TAB J
ENVIRONMENTAL CONSIDERATIONS AND OTHER REGULATORY REQUIREMENTS

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TAB J: ENVIRONMENTAL CONSIDERATIONS AND OTHER REGULATORY REQUIREMENTS

I. GENERAL.

A. Initially, following a debris generating event, County jurisdictions may remove debris directly to established EPD approved landfills, or to an established Collection Center (then transferred to the EPD approved landfill location).

B. However should the volume of debris be to the extent it overwhelms established debris management process, jurisdictions may opt to establish a Debris Management Site (DMS).

II. ENVIRONMENTAL AND HISTORIC PRESERVATION CONCERNS

A. When selecting public or private sites, pre-existing conditions should be considered because the sites will have to be restored upon site closeout. Proper management of the site allows the site to be closed with manageable efforts. For site closure reasons, jurisdictions should refrain from aggravating any existing environmental issues during debris management operations.

B. Therefore, a DMS should not be established in an environmentally or historically sensitive area such as wetlands, critical animal and plant habitats, sole source aquifers, freshwater well fields, historic districts, or archeological sites. This applies specifically to Superfund sites and/or areas within a 100-year floodplain. DMS selection criteria should also take into consideration any disproportionately high or adverse impacts on minority or low-income populations, in accordance with EO 12898. Adverse impacts should be avoided or minimized where possible.

C. If an environmental or historic preservation concern is found during the baseline data collection process (described below), the potential site should be ranked lower than others. However, if use of such areas is unavoidable, State and local environmental and historic preservation requirements must be followed. Compliance with environmental and historic preservation requirements is still required.

D. By conducting a baseline data collection study, jurisdictions are able to further establish the feasibility of potential sites, document the existing site, and vet potential environmental issues. Data collection needs to be completed prior to establishing the site and continued throughout the operations. The final evaluation should include the same documentation in order to avoid disagreements on the condition of the site prior to the operations and the condition to which it was returned.

EXHIBIT 1
GEORGIA EPD RULES FOR SOLID WASTE MANAGEMENT

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EXHIBIT 1, GEORGIA EPD RULES FOR SOLID WASTE MANAGEMENT

From 391-3-4-.05 Criteria for Siting. Amended.

(1) The following criteria must be met for a site proposed as a solid waste handling facility:

(a) Zoning. The site must conform to all local zoning/land use ordinances. Written verification must be submitted to the Division by the applicant demonstrating that the proposed site complies with local zoning and land use ordinances, if any. This verification shall include a letter from the local governmental authority stating that the proposed site complies with local zoning or land use ordinances, if any. This verification shall be provided at the time of submission of a permit application and reaffirmed by the governmental authority prior to permit issuance.

(b) Disposal Facility Siting Decision. Whenever any county, municipality group of counties, or authority begins a process to select a site for a municipal solid waste disposal facility, documentation shall be submitted which demonstrates compliance with O.C.G.A. 12-8-26(a), and whenever the governing authority of any county or municipality takes action resulting in a publicly- or privately-owned municipal solid waste disposal facility siting decision, documentation shall be submitted which demonstrates compliance with O.C.G.A. 12-8-26(b).

(c) Airport Safety:

1. New MSWLF units or lateral expansions of existing units shall not be located within 10,000 feet (3,048 meters) of any public-use or private-use airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any public-use or private-use airport runway end used by only piston-type aircraft.

2. Owners or operators of existing MSWLF units, that are located within 10,000 feet (3,048 meters) of any public-use or private-use airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any public-use or private-use airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF units do not pose a bird hazard to aircraft.

3. Owners or operators proposing to site new MSWLF units and lateral expansions within a five-mile radius of any public-use or private-use airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

4. The owner or operator must place the demonstration in paragraph 2. of this section in the operating record and notify the Director that it has been placed in the operating record not later than October 1, 1993.
5. For purposes of this section:

a. "Public-use airport" means an airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

b. "Private-use airport" means an airport that is not open to the public and which may not be used without prior permission of the airport owner and which has restrictions other than the physical capacities of available facilities and such airport is shown on the Sectional Aeronautical Charts published by the U.S. Department of Commerce for Atlanta, Jacksonville, or New Orleans, which charts are dated at least one year prior to the submission of a MSWLF permit or major permit modification application.

c. "Bird hazard" means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(d) Floodplains. A solid waste handling facility located in the 100-year floodplain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in a washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place a demonstration of compliance in the operating record and notify the Director that it has been placed in the operating record.

1. For purposes of this section:

a. "Floodplains" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

b. "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

c. "Washout" means the carrying away of solid waste by waters of the base flood.

(e) Wetlands. A solid waste handling facility shall not be located in wetlands, as defined by the U.S. Corps. of Engineers, unless evidence is provided to the Director, by the applicant, that use of such wetlands has been permitted or otherwise authorized under all other applicable state and federal laws and rules. The owner or operator must place a demonstration of compliance in the operating record and notify the Directory that it has been placed in the operating record.

