the right to inspect the site, verify quantities, and review operations at any time.

2.8 All work shall be accomplished in a safe manner in accordance with EM 385-1-1.

3.0 LOAD TICKETS

3.1 "Load tickets" will be used for recording volumes of debris removal. (See Enclosure)

3.2 Each ticket will contain the following information:

- Ticket Number
- Contract Number
- Date
- Contractor Name
- Site Departure Time
- Dump Arrival Time
- Debris Classification
- Debris Quantity

3.3 [SELECT ONLY ONE OF THE FOLLOWING PARAGRAPHS, AND DELETE THE OTHERS]

Load tickets will be issued by a COR prior to departure from the loading site. The COR will keep one copy of the ticket, and give three copies to the vehicle operator. Upon arrival at the dumpsite, the vehicle operator will give the three copies to the COR at the dumpsite, the COR will validate, retain one copy and give two copies to driver for the Contractor's records, (one copy for the sub-contractor and one copy for the prime contractor).

Load tickets will be issued by a COR prior to departure from the loading site. The COR will keep one copy of the ticket, and give two copies to the vehicle operator for the Contractor's records.

Load tickets will be issued by a COR to a vehicle operator upon arrival at the dumpsite. The COR will keep one copy of the ticket, and give two copies to the vehicle operator for the Contractor's records.

4.0 DEBRIS CLASSIFICATION

4.1 **Eligible Debris.** Debris that is within the scope of this contract falls under three possible classifications: Burnable, Non-Burnable, and Recyclable. Debris that is classified as Household Hazardous Waste (HHW) is not to be transported by this contract.

4.2 **Burnable Debris.** Burnable debris includes all biodegradable matter except that included in the following definitions of other categories of debris. It includes, but is not limited to, damaged and disturbed trees; bushes and shrubs; broken, partially broken and severed tree limbs; untreated structural timber; untreated wood products; and brush.

4.3 **Non-Burnable Debris.** Non-burnable debris includes, but is not limited to, treated timber; plastic; glass; rubber products; metal products; sheet rock; cloth items; non-wood building materials; metal products (i.e. Mobile Trailer parts, Household appliances (White Metal), and similar items), or uncontaminated soil; roofing materials; and carpeting.

4.4 **Household Hazardous Waste (HHW).** Household hazardous wastes, such as petroleum products, paint products, etc., and known or suspected hazardous materials, such as asbestos, lead-based paint, or electrical transformers shall be removed by others. Coordination for hazardous debris removal is the responsibility of the Government.

4.5 **Stumps.** Tree stumps located within the ROW with are one-half or more of the root ball exposed will be removed. Tree stumps with base cut diameter measurements less than or equal to 24 inches (measured 24 inches up from where the tree originally exited the ground) will be considered to be burnable debris and removed of with the same methods used for other burnable

debris. Tree stumps larger than 24 inches in diameter will be removed of as burnable and paid for in accordance to the MEASURMENT and PAYMENT paragraphs in this contract.

5.0 DUMPSITES

5.1 The Contractor shall use only debris dumpsites designated in Section 2.2, unless otherwise approved by the COR. The Contractor shall haul non-burnable debris to the site designated for non-burnable debris and burnable debris to the burn sire designated.

5.2 The dumpsite operator shall direct all dumping operations. The Contractor shall cooperate with the dumpsite operator to facilitate effective dumping operations.

5.3 The Government makes no representations regarding the turn-around time at the dumpsites.

6.0 PERFORMANCE SCHEDULE

6.1 The Contractor shall commence performance on [DATE].

6.2 The Contractor shall, with the CORs direction, provide a work with plan showing where operations will begin and which streets/roads will be cleared on a 2, 7, 14 day projection. The plan will be updated every 2 days.

6.3 Maximum allowable time for completion will be [ENTER] calendar days, unless the Government initiates additions or deletions to the contract by written change orders. Subsequent changes in completion time will be equitably negotiated by both parties pursuant to applicable State and Federal law. Liquidated damages shall be assessed at \$[AMOUNT] per calendar day for any time over the maximum allowable time established by the contract.

7.0 EQUIPMENT

7.1 All trucks and other equipment must be in compliance with all applicable Federal, State, tribal and local rules and regulations. Any truck used to haul debris must be capable of rapidly dumping its load without the assistance of other equipment; be equipped with a tailgate that will effectively contain the debris during transport and permit the truck to be filled to capacity; and measured and marked for its load capacity.

Sideboards or other extensions to the bed are allowable provided they meet all applicable rules and regulations, cover the front and both sides, and are constructed in a manner to withstand severe operating conditions. The sideboards are to be constructed of 2" by 6" boards or greater and not to extend more than two feet above the metal bedsides. The Contracting Officer's representative must approve all requests for extensions. Equipment will be inspected prior to its use by the Contractor using applicable U.S. Army Corps of Engineers forms. The forms will be provided to the Government after completion.

7.2 Trucks and other heavy equipment designated for use under this contract shall be equipped with two signs; one attached to each side. The U.S. Army Corps of Engineers will furnish these signs to the Contractor. The signs remain the property of the United States Government, and will be returned to the U.S. Corps of Engineers at the conclusion of the contract.

7.3 Prior to commencing debris removal operations, the Contractor shall present to the Government's representative all trucks or trailers that will be used for hauling debris, for the purpose of determining hauling capacity. The hauling capacity will be based on the interior dimensions of the truck's metal dump bed. Hauling capacity, in cubic yards, will be recorded and marked on each truck or trailer with permanent markings. Each truck or trailer will also be numbered for identification with a permanent marking.

7.4 Trucks or equipment which are designated for use under this contract shall not be used for any other work during the working hours of this contract. The Contractor shall not solicit work from private citizens or others to be performed in the designated work area during the period of this contract. Under no circumstances will the Contractor mix debris hauled for others with debris hauled under this contract.

7.5 Equipment used under this contract shall be rubber tired and sized properly to fit loading conditions. Excessive size equipment (6 CY and up) and non-rubber tired equipment must be approved by the COR.

8.0 REPORTING

8.1 The Contractor shall submit a report to the COR during each day of the term of the contract. Each report shall contain, at a minimum, the following information:

- Contractor's Name
- Contract Number
- Crew
- Location of work
- Day of Report
- Daily and cumulative totals of debris removed, by category

8.2 Discrepancies between the daily report and the corresponding load tickets will be reconciled no later than the following day.

9.0 OTHER CONSIDERATIONS

9.1 The Contractor shall supervise and direct the work, using skillful labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, personnel, taxes, and fees necessary to perform under the terms of this contract.

9.2 The Contractor must be duly licensed in accordance with the state's statutory requirements to perform the work. The Contractor shall obtain all permits necessary to complete the work. The Contractor shall be responsible for determining what permits are necessary to perform under the contract. Copies of all permits shall be submitted to the COR.

9.3 The Contractor shall be responsible for taking corrective action in response to any notices of violations issued as a result of the Contractors or any subcontractors actions or operations during the performance of this contract. Corrections for any such violations shall be at no additional cost to the Government.

9.4 The Contractor shall be responsible for control of pedestrian and vehicular traffic in the work area. The Contractor shall provide all flag persons, signs, equipment, and other devices necessary to meet Federal, State, tribal and local requirements. The traffic control personnel and equipment shall be in addition to the personnel and equipment required in other parts of this contract. At a minimum, one flag person should be posted at each approach to the work area. Work shall be accomplished in a safe manner in accordance with EM 385-1-1.

10.0 MEASUREMENT

10.1 Measurement for burnable debris removed will be by the cubic yard as predetermined through truck bed measurement. Trucks with less than full capacities will be adjusted down by visual inspection by the COR. Measurement will be documented by load tickets.

10.2 Measurement for non-burnable debris removed will be by the cubic yard as predetermined through truck bed measurement. Trucks with less than full capacities will be adjusted down by visual inspection by the COR. Load tickets will document measurement.

10.3 Measurement for payment of stumps removed with 25 to 36 inch diameters base cuts (measured 24 inches up from where the tree originally exited the ground) shall be per stump.

