

### **15A NCAC 13B .1622 LOCATION RESTRICTIONS FOR MSWLF FACILITY SITING**

MSWLF units shall comply with the siting criteria set forth in this Rule. In order to demonstrate compliance with specific criteria, documentation or approval by agencies other than the Division of Solid Waste Management may be required. The scope of demonstrations including design and construction performance shall be discussed in a site study and completed in the permit application.

- (1) Airport Safety.
  - (a) A new MSWLF unit shall be located no closer than 5,000 feet from any airport runway used only by piston-powered aircraft and no closer than 10,000 feet from any runway used by turbine-powered aircraft.
  - (b) Owners or operators proposing to site a new MSWLF unit or lateral expansion within a five-mile radius of any airport runway used by turbine-powered or piston-powered aircraft shall notify the affected airport and the Federal Aviation Administration prior to submitting a permit application to the Division.
  - (c) The permittee of any existing MSWLF unit or a lateral expansion located within 5,000 feet from any airport runway used by only piston-powered aircraft or within 10,000 feet from any runway used by turbine-powered aircraft shall demonstrate that the existing MSWLF unit does not pose a bird hazard to aircraft. The owner or operator shall place the demonstration in the operating record and notify the Division that it has been placed in the operating record.
  - (d) For purposes of this Paragraph:
    - (i) Airport means a public-use airport open to the public without prior permission and without restrictions within the physical capacities of the available facilities.
    - (ii) Bird hazard means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.
- (2) Floodplains.
  - (a) New MSWLF units, existing MSWLF units, and lateral expansions shall not be located in 100-year floodplains unless the owners or operators demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.
  - (b) For purposes of this Paragraph:
    - (i) "Floodplain" 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.
    - (ii) "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 equalled or exceeded once in 100 years on the average over a significantly long period.
    - (iii) "Washout" means the carrying away of solid waste by waters of the base flood.
- (3) Wetlands.
  - (a) New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Division:
    - (i) Where applicable under Section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill facility is available which does not involve wetlands is clearly rebutted.
    - (ii) The construction and operation of the MSWLF unit will not:
      - (A) Cause or contribute to violations of any applicable State water quality standard;
      - (B) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act;
      - (C) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973; and
      - (D) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.
    - (iii) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner or operator shall demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:

- (A) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the MSWLF unit;
  - (B) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;
  - (C) The volume and chemical nature of the waste managed in the MSWLF unit;
  - (D) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;
  - (E) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and
  - (F) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.
- (iv) To the extent required under Section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by Subitem (3)(a)(i) of this Rule, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and
  - (v) Sufficient information is available to make a reasonable determination with respect to these demonstrations.
- (b) For purposes of this Item, wetlands means those areas that are defined in 40 CFR 232.2(r).
- (4) Fault Areas.
- (a) New MSWLF units and lateral expansions 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 Division that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment.
  - (b) For the purposes of this Item:
    - (i) "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.
    - (ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.
    - (iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.
- (5) Seismic Impact Zones.
- (a) New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Division 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.
  - (b) For the purposes of this Item:
    - (i) "Seismic impact zone" means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.
    - (ii) "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.
    - (iii) "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 induration 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.
- (6) Unstable Areas.

- (a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area shall demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator shall consider the following factors, at a minimum, when determining whether an area is unstable:
  - (i) On-site or local soil conditions that may result in significant differential settling;
  - (ii) On-site or local geologic or geomorphologic features; and
  - (iii) On-site or local human-made features or events (both surface and subsurface).
- (b) For purposes of this Item:
  - (i) "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 terranes.
  - (ii) "Structural components" means liners, leachate collection systems, final covers, run-on or run-off systems, and any other component used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.
  - (iii) "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 an MSWLF unit.
  - (iv) "Areas susceptible to mass movement" means 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 MSWLF unit, because of natural or man-induced events, results in the downslope 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.
  - (v) "Karst terranes" 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 terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.
- (7) Cultural Resources. A new MSWLF unit or lateral expansion shall not damage or destroy an archaeological or historical property. The Department of Cultural Resources shall determine archeological or historical significance. To aid in making a determination as to whether the property is of archeological or historical significance, the Department of Cultural Resources may request the owner or operator to perform a site-specific survey which shall be included in the Site Study.
- (8) State Nature and Historic Preserve. A new MSWLF unit or lateral expansion shall not have an adverse impact on any lands included in the State Nature and Historic Preserve.
- (9) Water Supply Watersheds.
  - (a) A new MSWLF unit or lateral expansion shall not be located in the critical area of a water supply watershed or in the watershed for a stream segment classified as WS-I, in accordance with the rules codified at 15A NCAC 2B .0200 - "Classifications and Water Quality Standards Applicable To Surface Waters Of North Carolina."
  - (b) Any new MSWLF unit or lateral expansion, which shall discharge leachate to surface waters at the landfill facility and must obtain a National Pollution Discharge Elimination System (NPDES) Permit from the Division of Environmental Management pursuant to Section 402 of the United States Clean Water Act, shall not be located within watersheds classified as WS-II or WS-III, in accordance with the rules codified at 15A NCAC 2B .0200 - "Classifications and Water Quality Standards Applicable To Surface Waters Of North Carolina."
- (10) Endangered and Threatened Species. A new MSWLF unit or lateral expansion shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973.

*History Note: Authority G.S. 130A-294;*

*Eff. October 9, 1993.*