

3745-30-09

**Final closure of ~~residual waste~~ an industrial landfill or residual landfill facilities facility.**

(A) ~~For all~~ The owner or operator of an industrial landfill or residual waste-landfill facilities, a "final closure/post-closure plan" containing the following information facility shall be submitted to the director for approval as part of a permit to install application for a new residual waste landfill facility or the expansion of an existing residual waste landfill facility, or as part of a permit to install application submitted in response to division (A)(3) or (A)(4) of section 3734.05 of the Revised Code, and not later than one hundred eighty days prior to the anticipated date to cease accepting residual waste. have a "final closure/post-closure plan" that includes the following, with all engineering information signed and sealed by a professional engineer registered in Ohio:

- (1) The name and location of the facility.
- (2) Any variances or exemptions from the requirements of this rule or rule 3745-30-10 of the Administrative Code, or any ~~alternate~~ alternative cap material or thickness or cap slope, or any alternative schedule for completing final closure activities.

[Comment: If a variance, exemption, or alternative is identified, the request must be submitted ~~to the director~~ and ~~must receive~~ prior approval must be received; otherwise, the rule requirements are applicable and enforceable.]

- (3) ~~Name~~ The name, address, and telephone number of the person or office to contact regarding the industrial landfill or residual waste-landfill facility during the final closure and post-closure care periods.
- (4) The following information to be presented in the same manner as outlined in rule 3745-30-05 of the Administrative Code:
  - (a) Plan drawings of the horizontal limits and top elevations of waste and the cap system; ~~and,~~ surface water control structures including permanent ditches to control run-on and runoff; ~~and~~ sedimentation ponds including the inlet and outlet.
  - (b) ~~Establish a~~ An established grid system with northings and eastings not more than five hundred feet apart.
  - (c) Detail drawings of the cap system including but not limited to the ~~key trench~~ relationship of the cap system to the leachate collection system and recompacted soil liner, any penetrations, cap drainage structures, and surface water drainage structures.

- (d) Detail drawings of sedimentation pond and discharge structures and surface water run-on and runoff control structures.
  - (e) Static and seismic stability analysis.
  - (f) The ground water detection monitoring plan.
  - (g) The financial assurance information contained in ~~accordance with~~ rules 3745-27-15 and 3745-27-16 of the Administrative Code, as applicable.
- ~~(5) Description of on-site availability and suitability of cap material.~~
- ~~(6) Quality assurance/quality control plan for cap system construction.~~
- ~~(7)~~(5) Explosive gas monitoring plan, for industrial landfill or residual ~~waste~~ landfill facilities ~~which~~that are required to have an explosive gas monitoring system ~~by~~pursuant to paragraph ~~(E)~~(C) of rule ~~3745-30-06~~3745-30-05 of the Administrative Code.
- ~~(8)~~(6) Schedule ofThe installation ~~of~~schedule for any explosive gas control systems, landfill gas vents, or extraction systems.
- ~~(9)~~(7) Description of anticipated measures to control erosion during closure.
- (B) ~~It is the responsibility of the~~The owner or operator ~~to~~shall complete final closure of the industrial landfill or residual ~~waste~~-landfill facility in a manner that minimizes the need for further maintenance and minimizes post-closure formation and release of leachate and explosive gases to air, soil, ground water, or surface water to the extent necessary to protect human health and the environment.
- (C) Mandatory closure. The owner or operator shall begin final closure activities in accordance with the final closure/post-closure plan and paragraph (F) of this rule ~~no not~~ later than seven days after any of the occurrences specified in this paragraph. Approval of the final closure/post-closure plan does not affect the owner's or operator's obligations to begin and complete final closure activities in accordance with paragraph (F) of this rule. ~~It is mandatory to~~The owner or operator shall begin mandatory closure activities for an industrial landfill or a residual ~~solid waste~~-landfill facility upon the occurrences of any of the following:
- (1) The owner or operator declares that no more ~~residual waste~~IMW will be accepted for disposal at the industrial landfill or residual ~~waste~~-landfill facility.
  - (2) A solid waste license issued for the industrial landfill or residual ~~waste~~-landfill facility has expired, and another license has not been applied for in the manner

prescribed in ~~Chapter 3745-37 of the Administrative Code~~ Chapter 3745-501 of the Administrative Code.