10.4 Measurement for payment of stumps removed with 37 to 48 inch diameter basecuts (measured 24 inches up from where the tree originally exited the ground) shall be per stump.

10.5 Measurement for payment of stumps removed with 49 inch and larger diameter basecuts (measured 24 inches up from where the tree originally exited the ground) shall be per stump.

10.6 Measurement for mobilization and demobilization will be by the job.

11.0 PAYMENT

11.1 Payment for the removal of burnable debris (including stumps 24 inches and smaller) to include all cost associated with loading, hauling and dumping will be paid for under the contract bid item for **Burnable Debris**.

11.2 Payment for the removal of non-burnable debris to include all cost associated with loading, hauling and dumping will be paid for under the contract bid item for **Non-burnable Debris**.

11.3 Payment for the removal of stumps, 25 inches and larger, to include all cost associated with loading, hauling and dumping will be paid for under the contract bid item for the appropriate size category for **Stumps**.

11.4 Payment for mobilization and demobilization will be paid for under the contract bid item for Mobilization and Demobilization.

11.5 Payment for work completed may be invoiced on a bi-weekly basis. Invoices will be based on verified quantities from the daily operational reports and valid load tickets.

11.6 The Contractor will be entitled to invoice for 60% of the mobilization and demobilization line item after all equipment is delivered to the designated work site. The remaining 40% will be due after all equipment is removed from the work site, all vehicle signs have been returned to the government, and receipt of a proper invoice.

11.7 All payments made under this contract will be in accordance with PAYMENTS clauses located in other sections of this contract

12.0 OTHER CONTRACTS

12.1 Other contracts may have been issued.

12.2 The Government reserves right to issue other contracts or direct other contractors to work within the area included in this contract.

13.0 ENCLOSURES/ATTACHMENTS

13.1 Bidding Schedule

13.2 Daily Report

13.3 Load Ticket

INSTRUCTIONS TO BIDDERS

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE PREPARING AND SUBMITTING YOUR BID.

All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement shall cause the bid to be considered irregular and shall be grounds for rejection of the bid.

1. The bid sheet furnished by NCDOT with the proposal shall be used and shall not be altered in any manner. **DO NOT SEPARATE THE BID SHEET FROM THE PROPOSAL!**
2. All entries on the bid sheet, including signatures, shall be written in ink.
3. The Bidder shall submit a unit price for every item on the bid form. The unit prices for the various contract items shall be written in figures.
4. An amount bid shall be entered on the bid sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount Bid" column of the sheet.
5. The total amount bid shall be written in figures in the proper place on the bid sheet. The total amount shall be determined by adding the amounts bid for each item.
6. Changes in any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink.
7. The bid shall be properly executed. All bids shall show the following information:
 - a. Name of individual, firm, corporation, partnership, or joint venture submitting bid.
 - b. Name and signature of individual or representative submitting bid and position or title.
 - c. Name, signature, and position or title of witness.
 - d. Federal Identification Number (or Social Security Number of Individual)
 - e. Contractor's License Number (if Applicable)
8. Bids submitted by corporations shall bear the seal of the corporation.
9. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
10. The bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
11. **THE PROPOSAL WITH THE BID SHEET STILL ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL HAVE BEEN DELIVERED TO AND RECEIVED IN THE DISTRICT/DIVISION ENGINEER'S OFFICE AT ADDRESS BY TIME ON DAY, DATE.**
12. The sealed bid must display the following statement on the front of the sealed envelope:

**QUOTATION FOR WORK ORDER NUMBER -
DESCRIPTION IN COUNTY TO BE OPENED AT TIME,
DAY, DATE.**

13. If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope shall be addressed as follows:

ADDRESS
ADDRESS
ADDRESS
ADDRESS

AWARD OF CONTRACT

The award of the contract, if it be awarded, will be made to the lowest responsible Bidder in accordance with Section 102 (*excluding 102-2 and 102-11*) of the Standard Specifications for Roads and Structures 1995. The lowest responsible will be notified that his bid has been accepted and that he has been awarded the contract. NCDOT reserves the right to reject all bids.

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Vicinity Map

Form W-9

Small Business Enterprise Contractor's Self-Certification

DIVISION CONTRACT

General Provisions

GENERAL

This contract is for the removal and disposal of storm related debris from state road rights-of-way in a section of Nash County. Vegetative material comprises the vast majority of the debris to be removed; however, construction and demolition (C&D) debris may also be included depending on the nature of the storm event. All work and materials shall be in accordance with the provisions of the General Guidelines of this contract, the Project Special Provisions, the North Carolina Department of Transportation Standard Specifications for Roads and Structures, the North Carolina Department of Transportation Roadway Standards Drawings, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall keep himself fully informed of all Federal, State and local laws, ordinances, and regulations, and shall comply with the provisions of Section 107 of the Standard Specifications.

AUTHORITY OF THE ENGINEER

The Engineer for this project shall be the Division Engineer, Division 4, Division of Highways, North Carolina Department of Transportation, acting directly or through his duly authorized representatives.

The Engineer will decide all questions which may arise as to the quality and acceptability of work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the contract; and all questions as to the acceptable fulfillment of the contract on the part of the Contractor. His decision shall be final and he shall have executive authority to enforce and make effective such decisions and orders as the Contractor fails to carry out promptly.

SUBLETTING OF CONTRACT

The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of this contract or any portion thereof; or his right, title, or interest therein; without written consent of the Engineer. Subletting of this contract or any portion of the contract shall conform to the requirements of Article of 108-6 of the Standard Specifications.

TRAFFIC CONTROL AND WORK ZONE SAFETY

The Contractor shall maintain traffic during construction and provide, install, and maintain all traffic control devices in accordance with these project guidelines, the Project Special Provisions, North Carolina Department of Transportation Standard Specifications for Roads and Structures, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Traffic movements through lane closures on roads with two-way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work as provided in subarticle 108-7(2) of the Standard Specifications.

SUPERVISION BY CONTRACTOR

At all times during the life of the project the Contractor shall provide one permanent employee who shall have the authority and capability for overall responsibility of the project and who shall be personally available at the work site within 24 hours notice. Such employee shall be fully authorized to conduct all business with the subcontractors, to negotiate and execute all supplemental agreements, and to execute the orders or directions of the Engineer.

SUPERVISION BY CONTRACTOR (cont'd.)

At all times that work is actually being performed, the Contractor shall have present on the project one competent individual who is authorized to act in a supervisory capacity over all work on the project, including work subcontracted. The individual who has been so authorized shall be experienced in the type of work being performed and shall be fully capable of managing, directing, and coordinating the work; of reading and thoroughly understanding the contract; and receiving and carrying out directions from the Engineer or his authorized representatives. He shall be an employee of the Contractor unless otherwise approved by the Engineer.

The Contractor may, at his option, designate one employee to meet the requirements of both positions. However, whenever the designated employee is absent from the work site, an authorized individual qualified to act in a supervisory capacity on the project shall be present.

LIABILITY INSURANCE

The Contractor shall obtain from an insurance company, duly authorized to do business in North Carolina, Public Liability and Property Damage Insurance to protect his company and subcontractors performing work covered under this contract from claims which may arise from operations under this contract. Insurance coverage shall be maintained during the life of this contract and shall extend to operations performed by the Contractor or his subcontractors, and by anyone employed directly or indirectly by either of them.

Public Liability Insurance shall be in an amount not less than one million dollars (\$1,000,000.00) for injuries, including accidental death, to any one person, and subject to the same limit for each person, in an amount not less than one million dollars (\$1,000,000.00) on account of one accident.

Property Damage Insurance shall be in an amount not less than five hundred thousand dollars (\$500,000.00)

Proof of insurance shall be furnished to the Engineer prior to beginning work.

BANKRUPTCY

The Department of Transportation, at its option, may terminate the contract upon filing by the Contractor of any petition for protection under the provisions of the Federal Bankruptcy Act.

Public Liability insurance shall be in an amount not less than one million dollars (\$1,000,000.00) for injuries, including accidental death, to any one person, and subject to the same limit for each person, in an amount not less than one million dollars (\$1,000,000.00) on account of one accident.