(f) Fault Areas.

1. New landfill units and lateral expansions of existing landfills shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Director that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the landfill unit and will be protective of human health and the environment.

2. For the purposes of this section.

a. "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

b. "Displacement" means the relative movement of any two sides of a fault measured in any direction.

c. "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

(g) Seismic Impact Zones.

1. New landfill units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Director that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Director that it has been placed in the operating record.

2. For the purposes of this section:

a. Seismic impact zone means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithifield earth material, expressed as a percentage of the earth's gravitational pull will exceed 0.10g in 250 years.

b. Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

c. Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by indurations of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

(h) Unstable areas.

1. Owners or operators of new landfill units, existing landfill units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the landfill unit's design to ensure that the integrity of the structural components of the landfill unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Director that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

a. On-site or local soil conditions that may result in significant differential settling;

b. On-site or local geologic or geomorphologic features; and

c. On-site or local human-made features or events (both surface and subsurface).

2. For the purposes of this section:

a. "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

b. "Structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the landfill that is necessary for protection of human health and the environment.

c. "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a landfill unit.

d. "Areas susceptible to mass movement" mean those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the landfill unit, because of natural or man-induced events, results in the down slope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.

e. "Karst terrains" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

(i) Closure of existing municipal solid waste landfill units:

1. Existing MSWLF units that cannot make the demonstration specified in section (c), pertaining to airports, section (d), pertaining to floodplains, or section (h), pertaining to unstable areas, must close by October 9, 1996 in accordance with Rule 391-3-4-.11 and conduct post-closure care activities in accordance with Rule 391-3-4-.12.

2. The deadline for closure required by subparagraph 1. of this paragraph may be extended up to two years if the owner or operator demonstrates to the Director that:

a. There is no available alternative disposal capacity; and

b. There is no immediate threat to human health and the environment.

(j) Significant Groundwater Recharge Areas. A new municipal solid waste landfill or lateral expansion of an existing municipal solid waste landfill shall not have any part of such site located within two miles of any area that has been designated by the Director as a significant groundwater recharge area unless such municipal solid waste landfill will have a liner and leachate collection system. In the case of a regional landfill which accepts solid waste generated outside the counties or special districts constituting the region or a municipal solid waste landfill which accepts solid waste generated outside the county in which the landfill is located, no part of such site shall be within any area that has been designated as a significant groundwater recharge area.

(k) Hydrological Assessment. A hydrological site investigation shall be conducted with the following factors, as a minimum, evaluated:

1. Distance to nearest point of public or private drinking water supply: all public water supply wells or surface water intakes within two miles and private (domestic) water supply wells within one-half mile of a landfill must be identified;

2. Depth to the uppermost aquifer: for landfills, the thickness and nature of the unsaturated zone and its ability for natural contamination control must be evaluated;

3. Uppermost aquifer gradient: for landfills, the direction and rate of flow of groundwater shall be determined in order to properly evaluate the potential for contamination at a specific site. Measurements of water levels in site exploratory borings and the preparation of water table maps are required. Borings to water are required to estimate the configuration and gradient of the uppermost aquifer;

4. Topographic setting: features which shall be provided include, but are not limited to, all upstream and downstream drainage areas affecting or affected by the proposed site, floodplains, gullies, karst conditions, wetlands, unstable soils and percent slope;

5. Geologic setting: for landfills, the depth to bedrock, the type of bedrock and the amount of fracturing and jointing in the bedrock shall be determined. In limestone or dolostone regions, karst terrain shall not be used for waste disposal. This consideration does not preclude the siting of landfills in limestone terrains, but rather is intended to prevent landfills from being sited in or adjacent to sink-holes, provided, however, that the demonstration required by section (h) has been made.
6. Hydraulic conductivity: evaluation of landfill sites shall take into consideration the hydraulic conductivity of the surface material in which the wastes are to be buried, as well as the hydraulic conductivity of the subsurface materials underlying the fill;

7. Sorption and attenuation capacity: for landfills, the sorptive characteristics of an earth material and its ability to absorb contaminants shall be determined; and

8. Distance to surface water: municipal solid waste landfills shall not be situated within two miles up gradient of any surface water intake for a public drinking water source unless engineering modifications such as liners and leachate collection systems and ground-water monitoring systems are provided.

(1) New MSWLF units shall not be located within two miles of a federally restricted military air space which is used for a bombing range.

(2) Construction/Demolition waste landfills must comply with the siting criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix B.

(3) Industrial waste landfills permitted to receive only a single type industrial waste (monofil) or receive only a single industry's waste, must comply with the siting criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix A. Commercial industrial waste landfills must meet the same siting criteria as municipal solid waste landfills.

(4) A site assessment report addressing the criteria listed above shall be prepared by a geologist registered in Georgia or a geotechnical engineer registered in Georgia and submitted to the Division for review at the time of submitting a permit application. The site assessment report shall be prepared in accordance with Circular 14, 1991, (amended 1997) as published by the Georgia Geologic Survey, Georgia Environmental Protection Division.

