

15A NCAC 13B .0543 CLOSURE AND POST-CLOSURE REQUIREMENTS FOR C&DLF FACILITIES

(a) Purpose. This Rule establishes criteria for the closure of all C&DLF units and subsequent requirements for post-closure compliance. The owner and operator must develop specific plans for the closure and post-closure of the C&DLF facility or units that comply with these rules, and submit them to the Division for review and approval.

(b) Scope.

- (1) Closure. Standards must be established for the scheduling and documenting of closure of all C&DLF units and design of the cap system. Construction requirements for the cap system must incorporate requirements from Rules .0540 and .0541 of this Section.
- (2) Post-closure. Standards are must be established for the monitoring and maintenance of the C&DLF unit(s) following closure.

(c) Closure criteria.

- (1) C&DLF units must install a cap system that is designed to minimize infiltration and erosion. The cap system must be designed and constructed to:
 - (A) have a permeability less than or equal to soils underlying the landfill, or the permeability specified for the final cover in the effective permit, or a permeability no greater than 1.0 x 10⁻⁵ cm/sec, whichever is less;
 - (B) minimize infiltration through the closed C&DLF unit by the use of a low-permeability barrier that contains a minimum 18 inches of earthen material; and
 - (C) minimize erosion of the cap system and protect the low-permeability barrier from root penetration by use of an erosion layer that contains a minimum of 18 inches of earthen material that is capable of sustaining native plant growth.
- (2) Construction of the cap system for all C&DLF units must conform to the plans prepared in accordance with Rule .0540 of this Section and the following requirements:
 - (A) post-settlement surface slopes must be a minimum of five percent and a maximum of 25 percent; and
 - (B) a gas venting or collection system must be installed below the low-permeability barrier to minimize pressures exerted on the barrier.
- (3) The Division may approve an alternative cap system or alternative post-settlement slopes if the owner or operator can demonstrate the following:
 - (A) the alternative cap system will achieve a reduction in infiltration equivalent to or greater than the low-permeability barrier specified in Subparagraph (1) of this Paragraph;
 - (B) the erosion layer will provide protection equivalent to or greater than the erosion layer specified in Subparagraph (1) of this Paragraph; and
 - (C) the alternative post-settlement slopes must be stable, encourage runoff, be safe to operate, and be safe to construct during operation and closure activities.
- (4) Prior to beginning closure of each C&DLF unit as specified in Subparagraph (5) of this Paragraph, an owner or operator must notify the Division that a notice of the intent to close the unit has been placed in the operating record, as specified in Paragraph (n) of Rule .0542.
- (5) The owner and operator must begin closure activities for that portion of each C&DLF unit meeting one or more of the following requirements, unless an extension has been granted by the Division. Extensions beyond the deadline for beginning closure may be granted by the Division if the owner or operator demonstrates that the portion of the C&DLF unit has the capacity to receive additional wastes and the owner and operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed C&DLF unit.:
 - (A) No later than 30 days after the date on which the C&DLF unit receives the known final receipt of wastes;
 - (B) No later than 30 days after the date that a 10 acre or greater area of waste, is within 15 feet of final design grades; or
 - (C) No later than one year after the most recent receipt of wastes, if the C&DLF unit has remaining capacity.
- (6) The owner and operator of all C&DLF units must complete closure activities of each C&DLF unit in accordance with the closure plan within 180 days following the beginning of closure as specified in Subparagraph (5) of this Paragraph. Extensions of the closure period may be granted by the Division if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and they

have taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed C&DLF unit.

- (7) Following closure of each C&DLF unit, the owner or operator must notify the Division that a certification, signed by the project engineer verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.
- (8) Recordation.
 - (A) Following closure of all C&DLF units, the owner or operator must record a notation on the deed to the landfill facility property at the local county Register of Deeds office, or some other instrument that is normally examined during title search, and notify the Division that the notation has been recorded and a copy has been placed in the operating record.
 - (B) The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a C&DLF unit or facility and its use is restricted under the closure plan approved by the Division.
- (9) The owner or operator may request permission from the Division to remove the notation from the deed if all wastes are removed from the facility.

(d) Closure plan contents. The owner and operator must prepare a written closure plan that describes the steps necessary to close all C&DLF units at any point during their active life in accordance with the cap system requirements in Paragraph (c) of this Rule. The closure plan, at a minimum, must include the following information:

- (1) a description of the cap system and the methods and procedures to be used to install the cap that conforms to the requirements set forth in Paragraph (c) of this Rule;
- (2) an estimate of the largest area of the C&DLF unit requiring the specified cap system at any time during the active life that is consistent with the drawings prepared for:
 - (A) the operation plan for an existing C&DLF unit, or
 - (B) the engineering plan or facility plan for a lateral expansion or new C&DLF unit;
- (3) an estimate of the maximum inventory of wastes on-site over the active life of the landfill facility;
- (4) a schedule for completing all activities necessary to satisfy the closure criteria set forth in Paragraph (c) of this Rule; and
- (5) the cost estimate for closure activities as required under Rule .0546 of this Section.

(e) Post-closure criteria.

- (1) Following closure of each C&DLF unit, the owner and operator must conduct post-closure care. Post-closure care must be conducted for 30 years, except as provided under Subparagraph (2) of this Paragraph, and consist of at least the following:
 - (A) maintaining the integrity and effectiveness of any cap system including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the cap system;
 - (B) monitoring the ground water and surface water in accordance with the requirements of Rules .0544 through .0545 of this Section and maintaining the ground-water monitoring system, if applicable;
 - (C) maintaining and operating the gas monitoring system in accordance with the requirements of Rule .0544 of this Section; and
 - (D) maintaining, operating and decommissioning the leachate collection system, if present, in accordance with the requirements of Rule .0544 of this Section. The Division may allow the owner and operator to stop managing leachate if the owner or operator demonstrates that leachate no longer poses a threat to human health and the environment.
- (2) The length of the post-closure care period may be:
 - (A) decreased by the Division if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Division; or
 - (B) increased by the Division if the Division determines that the lengthened period is necessary to protect human health and the environment.
- (3) Following completion of the post-closure care period for each C&DLF unit, the owner or operator must notify the Division that a certification, signed by a registered professional engineer, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

(f) Post-closure plan contents. The owner and operator of all C&DLF units must submit a written post-closure plan that includes, at a minimum, the following information:

- (1) a description of the monitoring and maintenance activities required for each C&DLF unit, and the frequency at which these activities must be performed;
- (2) name, address, and telephone number of the person or office responsible for the facility during the post-closure period;
- (3) a description of the planned uses of the property during the post-closure period. Post-closure use of the property must not disturb the integrity of the cap system, base liner system, or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this Section. The Division may approve disturbance if the owner or operator demonstrates that disturbance of the cap system, base liner system, or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment; and
- (4) the cost estimate for post-closure activities required under Rule .0546 of this Section.

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