Property Damage Insurance shall be in an amount not less than five hundred thousand

DEFAULT OF CONTRACT

The Department of Transportation shall have the right to declare default of contract for breach by the Contractor of any material term or condition of the contract. Default of contract shall be in accordance with the terms, conditions, and procedures of Article 108-9 of the Standard Specifications.

CLAIMS FOR ADDITIONAL COMPENSATION OR EXTENSION OF TIME

Any claims for additional compensation and/or extensions of the completion date shall be submitted to the Division Engineer with detailed justification within thirty (30) days after receipt of the final invoice payment. The failure of the Contractor to submit the claim(s) within thirty days shall be a bar to recovery.

POSTED WEIGHT LIMITS

The Contractor's attention is directed to the fact that many primary and secondary roads and bridges are posted with weight limits less than the legal limit. The Contractor will not be allowed to exceed the posted weight limits in transporting equipment or debris. The Contractor should make a thorough examination of all maps and haul routes on this project.

DIVISION CONTRACT

Special Provisions

SCOPE OF WORK

The work of this contract consists of the removal and disposal of storm related debris from state road rights-of-way in a section of Nash County in North Carolina. Vegetative material comprises the vast majority of the debris to be removed; however, construction and demolition (C&D) debris may also be included depending on the nature of the storm event. Only debris within the right-of-way limits shall be removed. The contract shall not go off of the state rights-of-way to obtain debris unless expressly instructed by the Engineer. The section of roads, for this particular contract, to be cleared of debris is bounded by NC 58, the Tar River and the Franklin County Line (see map section on page #). All state-maintained roadways in this section of Nash County, including those sections of roads within the incorporated municipal limits of Castalia (west of NC 58), Nashville (west of NC 58), Momeyer, and Spring Hope are to be cleared of debris. The disposal point for all debris is the Nash County Landfill located on SR 1411 (Duke Road). Although haul distances will vary, the average round-trip haul distance to the landfill from this section of the county is about 25 miles. The haul time may vary depending on the amount of traffic into the landfill from other sections of the county and municipalities. The landfill used for this contract is a local government entity and the Department can not guarantee turnaround time at the landfill.

CONTRACT TIME AND LIMITS

The availability date for this contract is the date immediately upon execution by the Engineer.

Given the emergency nature of this work, there are no guaranteed minimum quantities of debris to be removed and disposed. In accordance with Departmental directive, this contract shall not exceed a total sum of two million dollars (\$2,000,000.00).

This contract is for emergency recovery work. This is not an exclusive contract. The Department of Transportation reserves the right to employ as many contractors as necessary to effectively and efficiently perform recovery efforts.

METHOD OF PAYMENT

Payment for the work covered in this contract will be based on the number of cubic yards of debris removed from the state-maintained rights-of-way and transported to and dumped at the designated disposal site(s). All charges will be determined to the nearest whole cubic yard based on actual quantities of debris removed and disposed as determined by the Engineer.

PARTIAL PAYMENT

The Contractor may submit a request for partial payment on a monthly basis, or other interval as approved by the Engineer. Compensation for all pay items shall be in accordance with the Standard Specifications unless expressly stated otherwise in the provisions of this contract. The amount of partial payments will be based on the work accomplished and accepted as the last day of the approved pay period. All requests for payment shall be made on the Division Contracts Payment Request form completed by the Department of Transportation using information supplied on a contractor's invoice. An authorized representative of the Contractor shall sign the Payment Request form.

PROSECUTION OF WORK

The Contractor will be required to prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance of the project. The Contractor will not be permitted to suspend his operations except for reasons beyond his control or except where the Engineer has authorized a suspension of the Contractor's operations in writing.

COOPERATION WITH STATE FORCES AND OTHER CONTRACTORS

This contract is for emergency recovery work, and is not an exclusive contract. The Contractor must cooperate with State forces and other contractors working within the limits of this project as directed by the Engineer.

EQUIPMENT

The Contractor shall furnish all equipment in good operating condition and operated by properly trained and qualified personnel. There will be **no payment for mobilization** of labor and equipment, as it will be **considered incidental** to the bid items of this contract. The Contractor shall be responsible for all costs or charges incurred in the operation and maintenance of the equipment during the performance of this contract.

Each hauling truck shall be properly licensed, and shall have the Contractor's name or initials, individual truck number, and measured capacity (in cubic yards) clearly displayed on both sides of the vehicle. A list of all hauling trucks utilized by the Contractor shall be provided to the Engineer prior to beginning work. This list shall include the truck number, license plate number, truck capacity, and certified tare weight. Trucks may not be substituted without prior approval of the Engineer. In the event a truck is substituted during the term of the contract, the same identification and size information shall be provided for the new truck prior to it entering service.

The Department of Transportation reserves the right to inspect each truck to verify size and/or weight, at any time. Such inspections may be performed at the discretion of the Engineer.

LOAD TICKETS

Documentation in the form of load tickets, provided by the Department of Transportation, shall be used to verify the amount of debris removed and disposed.

Once a truck is loaded with debris at the work site, the supervisor shall complete a load ticket with the date, location information, truck number, estimated volume in cubic yards, departure time and sign the ticket. The original ticket should remain in the ticket book and a copy shall be given to the driver. Upon arrival at the disposal site, the driver shall give the ticket copy to the disposal site monitor. This monitor, most likely, will be a representative of the Department of Transportation; however, the monitor may be from the NC Division of Emergency Management, the County, or other governmental agency. The monitor will enter the arrival time and verify the volume of debris. **If a truck is not fully loaded, or the debris not sufficiently compacted to the maximum capacity of the truck, the disposal site monitor will reduce the volume noted on the ticket accordingly.** The disposal site monitor shall note the correct volume and sign the corrected ticket copy.

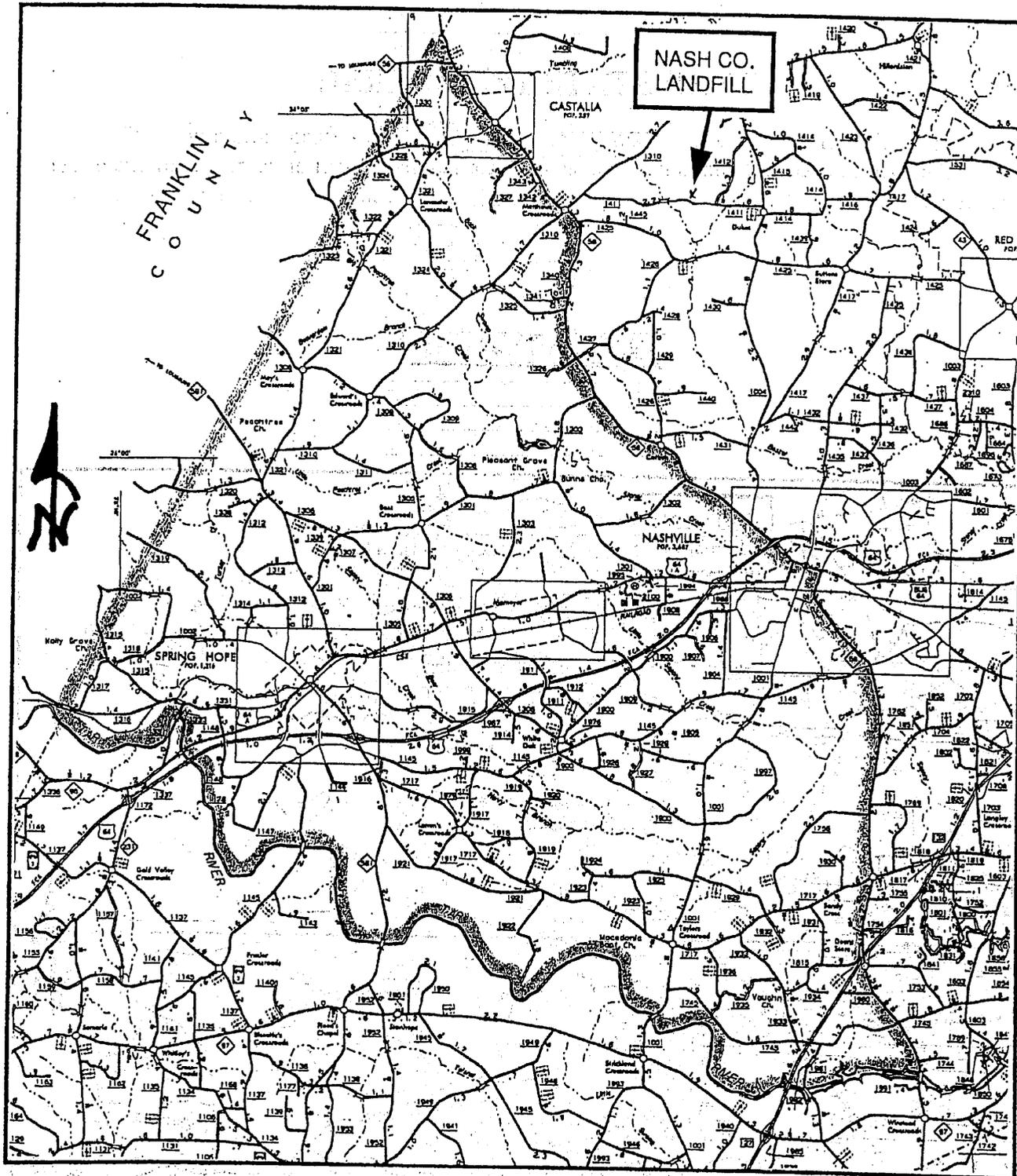
The Engineer shall match the disposal site monitor's tickets against the Contractor's original copies for pay verification. **The disposal site monitor's quantity shall be the quantity used for payment.**