(5) Monitoring wells and borings shall be constructed by a driller having a valid and current bond with the Water Well Standards Advisory Council. Authority O.C.G.A. Secs. 12-8-20 et seq., 12-8-23. **History.** Original Rule entitled " Disposal Operations"

adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Plans Required" adopted. F. Sept. 19, 1974; eff. Oct. 9, 1974. **Repealed:** New Rule entitled " Criteria for Siting" adopted. F. June 9, 1989; eff. June 29, 1989. **Amended:** F. Sept. 4, 1991; eff. Sept. 24, 1991. **Amended:** F. June 7, 1993; eff. June 27, 1993. **Amended:** F. July 31, 1997; eff. Aug. 20, 1997.

EXHIBIT 2
EXECUTIVE ORDER 12898 ENVIRONMENTAL JUSTICE FOR LOW INCOME AND MINORITY POPULATION

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EXHIBIT 2: EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE FOR LOW INCOME AND MINORITY POPULATIONS, 1994

Executive Order 12898, Environmental Justice for Low Income and Minority Populations, 1994

Description and Intent

On February 11, 1994, President Clinton signed E.O. 12898. This Executive Order directs federal agencies to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

Summary of Requirements

Each Federal agency must make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health, environmental, economic and social effects of its programs, policies, and activities on minority and low-income populations, particularly when such analysis is required by NEPA. The EO emphasizes the importance of NEPA's public participation process, directing that each Federal agency shall provide opportunities for community input in the NEPA process. Agencies are further directed to identify potential effects and mitigation measures in consultation with affected communities.

The E.O. requires agencies to work to ensure effective public participation and access to information. Thus within its NEPA process and through other appropriate mechanisms, each federal agency should, translate crucial public documents, notices and hearings, relating to human health or the environmental for limited English speaking populations when it is practical and appropriate.

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EXHIBIT 3
EPD DEBRIS GUIDANCE

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EXHIBIT 3: EPD DEBRIS GUIDANCE

Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Atlanta, Georgia 30334-9000
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
Environmental Protection Division
404-656-4713

March 31, 2008

TO: Georgia Municipal Officials

FROM: Jim Ussery, Assistant Director
Jim Sommerville, Program Coordination Branch Chief

RE: EPD Guidance on Handling Storm-Generated Debris and Questions and Answers from the FEMA-325 Debris Management Guide

Introduction

In the past many areas in Georgia have been subject to the damages caused by an unusually severe storm systems, such as hurricanes and tornadoes. The following pages present the Environmental Protection Division (Division) guidance on the handling of vegetative storm debris, construction and demotion debris, and the burning of storm generated wastes. Additionally, the US Department of Homeland Security's Federal Emergency Management Agency recently issued a Debris Management Guide. The Division has developed a Question and Answer guide to address specific topics, as it relates to Georgia's environmental practices. The Division's intent on proposing this guidance document is to ensure that all storm generated debris material is handled as closely as possible with the intent of the Solid Waste Act and Rules. The Division also seeks to provide the flexibility in solid waste management in light of a natural disaster and the need to take immediate actions to restore some semblance of normalcy to the affected residents.

Guiding Principles

- A critical component of a response to a natural disaster is the establishment of open lines of communication between responding agencies. It is highly recommended that before, during, and after any expected natural disaster, open lines of communication be established between the Georgia Emergency Management Agency (GEMA), the local affected municipality, the Environmental Protection Division (EPD), and the local Division District Offices. A key to close coordination with the local District Offices is the EPD representative to the State Emergency Operations Center. As the alternate Department of Natural Resources designee with GEMA, the EPD Emergency Response and Radiation Manager's responsibility is to keep the local District Offices apprised of events as they unfold during and following the storm event, especially involving aspects of solid waste staging, handling and disposal.

- Local governments, when updating their local solid waste management plan and/or emergency management plan, may want to include predetermined locations for their storm debris: inert and construction and demolition (C&D). Otherwise, it is recommended that prior to the establishment of a C&D staging area or an inert staging by the local municipality following a storm event, the Division District Office should be contacted to assist the local municipality in selecting an appropriate staging area that takes into account site suitability, runoff protection, and fire protection issues.

- Except in instances where there may be an immediate impact to the health and welfare of the public from a disease causing or other biological vector, the Division should not allow open burning of storm generated non-inert debris material.

- Prior to the commencement of collection activities, the Division District Office desires the opportunity to communicate with either city or county personnel, or those entities contracted by the municipality (i.e., city or county) to collect and transport wastes. Discussions may involve asbestos, hazardous waste, or prohibited waste items that they might come across in their activities.

