15A NCAC 13B .1620 ENGINEERING PLAN

(a) Purpose. The engineering plan that is required to be submitted in accordance with Rule .1617 of this Section shall incorporate the detailed plans and specifications relative to the design and performance of the MSWLF's containment and environmental control systems. The engineering plan shall set forth the design parameters and construction requirements for the components of the MSWLF's systems, shall meet the requirements of this Rule, and shall establish the responsibilities of the design engineer. The engineered components shall be described in Rule .1624 of this Section.

(b) Responsibilities of the design engineer. The engineering plan shall be prepared by a licensed professional engineer if required by G.S. 89C. The design engineer shall incorporate a statement certifying this fact and bearing his or her seal of registration.

(c) Scope. An engineering plan shall be prepared for the proposed area of development that provides no less than five years of operating capacity and no more than the total facility capacity, consistent with the development phases and design criteria defined in the facility plan. The engineering plan shall incorporate the design of leachate management and other environmental control facilities. The engineering plan shall contain a report and a set of drawings that represent the engineering design in accordance with Paragraphs (d) and (e) of this Rule.

(d) An engineering report shall contain:

(1) An analysis of the facility design that conforms to:
  (A) the standards for the foundation and the base liner system set forth in Rule .1624 of this Section;
  (B) the standards for the cap system set forth in Rule .1627(c) of this Section; and
  (C) the standards for the leachate storage facilities set forth in Rule .1680 of this Section.

(2) A summary of the facility design that includes:
  (A) a discussion of the analytical methods used to evaluate the design;
  (B) definition of the aspects and conditions of the design evaluated by the design engineer and assumptions made;
  (C) a list of technical references used in the evaluation; and
  (D) completion of any applicable location restriction demonstrations in accordance with Rule .1622 of this Section.

(3) A description of the materials and construction practices that conforms to the requirements set forth in Rule .1624 of this Section, and is consistent with the analysis of the facility design prepared in accordance with this Paragraph.

(e) Engineering drawings shall illustrate:

(1) existing conditions: site topography, features, existing disposal areas, roads, and buildings;
(2) grading plans: proposed limits of excavation, subgrade elevations, boring locations, and intermediate grading for partial construction;
(3) base liner system: grades for top of composite liner, slopes, anchor configuration, and liner penetration locations and details;
(4) leachate collection system: base elevations, piping system grade and inverts, cleanouts, valves, sumps, top of protective cover elevations, and details;
(5) location and feature details of any stormwater segregation systems;
(6) cap system: base and top elevations, landfill gas devices, infiltration barrier, surface water removal, protective and vegetative cover, and details;
(7) temporary and permanent sedimentation and erosion control plans;
(8) vertical separation requirements incorporating boring locations, cross sections, the maps prepared in accordance with Rule .1623(b)(2)(E) and (F) of this Section, and the grading plans; and
(9) additional engineering features and details if present.

History Note: *Authority G.S, 130A-294;*
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.