| NCDOT LOAD TICKET | | |
|---------------------------|----------------|-------------------|
| TICKET NUMBER 00151 | | |
| CONTRACT NUMBER: | | |
| PRIME CONTRACTOR'S NAME: | | |
| DATE: | | |
| DEBRIS QUANTITY: | | |
| Truck No: | Capacity (CY): | |
| Load Size: | Cubic Yards | |
| Or | Tons | |
| TRUCKING COMPANY: | | |
| DEBRIS CLASSIFICATION: | | |
| VEGETATIVE | | |
| CONSTRUCTION & DEMOLITION | | |
| WHITE GOODS | | |
| OTHER | | |
| LOCATION | | |
| COUNTY/TOWN | ROUTE/STREET | DUMPSITE/LANDFILL |
| | TIME | CONTRACT MONITOR |
| Landing | | |
| Dumping | | |

DEBARMENT STATEMENT

The Contractor certifies and understands that by his/her signature on the Bid Form that he/she and the contracting firm he/she represents has not been banned, debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency.

VICINITY MAP



North Carolina Department of Transportation BID FORM

Work Order Number: 8.10000XX, etc. Contract Number: _____
 Description: Remove and Dispose of storm related debris from state-maintained roadways in a section of Nash County.

| ITEM | SECT | DESCRIPTION | QUANTITY | UNIT | UNIT PRICE | AMOUNT BID |
|------|------|-----------------------------|----------|------|------------|------------|
| 1 | | Debris Removal and Disposal | 1 | CY | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

TOTAL BID FOR PROJECT: _____

CONTRACTOR _____

ADDRESS _____

Federal Identification Number _____ Contractors License Number _____

Authorized Agent _____ Title _____

Signature _____ Date _____

Witness _____ Title _____

Signature _____ Date _____

THIS SECTION TO BE COMPLETED BY NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
This bid has been reviewed in accordance with Article 103-1 of the Standard Specifications for Roads and Structures 1995.

Reviewed by _____ (date)

Accepted by NCDOT _____ Division Engineer _____ (date)

DEBRIS MANAGEMENT PLAN OUTLINE EXAMPLE

PURPOSE

- To provide policies and guidance to _____ for the removal and disposition of debris caused by a major disaster.
- To facilitate and coordinate the management of debris following a disaster in order to mitigate against any potential threat to the lives, 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.

SITUATION

- Natural and manmade disasters precipitate a variety of debris that include, but are not limited to, such things as trees, sand, gravel, building construction material, vehicles, personal property, and hazardous materials.
- The quantity and type of debris generated from any particular disaster will be a function of the location and kind of event experienced, as well as its magnitude, duration, and intensity.
- The quantity and type of debris generated, its location, and the size of the area over which it is dispersed will have a direct impact on the type of collection and disposal methods utilized to address the debris problem, associated costs incurred, and how quickly the problem can be addressed.
- In a major or catastrophic disaster, many state agencies and local governments will have difficulty in locating staff, equipment, and funds to devote to debris removal, in the short-term as well as long-term.

ASSUMPTIONS

- A natural disaster that requires the removal of debris from public or private lands and waters could occur at any time.
- The amount of debris resulting from an event or disaster could exceed the local government's ability to dispose of it.
- If the natural disaster requires, the Governor would declare a state of emergency that authorizes the use of State resources to assist in the removal and disposal of debris. In the event Federal resources are required, the Governor would request through FEMA a Presidential Disaster Declaration.
- Private contractors will play a significant role in the debris removal, collection, reduction and disposal process.
- The debris management program implemented by the local government will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration and landfilling.

CONCEPT OF OPERATIONS

Emergency Operations Center Activation

- Define how the County Emergency Management Agency will activate the Emergency Operations Center (EOC).
- Define who will make up the Debris Management Task Force (DMTF) and their specific duties and responsibilities.
- The EOC Director or his designated representative in conjunction with the DMTF will determine the extent of damage and resulting debris and issue appropriate directives to implement this annex.
- Create an appendix that contains a listing of key points of contact.

Estimating the Type and Amount of Debris

- Designate public works department personnel to determine the estimated amount of debris generated as soon as possible.
- Define the estimating methods to be used. One method to estimate debris is to conduct a drive-through “windshield” damage assessment and estimate the amount of debris visually. Another method is an aerial assessment by flying over the area using State Police and/or National Guard helicopters and Civil Air Patrol reconnaissance flights. The damaged area can be assessed either visually or using aerial photography. Once the area has been assessed actions can be taken to implement Phase I debris clearing procedures and institute requests for additional State or Federal assistance.

Site Selection Priorities

- Determine the number of Temporary Debris Storage and Reduction (TDSR) sites and location of these sites for the collection and processing of debris.
- Prioritize which sites will be opened based on the amount of debris estimated.

| | |
|-------------------------|---|
| First Priority: | Pre-determined TDSR sites |
| Second Priority: | Public property within the damaged area |
| Last Priority: | Private property |

Pre-Designated TDSR sites

- Pre-identified TDSR sites should be identified on county maps.
 - Identification and permitting of the TDSR sites will involve interaction with numerous state agencies. The agencies that will be involved will depend upon the type of debris expected and the intended methods of reductions at the proposed site. The North Carolina Department of Environment and Natural Resources, Solid Waste Section will be the first agency to contact to help determine the suitability of a potential site based, in part, on demographic, geographic and topographic information.
 - ✓ *E-01 - NC DENR Emergency Telephone Numbers*
 - ✓ *E-02 - NCDENR, Solid Waste Section, Facility Compliance and Planning Assistance Area Map*
 - ✓ *E-03 - NCDENR Emergency Site Selection Evaluation Sheet*
- Either Solid Waste Authority or Public Works should maintain detailed information pertaining to each of these sites. Designate which agency has responsibility.
 - The local government agency that has jurisdiction over waste management, typically, should be the designated agency. The waste management agency will have an established relationship with NCDENR and should be familiar with the applicable guidelines.
- Detailed information should include exact location, size, available ingress and egress routes and results of an environmental assessment and initial data samples.
 - If funds are not available to conduct a limited site assessment, which would include water and soil analysis, provisions should be made in the site management contract for the contractor to collect, analyze and provide all necessary documentation prior to the site being placed in service. Preliminary approval of the site can be obtained from the regulatory agencies. Final approval would be contingent upon acceptable sample analysis data.