- Prior to the transportation of the storm generated debris to the selected staging area, all necessary efforts should be taken by the contractor or municipality to inspect the material at the point of generation and should asbestos, hazardous waste or prohibited waste as defined in section 391-3-4-.04(3) of the Solid Waste Rules be discovered, they should be segregated at the point of generation. Should asbestos, hazardous or prohibited waste be discovered, appropriate contact should be immediately made with the local Division's District Office. The EPD District office can coordinate the handling of these items with the appropriate branch within EPD and supply any necessary guidance to the municipality or contractor.

- Demolition of a damaged structure containing asbestos materials may qualify for an emergency project notification. To file an emergency project notification the Lead Based Paint and Asbestos Program Duty Officer can be contacted at (404) 363-7026. A Project Notification Form must still be submitted to EPD and a thorough inspection for asbestos conducted, but in an emergency, the 10-day waiting period to start the project is waived. In situations where the damaged structure presents an eminent threat to public safety, the Division is committed to working with the responsible party through contact with the Program Duty Officer to work through the issues. Also, the Division's approval of an emergency notification does not supercede any other state or local permits that may be required.

GUIDANCE on the Disposal of Emergency/Disaster Vegetative and Land Clearing Debris

The Georgia Environmental Protection Division District staff is willing to assist municipalities in the selection of temporary sites for debris storage, staging and processing.

These guidelines apply only to sites for staging or burning vegetative storm debris (yard waste, trees, limbs, stumps, and branches). Arrangements should be made to screen out unsuitable materials. Preferred methods of managing vegetative and land clearing storm debris are:

- "chipping/grinding" for use in landscape mulch, compost preparation, and industrial boiler fuel or,
- using an "air curtain destructor (ACD)", with the resulting ash being land applied as a soil amendment or incorporated into a finished compost product. Guidance on open burning using an ACD is found in a subsequent section of this document.

Other methods for managing vegetative and land clearing storm debris may be considered by the Environmental Protection Division.

Any contaminant spills or releases should be reported immediately to the EPD District Environmental Specialist for your area.

CHIPPING/GRINDING SITES

Grinding wood debris for use as mulch, compost bulking agent, or industrial boiler fuel is encouraged, if feasible, as a method of storm debris management. To produce a wood chip that is suitable for mulch or fuel, chip size and absence of contaminants are critical. Debris must be separated prior to grinding, and only tree waste and woody, vegetative wastes shall be included in the chipping.

Municipalities should locate sites for chipping/grinding of vegetative and land clearing debris. The Division recommends municipalities pre-plan potential sites for chipping and grinding operations. EPD can assist to evaluate 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.

1. 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.

2. 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 lakes, small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, and wetlands.

3. Storage areas for incoming debris and processed material shall be at least 100 feet from the site property boundaries and any onsite buildings or structures. Management of processed material shall be in done to reduce the potential for the **spontaneous combustion in compost or mulch piles**.

4. 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.

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

6. The Division District Office should be contacted for assistance on good erosion control measures.

7. Dust control measures shall be implemented when necessary to prevent dust from moving off-site or causing visibility problems.

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

9. 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.

10. The operator shall manage the temporary debris management site to minimize the risk of fire. Any occurrence of fire, excluding authorized controlled burning, shall be reported within 24 hours to the Division District Environmental Specialist for your area.

11. 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.

12. 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.

GUIDANCE on the Disposal of Emergency/Disaster Construction and Demolition Debris

The Georgia Environmental Protection Division District staff is willing to assist municipalities in the selection of temporary sites for debris storage, staging and processing.

The following guidelines should be considered when establishing staging/transfer sites for Construction & Demolition (C&D) materials. These guidelines apply only to sites for staging/transferring C&D storm debris (e.g., roof shingles/roofing materials, carpet, insulation, wood, bricks, metal, concrete, cardboard, wallboard, treated and painted lumber). Arrangements should be made to screen out unsuitable materials, such as household garbage, white goods, and household hazardous waste.

Those C&D wastes that cannot be recovered and recycled will need to be transferred to an EPD-permitted C&D landfill.

Any contaminant spills or releases should be reported immediately to the EPD District Environmental Specialist for your area.

STAGING/TRANSFERRING SITES

Municipalities should locate sites for staging/transferring C&D waste. The Division recommends municipalities pre-plan potential sites for C&D transfer operations. EPD can assist to evaluate 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:

1. 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.
2. 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 lakes, small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, and wetlands.
3. Storage areas for incoming C&D debris shall be at least 100 feet from residential dwellings, commercial or public structures, potable water supply wells, and septic tanks with leach fields.
4. Materials separated from incoming C&D debris (such as, white goods and scrap metal) shall be at least 100 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.
5. Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site; verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
6. The Division District Office should be contacted for assistance on good erosion control measures.

7. Dust control measures shall be implemented when necessary to prevent dust from moving off-site or causing visibility problems.
8. 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.
9. 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.
10. The operator shall manage the temporary debris management site to minimize the risk of fire. Any occurrence of fire, excluding authorized controlled burning, shall be reported within 24 hours to the EPD District Environmental Specialist for your area.
11. 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.
12. 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.