- (3) All approved limits of ~~residual waste~~ IMW placement have been reached.
  - (4) A solid waste license issued for the industrial landfill or residual waste landfill facility has expired, and another license has been applied for and denied as a final action.
  - (5) A solid waste license issued for the industrial landfill or residual waste landfill facility has been revoked as a final action.
  - ~~(6) A solid waste license issued for the residual waste landfill facility has been suspended as a final action.~~
- (D) Notification of anticipated date to cease acceptance of solid waste.
- (1) The owner or operator shall provide notice by certified mail or any other form of mail accompanied by a receipt of the anticipated date on which the industrial landfill or residual waste landfill facility will cease to accept solid waste if final closure is to be triggered ~~by an occurrence described in accordance with~~ paragraph (C)(1), (C)(2), or (C)(3) of this rule. Such notice shall be provided not less than ninety days prior to the anticipated date on which ~~solid waste~~ IMW will cease to be accepted.
  - (2) The owner or operator shall send a copy of the notice specified in paragraph (D)(1) of this rule to the following:
    - (a) ~~The board of health having jurisdiction~~ licensing authority.
    - (b) The single county or joint county solid waste planning district in which the facility is located.
    - (c) Ohio EPA ~~The director.~~
  - (3) Concurrently with the submission of the notice required by paragraph (D)(1) of this rule, the owner or operator shall post a sign as to be easily visible from all access roads leading onto the industrial landfill or residual landfill facility stating, in letters not less than three inches high, that the industrial landfill or residual landfill facility will no longer accept IMW. The sign shall include the anticipated date that waste will cease to be accepted ~~commence publishing at three-week intervals, prominent notice of the anticipated date on which solid waste will cease to be accepted at the residual waste landfill facility. Such notice shall be published in the county in which the residual waste landfill~~

~~facility is located and in any other county which has been a source of at least twenty-five per cent of the solid wastes deposited at the residual waste landfill facility over the previous twelve months of operation. Notice shall be provided to the director and the board of health having jurisdiction that affirms the notices have been published in accordance with this paragraph. The public notice requirement shall. This paragraph does not apply to an industrial landfill or a residual waste landfill facility owned by a generator; exclusively disposing of solid wastes generated at the premises owned by the generator.~~

- (4) Not less than thirty days prior to the anticipated date on which the facility will cease to accept solid waste, notice shall be provided by certified mail or any other form of mail accompanied by a receipt to ~~the director~~Ohio EPA of any changes to the information that identifies the facility's final closure contact person.
- (E) The owner or operator shall send notification by certified mail or any other form of mail accompanied by a receipt to the director and to the ~~board of health having jurisdiction~~licensing authority, as to the actual date that the industrial landfill or residual waste landfill facility ceased to accept ~~residual waste~~IMW. Notification shall be sent to ~~the director~~Ohio EPA and the ~~board of health having jurisdiction~~licensing authority not later than seven days after the date specified in the notification.
- (F) The owner or operator shall begin final closure activities not later than seven days after ~~the residual waste landfill facility has ceased to accept residual waste~~any of the occurrences in paragraph (C) of this rule. FinalAt a minimum, final closure activities ~~for all residual waste landfill facilities shall include, at a minimum~~ the following:
- (1) Blocking, by locked gates, fencing, or other sturdy obstacles, of all entrances and access roads to the industrial landfill or residual waste landfill facility to prevent unauthorized access during the final closure and post-closure ~~period~~periods.
  - (2) Posting of signs, ~~in such a manner~~a sign as to be easily visible from all access roads leading onto the industrial landfill or residual waste landfill facility, stating in letters not less than three inches high that the industrial landfill or residual waste landfill facility no longer accepts ~~residual waste~~IMW. ~~Signs shall be maintained in legible condition for not less than two years after final closure activities have been completed. This paragraph shall not apply to residual waste landfill facilities owned and operated by a generator of residual wastes if the residual waste landfill facility exclusively disposes of residual wastes generated at one or more premises owned by the generator.~~
  - (3) Construction of a cap system in all areas of ~~residual waste~~IMW placement; to minimize infiltration and serve as a barrier to prevent leachate outbreaks. This