- Potential sites should be sufficiently large to conduct operations in a safe and efficient manner. FEMA recommends that sites be 50-200 acres. While this may not be possible in your area, sites less than 10 acres can present logistical and operational problems.

- ❖ *FEMA will not reimburse local governments for any expenditures for pre-designated TSDR site selection or development prior to a Federal declaration.*

- Baseline data should include videotapes, photographs, documentation of physical and biological features, and soil and water samplings.
- The list of TSDR sites should be reviewed annually and updated as necessary as part of the normal maintenance plan.
 - Private ownership of pre-designated TSDR sites will require frequent review of leases and memoranda of understanding to insure that all of the information is current and that agreements have not expired.
 - During an event, the number of TSDR sites that are opened should be adequate to handle the anticipated debris load, but overall management of site operations is generally more efficient with several large sites rather than a number of smaller sites. However, in order to have a sufficient inventory of available sites, as many potential locations as possible should be identified.

TSDR Site Preparation.

- Identify the preparatory actions that need to be accomplished after a pre-designated TSDR site has been selected.
 - Prior to use, a TSDR site may require site development activities such as, clearing, storm water controls, construction or improvements to ingress/egress routes.
- Develop a Memorandum of Understanding or a Memorandum of Agreement if required.
- Identify who would be responsible for updating the initial base line data and develop an operation layout to include ingress and egress routes.
 - The preferred method of debris reduction and/or disposal identified in your debris management plan will be one of the primary factors determining the size and location of your site. For example, burn sites utilizing air curtain burners or open burning, if permitted, require a 1,000 ft. separation between the site operations and the nearest dwelling.

- ✓ *E-10 - Open Burning Regulations Pertaining To Debris Disposal in the Case of Natural Disasters*

Existing Landfills.

- Identify location of county and private landfills.
- Identify any restrictions, limitations or tipping fees.
 - Other options that may be available for debris disposal other than TSDR sites are NCDENR/Solid Waste permitted Land Clearing and Inert Debris Landfills (LCIDs), Construction and Demolition Debris Landfills (C&D LF), Yardwork Composting Facilities and Temporary C&D Transfer Stations.

- ✓ *D-01 - Eastern NC Solid Waste Management, Location of Solid Waste Facilities*

- ✓ *D-06 - NCDENR C&D Processing/Recycling Facilities*

- ❖ *FEMA will not reimburse waived tipping fees.*

DEBRIS REMOVAL

General

- Hurricanes and other natural disasters can generate unprecedented amounts of debris in a few hours or a few minutes. 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 and signs. This section provides guidelines on debris removal issues, including emergency roadway clearance, public rights-of-way removal, mobile home park removal, private property removal, navigation hazard removal, and Household Hazardous Waste (HHW) removal.
- Debris removal, regardless of source, becomes a high priority following a disaster. Debris management strategy for a large-scale debris removal operation divides the operation into two phases.
- Phase I consists 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.
- 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 public health and safety.

Emergency Roadway Debris Removal (Phase I)

❖ *Time and Material Contracts should only be utilized for emergency roadway debris clearance for an operational period not to exceed 70 hours.*

- Identify critical routes that are essential to emergency operations.
- Define how efforts will be prioritized between local agencies.
- Identifying areas that State and Federal assistance can target.
- Define what actions take place during Phase I.
- Example: Roadway debris removal involves the opening of arterial roads and collector streets by moving debris to the shoulders of the road. There is no attempt to physically remove or dispose of the debris, only to clear key access routes to expedite the:
 - Movement of emergency vehicles,
 - Law enforcement,
 - Resumption of critical services and,
 - Assessment of damage to key public facilities and utilities such as schools, hospitals, government buildings, and municipal owned utilities.
 - Pre-planning to establish critical routes and a priority roadway clearance plan will allow you to spend your valuable time and resources in managing the disaster instead of the disaster managing you
- Define the type of debris that may be encountered such as tree blow-down and broken limbs; yard trash such as outdoor furniture, trash cans, utility poles, power, telephone and cable TV lines, transformers and other electrical devices; building debris such as roofs, sheds and signs; and personal property such as clothing, appliances, boats, cars, trucks and trailers.
 - Identify industrial facilities and utility companies that may generate debris that would require special handling, such as, petroleum products, agricultural chemicals and manufacturing process chemicals. A separate specialized contract should be developed to address these types of waste following an event.
- Define the priority to open access to other critical community facilities, such as municipal buildings, water treatment plants, wastewater treatment plants, power generation units, and airports.

- The requirement for government services will be increased drastically following a major natural disaster. Develop procedures to determine the damage done to utility systems. Activities involving these facilities should be closely coordinated with their owners and/or operators.

Local, Tribal, State and Federal Assistance

- Identify local, tribal, State and Federal government assets that may be available such as:
 - Municipal workers and equipment
 - Local and State Department of Transportation (DOT) workers and equipment
 - National Guard
 - Local contractors
 - Identify local contractors that have the equipment and personnel resources available to perform emergency roadway debris clearing and removal. Establishing pre-positioned contracts and encouraging local contractors to participate will allow their capabilities to be evaluated prior to an event. Knowing the availability of local contractor capacity will provide an indication of outside contracting needed.
 - U.S. Department of Agriculture (USDA) Forest Service chain saw crews
 - Local U.S. Army Corps of Engineers (USACE) workers and equipment
- ✓ *C02 – Intergovernmental Emergency Mutual Aid Agreement (example)*
- ✓ *C-01 – Community Work Programs and Crew Locations*
- ✓ *A-36 – Community Work Program Crew Locations*

Supervision and Special Considerations

- Immediate debris clearing (Phase I) actions should be supervised by local public works or DOT personnel using all available resources. Requests for additional assistance and resources should be made to the State Emergency Operations Center (EOC). Requests for Federal assistance will be requested through the State Coordinating Officer (SCO) to the FEMA Federal Coordinating Officer (FCO).
- Special crews equipped with chain saws may be required to cut up downed trees. This activity is hazardous, and common sense safety considerations are necessary to reduce the chance of injury and possible loss of life. When live electric lines are involved, work crews should coordinate with local utility companies to have power lines deenergized for safety reasons.
 - Involve local utility companies in the planning process to establish critical routes and priority roadway clearing
- Front-end loaders and dozers should be equipped with protective cabs. Driveway cutouts, fire hydrants, valves, and stormwater inlets should be left unobstructed. All personnel should wear protective gear, such as hard hats, gloves, goggles, and safety shoes.
 - A health and safety plan should be developed to ensure that all personnel at a site are aware of the emergency medical procedures, if needed.
- The USDA Forest Service and other State and Federal land management agencies are equipped for fast responses to tornadoes, and hurricanes. Assistance would be requested through the State SCO to the FCO according to standard procedures.

Public Rights-of-Way Debris Removal and Disposal (Phase II)

- Debris is simply pushed to the shoulders of the roadway during the emergency opening (Phase I) of key routes. There is little time or concern for sorting debris at that time. The objective is to provide for the safe movement of emergency and support vehicles into and out of the disaster area. As

removal operations progress, the initial roadside piles of debris become the dumping location for additional yard waste and other storm-generated debris, such as construction material, personal property, trash, white metals such as refrigerators, washers, dryers and hot water heaters, roofing and even household, commercial, and agricultural chemicals.