GUIDANCE on the Open Burning of Storm Generated Debris

The purpose of this guidance is to clarify open burning of storm debris from qualifying storm events. The Division may consider the open burning of storm debris to specifically refer to **trees, tree limbs, and vegetative material**. The Division does not allow open burning of **construction materials** such as shingles, lumber, utility poles, siding and **nor other household wastes**. These materials are considered to be solid waste that must be disposed only in an approved municipa solid waste handling facility. Storm debris generated from qualifying storm events may be exempted from regulation as solid waste and open burned upon exemption by the Division. Qualifying storm events are considered to be ice storms, hurricanes, tropical storms, tropical depressions, tornadoes, or tornadoes associated with hurricanes, tropical storms or tropical depressions, or any storm that requires activation of the State Emergency Operations Center, or local Emergency Management Agencies.

Requests for variances to open burn storm debris will only be entertained when received from municipalities. Requests from private landowners, forestry operations, subdivision developers, or businesses will not be considered. Upon a qualifying storm event, a municipality may submit a written request to the respective EPD District office to obtain approval to burn storm debris.

The request for a variance to open burn storm debris must contain the following information:

1. The amount of storm debris, or best estimate on the amount of expected material to be collected for consideration to be open burned under the requested variance.
2. A description of the threat to human health, safety, and welfare, which will result if the volume of storm debris cannot be openly burned.
3. An assurance that only storm debris will be burned and other storm damaged materials (e.g., demolition wastes) are separated and disposed of properly.
4. A specific location where the material is to be staged, the specific location where the material is to be opened burned (if different from the staging location), and assurance that the limitations set forth in Air Quality Rules 391-3-1-.02(5)(a) 11 will be adhered to.
5. The request shall further describe an evaluation of the technical feasibility and the cost of alternatives available under the solid waste and/or air quality rules such grinding, mulching and/or composting, or disposal at a Division approved disposal site, that would not be practicable due to lack of local landfills, lack of necessary equipment available, or financial hardships that will be caused for the transportation and disposal of the material in a landfill.
6. A statement that open burning of storm debris is in accordance with the municipal Solid Waste Management Plan, along with a copy of the salient portion of the Solid Waste Management Plan.
7. The anticipated date and time of the open burning activities and a discussion of the methodology to be utilized in open burning the debris. The material is expected to be burned within thirty (30) days after the storm event.
8. The Georgia Comprehensive Solid Waste Management Act and the Georgia Air Quality Control Act must be considered in the handling of storm debris generated from natural disasters.

When open burning storm debris, the following conditions must be met [391-3-1.02(5)(a)11]:

- Prevailing winds at the time of burning are away from the major portion of residential population.
- The location of the burning is at least 1,000 feet away from any dwelling.
- The amount of dirt on or in the material being burned is minimized to prevent smoldering.
- Heavy oils, asphaltic materials, items containing natural or synthetic rubber, or any material other than wood in its natural state are not being burned.
- No more than one pile 60 feet by 60 feet, or equivalent, is being burned within a nine-acre area at one time.

AIR CURTAIN DESTRUCTOR SITES

EPD prefers the use of Air Curtain Destructors (ACDs) over open burning atop the ground. Municipalities should locate sites for using ACDs in the burning of vegetative and land clearing debris. The Division recommends municipalities pre-plan potential sites for burning operations. EPD can assist to evaluate 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 for selecting an ACD site and operational requirements once a site is in use:

1. Obtain authorization from the local fire marshal or fire department for input into site selection in order to minimize the potential for fire hazards. The fire department can advise on other potential problems by the location of the site and to assure that adequate fire protection resources are available in the event of an emergency.
2. Sites that have identified wetlands should be avoided, if possible. If wetlands exist or wetland features appear at a potential site, verification by the local Corps of Engineers office will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site. If ACD 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.
3. 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 lakes, small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, and wetlands.
4. Storage areas for incoming debris shall be located at least 100 feet from property boundaries and onsite buildings or structures.
5. Only wood waste consisting of trees, logs, large brush and stumps, which are relatively free of soil, may be burned
6. 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 ACD site are located on the same property). Wood ash shall be wetted prior to removal from the ACD 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.
7. Wood ash to be land applied on site or off site should be incorporated into the soil by the end of the operational day or sooner if the wood ash becomes dry and airborne.
8. The Division District Office should be contacted for assistance on good erosion control measures.

9. 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 ACD device. Underground utilities need to be identified prior to digging pits for using the ACD device.
10. 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.
11. 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.
12. ACD device(s), in accordance with Georgia Air Quality rules, require the following buffers: a minimum of 300 feet from the ACD device to any occupied structure, potable water supply well, septic tank and leaching field, and from roadways. No more than one air curtain destructor can be operated within a ten (10) acre area at one time or there must be at least 1,000 feet between any two air curtain destructors.
13. Tires or other rubber products, plastics, heavy oils or asphaltic-based or -impregnated materials are not to be used to start or maintain the operation of the air curtain destructor. The air curtain destructor is to be constructed, installed and operated in a manner consistent with minimizing emissions of fly ash and smoke.