paragraph does not apply to other than those areas which have been capped prior to the effective date of this rule in accordance with paragraph (V)(3) (b)(H) of rule 3745-30-14 of the Administrative Code, as it was effective on January 13, 1992 August 15, 2003, or in accordance with paragraph (G) of rule 3745-29-11 of the Administrative Code, as effective on August 15, 2003.;  
which shall minimize infiltration and shall, at At a minimum, the cap system shall be constructed in accordance with rule 3745-30-07 of the Administrative Code and consist of the following:

- (a) ~~First, a recompacted soil barrier layer, a minimum of two feet thick, constructed in accordance with the specifications in rule 3745-30-07 of the Administrative Code and modeled by the construction of a test pad in accordance with rule 3745-30-07 of the Administrative Code. Components meeting the specifications of design (1)(a) or (1)(b) as identified in the appendix to this rule.~~
- (b) ~~A vegetative layer, consisting of soil and vegetation, placed on top of the soil barrier layer. The soil shall be of sufficient thickness and fertility to support its vegetation and to protect the soil barrier layer from damage due to root penetration, and for facilities~~ For a facility with disposed waste generally having a permeability greater less than  $1 \times 10^{-5}$  cm/sec, design (1)(a), (1)(b), or (2) as identified in the appendix to this rule ~~the soil shall be of a thickness such that the top of the recompacted soil barrier layer lies below the local frost depth.~~

~~Comparable materials and/or thicknesses for the soil barrier layer and soil vegetative layer may be used if approved by the director.~~

~~The cap system shall have a minimum slope of two per cent and a maximum slope of twenty five per cent, or some alternate slope based on stability analyses. The cap system shall have a maximum projected erosion rate of five tons per acre per year.~~

~~Any penetrations into the cap system shall be sealed so that the integrity of the soil barrier layer is maintained.~~

- (c) For a facility with disposed putrescible waste, active or passive gas control structures to relieve pressure from gas trapped below a flexible membrane liner in the cap system.
- (d) Comparable materials or thicknesses for the soil barrier layer and protection layer if approved by the director.

(e) A minimum slope of five per cent and a maximum slope of twenty-five per cent, or an alternative slope based on stability analyses. The cap system shall have a maximum projected erosion rate of five tons per acre per year.

(f) Any penetrations into the cap system shall be sealed so that the integrity of the soil barrier layer is maintained.

- (4) ~~The owner or operator shall install~~Installation of the required surface water control structures including permanent ditches to control run-on and runoff and sedimentation ~~pond(s) ponds,~~ as shown in the final closure/post-closure plan, ~~and as necessary.~~ The owner or operator shall grade all land surfaces as necessary to prevent ponding of water where ~~residual waste~~IMW has been placed and institute measures to control erosion.

[Comment: The minimum slope standard in rule 3745-30-07 of the Administrative Code is a design standard. For closure certification, it is not necessary to regrade the site if there is not a ponding problem, even if the slope no longer meets the design in the closure/post-closure plan.]

- (5) Design, installation, and maintenance of a ground-water monitoring system in accordance with rule 3745-30-08 of the Administrative Code, if not in place.