- Define how the DMTF will coordinate debris removal operations.
 - Define how local and State government force account employees will transition from Phase I to Phase II operations.
 - Determine if Mutual Aid agreements exist.
 - Determine if local contractors will be needed to assist in Phase II operations.
 - Determine if additional State and/or Federal assistance will be required.
 - Develop local field inspection teams. The teams become the “eyes and ears” for the DMTF.
 - Coordinate through local agencies to establish a contracted work force capable of expeditious removal of the debris.
 - Develop an independent team using the local and State personnel to monitor the removal activities. This team becomes the debris manager’s “eyes and ears” in the field.
 - Conduct daily update briefings with key debris managers. Ensure that all major debris removal and disposal actions are reviewed and approved by the local debris manager.
 - Ensure that a representative of the DMTF attends all briefings to resolve any coordination problems between State and Federal debris removal efforts and local debris removal and disposal efforts.
 - Coordinate with local, tribal and State DOT and law enforcement authorities to ensure that traffic control measures expedite debris removal activities.
 - Contact should be initiated with the local NCDOT County Maintenance Engineer to coordinate resources for roadway clearing and debris removal. NCDOT can also assist in establishing transportation routes for debris removal from the roadways to TDSR or disposal sites. Issues such as weight limits, bridges, roads and culverts can be resolved, as well as coordinating with NCDOT’s priority plan for roadway clearance and debris removal.
- ✓ *F-01 - NCDOT Division & District Engineer Listing*
 ✓ *F-02 - NCDOT District/County Maintenance Engineer Directory*
- Establish a proactive information management plan. Emphasis should be placed on actions that the public can perform to expedite the cleanup process, such as separating burnable and nonburnable debris; segregating HHW; placing debris at the curbside; keeping debris piles away from fire hydrants and valves, reporting locations of illegal dump sites or incidents of illegal dumping; and segregating recyclable materials.
 - The public should be kept informed of debris pick-up schedules, disposal methods and ongoing actions to comply with State and Federal Environmental Protection Agency (EPA) regulations, disposal procedures for self-help and independent contractors, and restrictions and penalties for creating illegal dumps. The Public Information Officer (PIO) should be prepared to respond to questions pertaining to debris removal from the press and local residents. The following questions are likely to be asked:
 - *What is the pick-up system?*
 - *When will the contractor be in my area?*
 - *Who are the contractors and how can I contact them?*
 - The public should not be encouraged to contact the debris contractors individually. This could lead to attempts by the public to gain services that are not included in the debris removal contract or encourage the debris removal contractor to take on work for individuals while still under contract to the local government.
 - *Should I separate the different debris materials and how?*

- *How do I handle Household Hazardous Waste?*
- *What if I am elderly?*

Private Property Debris Removal

- Dangerous structures should be the responsibility of the owner or local government to demolish to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will remain because of the lack of insurance, absentee landlords, or under-staffed and under-equipped local governments. Consequently, demolition of these structures may become the responsibility of DMTF.
- Develop procedures to ensure complete cooperation with numerous local and State government officials to include the following: real estate offices, local law and/or code enforcement agencies, State historic preservation office, qualified contractors to remove HHW, asbestos, lead-based paint, and field teams to photograph the sites before and after demolition.
 - NCDENR, Solid Waste Section is the controlling agency for inspection and disposal of asbestos containing material.
- ✓ *B-02 - Household Hazardous Waste Temporary Collection Events, List of HHW Contractors*
- Include a copy of Demolition of Private Property checklist
- Include copies of sample ordinances that can be activated when a “state of emergency” is implemented, eliminating any unnecessary waiting period.
- The most significant building demolition problem will be that local governments do not have proper ordinances in effect to handle emergency condemnation procedures. Moreover, structures will be misidentified or have people or belongings in them when the demolition crews arrive necessitating removal by local law enforcement. Close coordination is essential, and it is recommended that at least one FEMA staff person be on site to work directly with the local government staff to ensure that all required legal actions are taken.

Household Hazardous Wastes Removal

- HHW may be generated as a result of a major natural disaster. HHW may consist of common household chemicals, propane tanks, oxygen bottles, batteries, and industrial and agricultural chemicals. These items will be mixed into the debris stream and will require close attention throughout the debris removal and disposal process.
- Consider HHW response teams be assigned and respond ahead of any removal efforts. Consider preparing draft emergency contracts with generic scopes of work. Coordinate with regulatory agencies concerning possible regulatory waivers and other emergency response requirements.
- Arrange for salvageable hazardous materials to be collected and segregated based on their intended use. Properly trained personnel or emergency response HHW contractors should accomplish removal of hazardous waste. Coordinate with regulatory agencies to ensure cleanup actions meet local, tribal, State, and Federal regulations.
- Complete HHW identification and segregation before building demolition begins. Qualified contractors should remove HHW debris. Regular demolition contractors can remove uncontaminated debris.
- A separate staging area for HHW materials, contaminated soils, and contaminated debris should be established at each TDSR site. The staging area should be lined with an impermeable material and bermed to prevent contamination of the groundwater and surrounding area. Materials should be

removed and disposed of using qualified HHW personnel/contractors in accordance with local, tribal, State and Federal regulations.

TEMPORARY DEBRIS STORAGE AND REDUCTION SITES

- Once the debris is removed from the damaged area, it will be taken to temporary debris storage and reduction sites.
- Removal and disposal actions should be handled at the lowest level possible based on the magnitude of the event. It follows the normal chain of responsibility, i.e., local level, county level, State level, and when resources are exceeded at each level of responsibility, Federal assistance may be requested according to established procedures. Because of the limited debris removal and reduction resources, the establishment and operation of TDSR sites are generally accomplished by contracts.
- Emphasis is placed on local government responsibilities for developing debris disposal contracts. Local, tribal, county and/or State governments may be responsible for developing and implementing these contracts for debris removal and disposal under most disaster conditions.
- The DMTF should review all debris disposal contracts. There should be a formal means to monitor contractor performance to ensure that funds are being used wisely.
- **Site Preparation.** The topography and soil conditions should be evaluated to determine best site layout. Consider ways to make remediation and restoration easier when planning site preparation.
- **Site Operations.** Site preparation and operation are usually left up to the contractor, but guidance can help avoid problems with the ultimate closeout.
- Establish lined temporary storage areas for ash, HHW, fuels, and other materials that can contaminate soils, groundwater and surface water. Set up plastic liners, when possible, under stationary equipment such as generators and mobile lighting plants. Include this as a requirement of the contract scope of work.
- If the site is also an equipment staging area, monitor fueling and equipment repair to prevent and mitigate spills such as petroleum products and hydraulic fluids. Include clauses in contract scope of work to require immediate cleanup by the contractor.
- Be aware of and mitigate things that will irritate the neighbors such as:
 - smoke** - proper construction and operation of incineration pits. Don't overload air curtains.
 - dust** - employ water trucks.
 - noise** - construct perimeter berms.
 - traffic** - proper layout of ingress and egress procedures to help traffic flow.

DEBRIS REDUCTION METHODS

Volume Reduction by Incineration

- There are several incineration methods available including **uncontrolled open incineration, controlled open incineration, air curtain pit incineration, and refractor lined pit incineration.** The DMTF should consider each incineration method before selection and implementation as part of the overall volume reduction strategy.
- **Uncontrolled Open Incineration:** Uncontrolled open incineration is the least desirable method of volume reduction because it lacks environmental control. However, in the haste to make progress, the Department of Natural Resources may issue waivers to allow this method of reduction early in a disaster.
- **Controlled Open Incineration:** Controlled open incineration is a cost-effective method for reducing clean woody debris in rural areas. This option must be terminated if mixed debris such as treated lumber, poles, nails, bolts, tin and aluminum sheeting enters the waste flow. Clean woody tree debris presents little environmental damage and the resulting ash can be used as a soil additive by the local

agricultural community. Department of Agriculture and county agricultural extension personnel should be consulted to determine if and how the resulting ash can be recycled as a soil additive. Responsible agencies and telephone numbers should be provided.

- **Air Curtain Pit Incineration:** Air curtain pit incineration offers an effective means to expedite the volume reduction process by substantially reducing the environmental concerns caused by open incineration. Specifications and statements of work should be developed to expedite the proper use of the systems, because experience has shown that many contractors and subcontractors are not fully knowledgeable of the system operating parameters.
- **Refractor Lined Pit Incineration:** Pre-manufactured refractory lined pit burners are an alternative to air curtain open pit incineration. The units can be erected on site in a minimal amount of time. Some are portable and others must be built in-place. The units are especially suited for locations with high water tables, sandy soil, or where materials are not available to build above ground pits. The engineered features designed into the units allow for a reduction rate of approximately 95 % with a minimum of air pollution. The air curtain traps smoke and small particles and recirculates them to enhance combustion that reaches over 2,500 degrees Fahrenheit. Manufacturers claim that combustion rates of about 25 tons per hour are achievable while still meeting emission standards.
- Local officials, environmental groups, and local citizens should be thoroughly briefed on the type of incineration method being used, how the systems work, environmental standards, health issues, and the risk associated with each type of incineration. PIOs should take the initiative to keep the public informed. A proactive public information strategy to include press releases and media broadcasts should be included in any operation that envisions incineration as a primary means of volume reduction.