Guidance on Emergency/Disaster Site Closure

Closure should be accomplished within six (6) months of initial site approval.

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 an EPD permitted 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. All other materials (e.g. unrecoverable metals, insulation, wall board, plastics, roofing material, painted wood, and other material from demolished buildings) that is not inert debris as well as inert debris that is mixed with such materials shall be removed to an EPD permitted 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 Georgia Solid Waste Management regulations.

Sites shall be managed and monitored in accordance with the Solid Waste Management Rules and to prevent threats to the environment or public health.

Questions and Answers from FEMA's Debris Management Guide

Introduction

The US Department of Homeland Security/Federal Emergency Management Agency has developed the Debris Management Guide to encourage state and local governments to "take a proactive approach to coordinating and managing debris removal operations as part of their overall emergency management plan." This Debris Management Guide (the FEMA-325 Guide) incorporates "best practices" in debris removal and it reflects FEMA eligibility criteria for public assistance funds.

As a result of the development of this guide and FEMA's enticement to local governments with an additional five percent public assistance should they receive plan approval prior to a disaster event, the Environmental Protection Division believes that cities and counties will be proactive in developing these plans. The debris management plans developed and resulting activities are to be carried out in compliance with local, state, and federal laws for debris management, otherwise Federal aid is jeopardized.

The Division has reviewed the FEMA 325 document, and in this document there is a continuous theme to comply with state and federal environmental laws. We have noted these references and compiled questions that can be anticipated as cities and counties develop their plans. Preceding the questions is the Chapter and page number that prompts the question. For those reading these questions, it may be necessary to review the page and/or section from which the question arises for contextual purposes:

Questions and Answers

CHAPTER 3 - DEBRIS REMOVAL FROM PUBLIC PROPERTY

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Page 27

Q: Will the pick-up of demolition debris (which may include hazardous waste or asbestos) by municipalities and/or their contractors from roadside right-of-ways, drainage systems, and other areas require prior approval or permitting from the Environmental Protection Division?

A: No, the pick-up of demolition debris will not require prior approval or permitting from EPD. However, the ultimate disposal of the debris will require approval or permitting from EPD.

Q: Will the retrieval and proper disposal of orphan drums, pumping of water contaminated with hazardous materials, control or stabilization of oil or other hazardous material releases, and clean-up and disposal of hazardous materials require special contractors, approvals or permits?

A: Yes, the proper disposal of various hazardous wastes must be in compliance with Georgia and Federal hazardous waste regulations.

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Q: Will the extraction of mercury, oils, capacitors, or refrigerants from White Goods require approvals or permits?

A: Yes, the proper disposal of mercury, oils and capacitors (possibly containing PCB-containing oils) must be in compliance with Georgia and Federal hazardous waste regulations.

Mercury can be found in switches and relays in refrigeration, cooking, and air conditioning equipment. Extraction and disposal of mercury-containing switches is subject to the Federal Universal Waste Rule; this rule is designed to reduce the amount of hazardous waste items in the municipal solid waste stream, encourage recycling and proper disposal of certain common hazardous wastes, and reduce the regulatory burden on businesses that generate these wastes. With regard to mercury, the Federal Universal Waste Rule includes thermostats and some lamps (e.g., fluorescent, high intensity discharge (HID), mercury vapor).

The collection of oils from White Goods should be recycled. Collect oil/fluids in a closed container labeled "Used Oil." Have your used oil/fluids transported by a transporter with an EPA ID Number and obtain a receipt or Bill of Lading showing the amount of oil shipped off-site.

The collection of freon from refrigeration compressors (including freezers, chillers, and air conditioners) should be in compliance with federal Clean Air Act regulations. These regulations include the requirement that technicians servicing and disposing of air conditioning and refrigeration equipment observe best practices to reduce emissions of ozone-depleting chemicals and obtain certification through an EPA-approved testing organization.

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Page 30

Q: Will the pick-up and disposal of animal carcasses and other putrescent debris require prior approval, and is the Division in concurrence with plans developed by NRCS to dispose of dead animal carcasses?

A: The disposal of dead animals must be in compliance with the Georgia Department of Agriculture rules (Chapter 40-13-5) and the Environmental Protection Division rules for solid waste and air quality. Methods for disposing of dead animals include: (1) landfill, (2) incineration, (3) burial, (4) composting, (5) rendering, or (6) burning. No animals shall be abandoned in wells, open pits, or surface waters of any kind. For landfilling, permission must be granted by a landfill manager to dispose of dead animals in a Division-approved landfill. For incineration, any incinerator and its use must comply with the Division's air quality regulations and all carcasses must be reduced to ashes.