- (6) ~~The owner or operator shall record~~A notation on the plat and deed to the industrial landfill or residual waste-landfill facility property, or on some other instrument which is normally examined during title search; that will in perpetuity notify any potential purchaser of the property, ~~a. The notation describing~~shall be recorded by the owner or operator and describe the impacted acreage, exact location, depth, volume, and nature of the ~~residual waste~~IMW deposited in the industrial landfill or residual waste-landfill facility.

- (7) ~~Continue to comply~~Continued compliance with rule 3745-30-14 of the Administrative Code and all monitoring and reporting activities required during the operating life of the industrial landfill or residual solid waste-landfill facility until the closure certification is submitted and the post-closure care period begins.

- (G) Final closure activities shall be completed not later than one year after ~~final receipt of residual waste in the residual waste landfill facility~~after any of the occurrences in paragraph (C) of this rule unless an alternatealternative schedule has been ~~approved~~authorized by the directorOhio EPA.

- (H) Final closure certification. Not later than ninety days after the completion of final closure activities, the owner or operator shall submit to ~~the director~~Ohio EPA and

to the ~~board of health having jurisdiction, licensing authority~~ a written certification report signed and sealed by a professional engineer registered in Ohio. The final closure certification shall include verification that the industrial landfill or residual waste-landfill facility has been closed in accordance with this rule and the "final closure/post-closure plan." ~~The~~ At a minimum, the final closure certification shall ~~at a minimum~~ include the following:

- (1) A list of the construction certification reports for construction of the cap system with the date of submittal and a topographic map of the entire industrial landfill or residual waste-landfill facility showing the areas certified by each report. The map shall also show the horizontal limits of waste placement and the surface water control structures including permanent ditches to control run-on and runoff, and the following if present: the sedimentation pond(s) pond including the inlet and outlet, the outlet of any permanent ground water control structures, and the explosive gas control system.
  - (2) A demonstration that the ground water monitoring system meets the requirements of rule 3745-30-08 of the Administrative Code.
  - (3) A copy of the plat and deed or other instrument ~~which~~ that is normally examined during a title search, showing the notation required by paragraph (F)(6) of this rule and bearing the mark of recordation of the office of the county recorder for the county in which the property is located.
  - (4) A demonstration that all entrances and access roads have been blocked as required by paragraph (F)(1) of this rule, and the sign required by paragraph (F)(2) has been posted.
- (I) The board of health commissioner and/or the director, or ~~their~~ an authorized ~~representatives~~ representative, upon proper identification, may enter ~~any~~ the industrial landfill or residual waste-landfill facility at any time during the final closure period for the purpose of determining compliance with this rule.

Effective:

Five Year Review (FYR) Dates: 11/5/2020

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Certification

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Date

Promulgated Under: 119.03  
Statutory Authority: 3734.02, 3734.12  
Rule Amplifies: 3734.02, 3734.12  
Prior Effective Dates: 01/13/1992, 08/15/2003, 05/18/2015



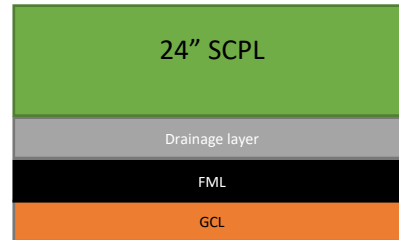
3745-30-09 Appendix

(1) Industrial landfill or residual landfill facility cap design options:

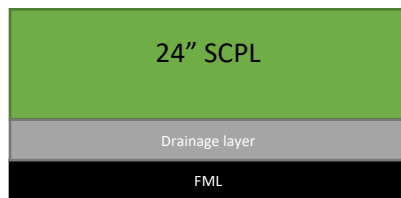
(a)



(b)



(2) Cap over disposed waste generally having a permeability less than  $1 \times 10^{-5}$  cm/sec:



SCPL is soil cap protection layer, with the top six inches capable of sustaining vegetation

FML is flexible membrane liner

CSBL is cap soil barrier layer

GCL is geosynthetic clay liner