Environmental Controls

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

Volume Reduction by Grinding and Chipping

- Hurricanes and tornadoes may present the opportunity to employ large-scale grinding and chipping operations as part of the overall debris volume reduction strategy. Hurricanes can blow away scarce topsoil in the agricultural areas and cause extensive tree damage and blow-down. This two-fold loss, combined with local climatic conditions, may present an excellent opportunity to reduce clean woody debris into suitable mulch that can be used to replenish the topsoil and retain soil moisture.
- Grinding and chipping woody debris is a viable reduction method. Although more expensive than incineration, grinding and chipping is more environmentally friendly, and the resulting product, mulch, can be recycled. In some locations the mulch will be a desirable product because of shallow topsoil conditions. In other locations it may become a landfill product.
- Grinding and chipping woody debris reduces the large amounts of tree blow-down. Chipping operations are suitable in urban areas where streets are narrow or in groves of trees where it is cheaper to reduce the woody vegetation to mulch than to move it to a central grinding site and then returning it to the affected area. This reduces the costs associated with double handling.
- The DMTF should work closely with local environmental and agricultural groups to determine if there is a market for mulch. Another source for disposal of ground woody debris may be as an alternative fuel for industrial heating or for use in a cogeneration plant.
- There are numerous makes and models of grinders and chippers on the market. When contracting, the most important item to specify is the size of the mulch. If the grinding operation is strictly for, volume reduction, size is not important. However, mulch to be used for agricultural purposes must be of a certain size and be virtually free of paper, plastic and dirt.
- The average size of wood chips produced should not exceed 4 inches in length and ½ inch in diameter. Production output should average 100 to 150 cubic yards per hour when debris is moderately contaminated, which slows feeding operations, and 200 to 250 cubic yards per hour for relatively clean debris. Note that this is not machine capability; this is contractor output or performance capability.
- Contaminants are all materials other than wood products and should be held to 10% or less for the mulch to be acceptable. Plastics are a big problem and should be eliminated completely. To help eliminate contaminants, root rake loaders should be used to feed or crowd materials to the grapplers. Bucket-loaders tend to scoop up earth, which is a contaminant and causes excessive wear on the grinder or chipper. Hand laborers should remove contaminants prior to feeding the grinders. Shaker screens should be used when processing stumps with root balls or when large amounts of soil are present in the woody debris.
- Chippers are ideal for use in residential areas, orchards, or groves. The number of damaged and uprooted trees presents significant problems if they are pushed to the rights-of-way for eventual pick-up and transport to staging and reduction sites. The costs associated with chipping are reasonable because the material does not need to be transported twice.
- Grinders are ideal for use at debris staging and reduction sites because of their high volume reduction capacity. Locating the grinders is critical from a noise and safety point-of-view. Moreover, there is a need for a large area to hold the woody debris and an area to hold the resulting mulch. Ingress and egress to the site is also an important consideration.

Volume Reduction by Recycling

- Recycling reduces mixed debris volume before it is hauled to a landfill. Recycling is attractive and strongly supported by _____ because there may be an economic value to the recovered material if it can be sorted and sold. A portable Materials Recovery Facility could be set up at the site. Metals, wood, and soils are prime candidates for recycling. The major drawback is the potential environmental impact of the recycling operation. In areas where there is a large usage of chemical

agricultural fertilizer, the recovered soil may be too contaminated for use on residential or existing agricultural land.

- Hurricanes may present opportunities to contract out large-scale recycling operations and to achieve an economic return from some of the prime contractors who exercise their initiative to segregate and recycle debris as it arrives at the staging and reduction sites. Recycling has significant drawbacks if contracts are not properly written and closely monitored.
- Specialized contractors should be available to bid on disposal of debris by recycling, if it is well sorted. Contracts and monitoring procedures should be developed to ensure that the recyclers comply with local, tribal, State and Federal environmental regulations.
- Recycling should be considered early in the debris removal and disposal operation because it may present an opportunity to reduce the overall cost of the operation. The following materials are suitable for recycling.
- **Metals.** Hurricanes and tornadoes may cause extensive damage to mobile homes, sun porches, and green houses. Most of the metals are non-ferrous and suitable for recycling. Trailer frames and other ferrous metals are also suitable for recycling. Metals can be separated using an electromagnet. Metals that have been processed for recycling can be sold to metal recycling firms.
- **Soil.** Cleanup operations using large pieces of equipment pick up large amounts of soil. The soil is transported to the staging and reduction sites where it is combined with other organic materials that will decompose over time. Large amounts of soil can be recovered if the material is put through some type of screen or shaker system. This procedure can produce significant amounts of soil that can either be sold or recycled back into the agricultural community. This soil could also be used at local landfills for cover. It is more expensive to transport and pay tipping fees at local landfills than to sort out the heavy dirt before moving the material. Monitoring and testing of the soil may be necessary to ensure that it is not contaminated with chemicals.
- **Wood.** Woody debris can be either ground or chipped into mulch.
- **Construction Material.** Concrete block and other building materials can be ground and used for other purposes if there is a ready market. Construction materials and wood can also be shred to reduce volume. This construction material could also be used at local landfills for cover.
- **Residue Material.** Residue material that cannot be recycled, such as cloth, rugs, and trash, can be sent to a landfill for final disposal.

TDSR SITE CLOSE-OUT PROCEDURES

- Each TDSR site will eventually be emptied of all material and be restored to its previous condition and use. The contractor should be required to remove and dispose of all mixed debris, construction and demolition (C&D) debris, and debris residue to approved landfills. Quality assurance inspectors should monitor all closeout and disposal activities to ensure that contractors complied with contract specifications. Additional measures will be necessary to meet local, tribal, State and Federal environmental requirements because of the nature of the staging and reduction operation.
- The contractor must assure the DMTF that all sites are properly remediated. There will be significant costs associated with this operation as well as close scrutiny by the local press and environmental groups. Site remediation will go smoothly if baseline data collection and site operation procedures are followed.
- The basic close-out steps are to remove all debris from the site; conduct an environmental audit or assessment; develop a remediation or restoration plan approved by the appropriate environmental agency; execute the plan; get acceptance from the landowner; and terminate lease payments, if applicable. The key to timely closeout of the mission is the efficient scheduling of the above activities for multiple sites. Therefore, critical path scheduling of all the activities as far in advance as possible will minimize down time between steps.

- **Environmental Restoration.** Stockpiled debris will be a mix of woody vegetation, construction material, household items, and yard waste. HHW and medical wastes should be segregated and removed prior to stockpiling. Activities at the debris disposal sites will include anyone or a combination of the following activities: stockpiling, sorting, recycling, incineration, grinding, and chipping. Incineration is done in air curtain pits and generally only woody debris is incinerated; however, the efficiency of the incineration and the quality of incineration material is highly variable. Contamination may occur from petroleum spills at staging and reduction sites or runoff from the debris piles, incineration sites, and ash piles.
- **Site Remediation.** During the debris removal process and after the material has been removed from each of the debris sites, environmental monitoring will be needed to close each of the sites. This is to ensure that no long-term environmental contamination is left on the site. The monitoring should be done on three different media: ash, soil, and groundwater.
- The monitoring of the ash should consist of chemical testing to determine the suitability of the material for landfilling.
- Monitoring of the soils should be by portable methods to determine if any of the soils are contaminated by volatile hydrocarbons. The contractors may do this if it is determined that hazardous material, such as oil or diesel fuel was spilled on the site. This phase of the monitoring should be done after the stockpiles are removed from the site.
- The monitoring of the groundwater should be done on selected sites to determine the probable effects of rainfall leaching through either the ash areas or the stockpile areas.
- Consider the following requirements to closeout a temporary staging and reduction site(s).
 - 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 a testing and monitoring program. The contractor should be responsible for environmental restoration of both public and leased sites. Contractors will also be required to remove all debris from sites for final disposal at landfills prior to closure.
 - Reference appropriate and applicable environmental regulations.
 - Prioritize site closures.
 - Schedule closeout activities.
 - Determine separate protocols for air, water and soil testing.
 - Develop cost estimates.
 - Develop decision criteria for certifying satisfactory closure based on limited baseline information.
 - Develop administrative procedures and contractual arrangements for closure phase.
 - Inform local, tribal and State environmental agencies regarding acceptability of program and established requirements.
 - Designate approving authority to review and evaluate contractor closure activities and progress.
 - Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist.