To bury dead animals will require many special considerations. These requirements include

a) burial location over 100 feet from any well or proposed well or any water supply line,
b) 15 horizontal feet from the edge of any embankment,
c) 100 horizontal feet from any seasonal high water level of any water body (lake, pond, stream),
d) burial sites must have moderate or slow soil permeability and be at least 1 foot above seasonal high groundwater elevation,
e) burial sites cannot be in 100-year flood plains, drainage ways, sinkholes, gullies, ravines, or dry stream beds,
f) pits must conform to Georgia Department of Agriculture requirements.

If composting is used to dispose of dead animals, its use must be consistent with USDA's Natural Resource Conservation Service's technical guidance. Compost temperatures should be between 130°F and 160°F and checked at least every other day. Carcasses disposed by rendering must be delivered to a rendering facility within 24 hours of death, unless the carcasses are refrigerated or frozen. Burning of dead animals may be allowed, using air curtain destructors in compliance with air quality regulations or under the direction of the Georgia Department of Agriculture.

CHAPTER 4 - PRIVATE PROPERTY DEBRIS REMOVAL AND DEMOLITION OF PRIVATE STRUCTURES

Page 39

Q: Will the demolition of structures that are unsafe or that pose an immediate threat to the public require ten- day notification to the State and/or asbestos inspections? In addition, will asbestos concerns require special handling of solid waste debris and/or certified asbestos abatement firms to handle the debris?

A: Demolition of a damaged structure containing asbestos materials may qualify for an emergency project notification. To file an emergency project notification the Lead Based Paint and Asbestos Program Duty Officer can be contacted at (404) 363-7026. A Project Notification Form must still be submitted to EPD and a thorough inspection for asbestos conducted, but in an emergency, the 10-day waiting period to start the project is waived. In situations where the damaged structure presents an eminent threat to public safety, the Division is committed to working with the responsible party through contact with the Program Duty Officer to work through the issues. Also, the Division's approval of an emergency notification does not supercede any other state or local permits that may be required.

CHAPTER 5 - APPLICANT ROLES AND RESPONSIBILITIES

Page 45

Q: Can EPD Programs provide any training class recommendations for debris removal or anticipated issues related to debris removal, e.g., how to handle asbestos debris or hazardous materials encountered in debris piles?

A: EPD cannot provide any training classes or recommendations for debris removal currently.

Page 46

Q: FEMA guidance recommends the establishment of disaster debris management teams including state representatives immediately following a disaster. Who within EPD should be part of these teams?

A: Staff or managers within each of the EPD District Offices are available to serve on disaster debris management teams.

Page 50

Q: What State environmental regulations apply to debris removal activities?

A: The primary state environmental regulation is the Georgia Solid Waste Management Act and the Rules for Solid Waste Management. Other regulations that may apply include the Georgia Air Quality Control Act (and Rules for Air Quality Control) and the Hazardous Waste Management Act (and Rules for Hazardous Waste Management).

CHAPTER 7 - DEBRIS COLLECTION STRATEGY

Page 67/68

Q: FEMA guidance recommends pre-disaster planning to include training for hazardous waste response teams to collect, sort, store, and dispose of excessive quantities of HHW. What training, permits, or approvals are necessary to perform these activities, and are there design standards for collection centers such as liners and berms?

A: While there are no Georgia design standards specifically for household hazardous waste collection centers, the design and operation of such HHW collection centers will be similar to solid waste transfer stations. These requirements include:

- waste shall be confined to the interior of transfer stations, and not allowed to scatter to the outside and waste shall not be allowed to accumulate, and floors shall be kept clean and well drained;
- sewage solids shall be excluded;
- dust, odors and similar conditions shall be controlled at all times;
- rodents, insects and other such pests shall be controlled;
- any contaminated runoff from washwater shall be discharged to a wastewater treatment system and, before final release, shall be treated in a manner approved by the Division; and
- regulated quantities of hazardous waste shall be disposed of in accordance to Georgia's hazardous waste regulations.

Page 68

Q: FEMA guidance advises "the state environmental office and EPA provide first response functions in cases of commercial, agricultural, industrial, and toxic spills. The debris management plan should include the contact information for both parties in case of a large contamination issue." Who in EPD is the contact for such and what is their phone number?

A: The Georgia EPD's Emergency Response Team will provide first response functions in cases of spills of commercial, agricultural, and industrial products and wastes. Contact the Georgia State Emergency Operations Center at 1-800-241-4113 or (404) 656-4863 to report any toxic or hazardous material spills.

CHAPTER 8 - DEBRIS MANAGEMENT SITES

Page 74, 76, and 77

Q: For Debris Management Sites where waste is stored, reduced, segregated, and/or processed, what approvals or permits are required for the site? Are there capacity restrictions?