ORGANIZATION AND RESPONSIBILITIES

Local Government Agencies and Departments

- Identify each government agency or department that has debris clearing, removal or disposal actions.
- Define their responsibilities in detail.

Supporting Agencies

- Identify each government agency or department that has debris clearing, removal or disposal actions.

- Define their responsibilities in detail.

ADMINISTRATION AND LOGISTICS

- All agencies will document personnel and material resources used to comply with this annex. Documentation will be used to support any Federal assistance that may be requested or required.
- Requests for support and/or assistance will be upchanneled from the local level to the county level EOC and then to the State EOC. Requests for Federal assistance will be made by the State EOC through established procedures, as outlined in the Federal Response Plan.
- All agencies will ensure 24-hour staffing capability during implementation of this annex, if the emergency or disaster requires.
- Define who will be responsible to initiate an annual update of this annex. It will be the responsibility of each tasked agency to update its respective portion of the annex and ensure any limitations and shortfalls are identified and documented, and work-around procedures developed, if necessary.

AUTHORITIES AND REFERENCES

- Develop a listing of authorities and references identified in this annex.

APPENDICES

- Develop a listing of appropriate appendices that support this annex.

RIGHT OF ENTRY AGREEMENT EXAMPLE

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

It is fully understood that this permit is not an obligation to perform debris clearance. The undersigned agrees and warrants to hold harmless the City/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

North Carolina Division of Emergency Management

RIGHT OF ENTRY

City/ County _____ Date _____

Property Owner/Renter _____ Phone # _____

Owner/Renter's Address

The undersigned hereby certifies and warrants that he/ she/ they are the owner/ renter or the authorized agent of said owner/ renter of the property listed herein. As the legal determinant of entry, the signee hereby authorizes:

RIGHT - OF - ENTRY

To the City/ County of _____, the State of North Carolina, the Federal Emergency Management Agency (FEMA), the Army Corps of Engineers (COE), or their contractors, subcontractors, surrogates, agents, employees, the full authority and permission to enter into or onto the above names premises to demolish condemned structures, gather debris for removal and disposal as proper and appropriate, and as determined by the Professional Engineer responsible.

The undersigned agrees that he/ she understands that despite all safeguards, the activities authorized by this permit may inadvertently cause damage to the involved property, to associated personal property and possibly to persons. Hold harmless considerations are covered in a separate Hold Harmless Agreement.

If I receive any disaster aid funds from FEMA, SBA, or the State of North Carolina for this demolition, removal, and disposal or if I receive insurance proceeds for this same purpose, I will reimburse the State of North Carolina.

For the considerations and purposes set forth herein, I hereby set my hand and seal the ____ day ____ month ____ yr

Property Owner/ Renter/ Authorized Agent

State of North Carolina
County of _____

Sworn to and subscribed before me on this _____ day of _____ 199__

(Seal)

My Commission Expires _____

Notary Public

North Carolina Division of Emergency Management

HOLD HARMLESS AGREEMENT

Date _____

City/County _____ Property Owner _____

This agreement is entered into concerning demolition of legally condemned property, debris cleanup and removal by Federal, State and/ or local government or their contractors, surrogates and agents from the specific private property listed below:

Street _____

City/zip _____

County _____

Further, the undersigned hereby certifies and warrants that he/ she / they, are the owner(s), authorized agent or co-owners of the property described above, and that acting with free will and volition, hereby willingly stipulate this covenant to HOLD HARMLESS as stated herewith.

Accordingly, in consideration of the demolition and removal of said structure(s) and or debris, the undersigned agree(s) and warrant(s) that he/ she/ they will HOLD HARMLESS the City/ County of _____, the State of North Carolina, Federal Emergency Management Agency (FEMA), Army Corps of Engineers (COE), their contractors, surrogates, and subcontractors for all and any damage of kind and type what-so-ever either to the above described property or persons, situated thereon, and hereby release(s), discharge(s), and waiver(s) any and all actions either legal or equitable which the undersigned, and/or any principles have or ever might have, or may have by reason of any action of the above identified entities and their successors, assigns, and heirs, while accomplishing the demolition, removal and disposal of the above described property.

In further consideration of the demolition and removal of said structures and the resulting debris, the undersigned agree(s) and warrant(s) that he/ she/ they will HOLD HARMLESS the City/ County of _____, State of North Carolina, the United States, FEMA, its contractors, subcontractors, agents, surrogates, or employees to and against any claims resulting from the demolition, debris collection, removal and disposal of the above referenced property by anyone not identified in the document as an owner having financial interest in this property.

All terms and conditions with respect to this HOLD HARMLESS agreement are expressly contained herein and the undersigned agrees that no representative or agent of the city, town, state, or the Federal Government has made any representation or promise with respect to this HOLD HARMLESS covenant that is not expressly contained herein.

Property Owner / Occupant / Authorized Agent

State of North Carolina
County of _____

Sworn to and subscribed before me on this ____ day of _____ month _____ year

My Commission Expires _____

Notary Public

AFFIDAVIT OF OWNERSHIP

County/ City of _____ Owner _____

Personally appeared before me, the undersigned authority who is authorized by law to administer oaths.

_____, who being by me first duly sworn, deposes and states:
Notary Public

My name is _____ and I am over the age of 21 years and a resident of
(City) _____ (County) _____

Strike out I am (sole) (one of the) (a corporate) record owner(s) of the real and personal property
Two choices: located at:

Strike out 1. No one else claims or holds an interest in the described real or personal property.
Two choices: 2. The following named person(s) or corporation(s) are the remaining record
owners of the described real or personal property.
3. The following named person(s) or corporation(s) have an outstanding mortgage,
deed of trust, lien or other financial interest in the above described property.

No other person or financial entity besides these, claims or holds interest in this
property.

Strike Out when Not Applicable: There are no outstanding mortgages, deeds of trust, liens of any type, or other
financial interest in the above described property.

I declare under the penalty of perjury that the forgoing is true and correct.

Further, deponent utters not.

Signed and sealed this ___ day of _____ month _____ year

Property Owner or Authorized Agent

State of North Carolina

County of _____

Sworn to and subscribed before me this ___ day of _____ month _____ year

SEAL

My Commission expires: _____

Notary Public

North Carolina Division of Emergency Management
AFFIDAVIT TO DENY DUPLICATION OF BENEFITS

Personally appearing before me, _____, the undersigned authority
Notary Public

which is authorized by law to administer oaths, who being by me duly sworn, deposes and utters the following:

My name is _____, and I am a resident of _____ County, NC.
Pursuant to Federal Regulations as set forth in 44 CFR 206.191, I hereby affirm that I have previously received no private, public, or insurance funds or proceeds, in whole or in part for the demolition and removal of my storm damaged property located at:

I further attest that, to the best of my knowledge, no duplicate benefits for this service have at any time been issued or tendered by the Federal Emergency Management Agency (FEMA), the NC Division of Emergency Management (NCEM), the Small Business Administration (SBA), or the Individual Family Grant Program (IFG) for the express purpose of dismantling, loading, hauling, landfill tipping, and/ or general demolishing, removal, and disposition of the above listed property.

I hereby declare under penalty of perjury that the foregoing is true and correct.

Signed and sealed this _____ day of _____ month _____ year.

Property Owner/ Authorized Agent

STATE of NORTH CAROLINA

County of _____

Sworn to and subscribed before me on this _____ day of _____ month _____ year.

(Seal)

My Commission expires _____

Notary Public