A: Debris Management Sites can be co-located with a municipality's EPD-approved solid waste landfill, inert landfill or construction / demolition landfill. Other site locations should be planned before a disaster strikes, so that EPD can evaluate its suitability for a debris management site. Potential sites should meet the same general siting requirements as other landfills. Those siting requirements, found in the Rules for Solid Waste Management, include: (1) conformance with local zoning, (2) siting decision done with public meeting, (3) reduce bird hazards to aircraft by siting landfill beyond 10,000 feet from existing aircraft runways, (4) either not be sited within a 100-year floodplain or cause adverse effects if sited within a 100-year floodplain, (5) not be located within a US Army Corps of Engineers' designated wetlands, (6)

located 200 feet outside seismic fault areas or not in active seismic areas, (7) engineering controls will be in place for locations that are unstable.

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Page 75

Q: FEMA guidance recommends obtaining baseline data for Debris Management Sites. Does EPD have any guidance or standards for such?

A: EPD has no recommendations or standards for obtaining baseline information (i.e., site characteristics) about a proposed Debris Management Site prior to its use.

CHAPTER 9 - DEBRIS REDUCTION/RECYCLING METHODS AND DISPOSAL

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Page 84

Q: Are approvals or permits required for the incineration, chipping, or grinding of vegetative debris at Debris Management Sites? What standards or requirements are there for such activities?

A: For incineration of debris, incinerators must be approved and comply with the Georgia Rules for Air Quality Control. In brief the following requirements need to be met for incinerators:

- Shall be a dual or multiple chamber incinerator
- Shall be equipped with an auxiliary burner in the primary chamber to create a pre-ignition temperature of at least 800°F
- Shall be equipped with a secondary burner to control smoke and odors by maintaining a temperature of at least 1,500°F
- Shall not allow particles to be emitted that are large enough to be visible with the unaided eye
- Shall maintain visible opacity emissions to below 20%
- Shall not emit fly ash or particulate matter in quantities exceeding 1 pound per hour (for charging rates below 500 pounds per hour) or 0.20 pounds per 100 pounds of charge (for charging rates above 500 pounds per hour).

The Georgia Rules for Solid Waste Management require that on-site waste processing and thermal treatment operations:

- Shall process (thermally treat) at least 75% by weight of the solid waste generated
- Shall be adequately sized to manage projected volumes of wastes and residues
- Shall be designed to routinely sample bottom and fly ash
- Shall dispose of non-hazardous waste residues in municipal solid waste landfills that have liners and leachate collection systems
- Shall have designated storage capacity for holding wastes before processing
- Shall have fire control equipment placed near the storage and charging areas
- Shall have a trained operator present at all times of operation and is qualified in thermal treatment technology
- Shall have a clean and sanitary operation
- Shall maintain adequate daily records of wastes processed
- Shall exclude and prohibit these wastes from being processed: lead acid batteries, radioactive waste, regulated quantities of hazardous waste, and polychlorinated biphenyls.

For chipping and grinding of vegetative material, if the ground or chipped vegetative material will be recycled as recovered materials, then 60% of the material must be recycled, used or sold

within 90 days. Otherwise, the vegetative materials are to be placed into a Division-approved inert landfill. Special precautions should be taken to ensure fire protection and control measures are in-place near the chipped vegetation site, as the material may combust as it begins to decompose.

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Pages 88-89

Q: What approvals or permits are required for debris recycling and/or sorting? What standards are there, if any?

A: A facility that recycles materials is not subject to the Rules for Solid Waste Management provided that the entity can show that there is a known use, reuse, or recycling potential for the material, that the material can be feasibly sold, used, reused, or recycled and that during the preceding 90 days the amount of material that is recycled, sold, used, or reused equals at least 60 percent by weight or volume of the material received during that 90 day period and 60 percent by weight or volume of all material previously received and not recycled, sold, used, or reused and carried forward into that 90 day period.

CHAPTER 12 - PLANNING FOR PRIVATE PROPERTY DEBRIS REMOVAL AND DEMOLITION

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Page 120

Q: Prior to or during the demolition of a structure, what approval, permits, standards or recommendations are there for dust suppression and/or wet demolition?

A: Fugitive dusts should be controlled. All persons responsible for any operation, process, handling, transportation or storage facility which may result in fugitive dust shall take all reasonable precautions to prevent such dust from becoming airborne. Some reasonable precautions which could be taken to prevent dust from becoming airborne include, but are not limited to, the following:

- Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods can be employed during sandblasting or other similar operations;
- Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dusts;
- The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited.

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Page 121

Q: As a result of demolition activities, are there any hazardous materials reports to be submitted to EPD describing any hazardous materials found in the building, the means and measures to collect it, and the final disposal location of the hazardous waste?

A: There is no requirement to submit reports of hazardous materials found during demolition activities. However, it is a good practice to obtain information on hazardous materials found, collection measures and final disposal of hazardous materials.

CHAPTER 16 - OTHER FEDERAL ASSISTANCE

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Page 141

Q: What coordination is required with EPA, if any?

A: Local governments do not need to coordinate their activities with the federal government (US Environmental Protection Agency). However, local governments do need to coordinate their debris management activities with EPD.

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