## ARTICLE 10. SOLID WASTE LAND DISPOSAL FACILITIES

### Rule 1. General Provisions

**329 IAC 10-1-1 Purpose**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-30-2-1; IC 36-9-30-35

Sec. 1. The purpose of this article is to implement the provisions of:
(1) IC 13-30-2-1(3) and IC 13-30-2-1(4) relating to the deposit of contaminants or solid waste upon the land except as permitted in this article; and
(2) IC 13-30-2-1(5) and IC 36-9-30-35 prohibiting dumping, causing, or allowing the open dumping of garbage or of other solid waste in violation of this article.
*(Solid Waste Management Board; 329 IAC 10-1-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1762; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2744; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-1-2 Enforcement**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14; IC 13-15; IC 13-18; IC 13-20; IC 13-24; IC 13-30; IC 36-9-30

Sec. 2. This article will be enforced through IC 13-14, IC 13-15, IC 13-20, IC 13-24, or IC 13-30, or any combination thereof, as appropriate. *(Solid Waste Management Board; 329 IAC 10-1-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1762; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2744; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-1-2.5 Incorporation by reference**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 4-22-2-21, IC 13-30-2; IC 36-9-30

Sec. 2.5. Unless specified in the incorporated by reference documents incorporated in this article, the version of documents referenced in the incorporated by reference documents is the latest version that is in effect on the date of the latest adoption of the incorporated by reference documents in this article. *(Solid Waste Management Board; 329 IAC 10-1-2.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1791, eff Apr 1, 2004)*

**329 IAC 10-1-3 Penalties**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14; IC 13-18; IC 13-30; IC 36-9-30

Sec. 3. Penalties for violation of this article shall be governed by IC 13-14 and IC 13-30. *(Solid Waste Management Board; 329 IAC 10-1-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2745; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-1-4 Records and standards for submitted information**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) Any owner, operator, or permittee required to monitor under this article or by any permit issued under this article shall maintain all records of all monitoring information and monitoring activities, including:
(1) the date, exact place, and time of the sampling measurements;

(2) the sampling methods used;
(3) the person or persons who performed the sampling or measurements;
(4) the date or dates analyses were performed;
(5) the person or persons who performed the analyses;
(6) the analytical techniques or methods used;
(7) the results of such measurements or analyses; and
(8) all quality assurance/quality control documentation.

(b) The owner, operator, or permittee of a solid waste land disposal facility shall record and retain at the facility in an operating record, or, in an alternative location approved by the commissioner, any records required by this article.

(c) All records of monitoring activities required by this article and results thereof shall be retained by the owner, operator, or permittee of a solid waste land disposal facility for three (3) years unless otherwise specified in this article. The three (3) year period shall be extended:

(1) automatically during the course of any unresolved litigation between the commissioner and a permittee of a solid waste land disposal facility; or
(2) as required by the permit conditions.

(d) Information submitted to the department to meet a requirement of this article must meet the following standards:

(1) All drawings, plans, maps, and documentation must be properly titled and must include the following where applicable:
  (A) The date and author of each drawing, plan, or map.
  (B) Documentation of the coordinate system of the drawing, plan, or map, including the following:
    (i) Measurement units.
    (ii) Datum.
    (iii) Identification of the coordinate system that was used, such as the Universal Transverse Mercator or the State Plane coordinate system.
  (C) A bar scale on each drawing, plan, or map.
  (D) Elevations that correlate with United States Geological Survey mean sea level data.
  (E) The facility name.
  (F) The state regulatory identification number, such as a permit number or authorization number.
  (G) The facility's United States Environmental Protection Agency identification number, if available.
  (H) A north arrow.
  (I) A map legend.
(2) Submittals of sampling and monitoring results must include the following:
  (A) Results of laboratory analyses.
  (B) Results of field measurements, including water elevations and well depths if applicable.
  (C) Laboratory name.
  (D) Date of the sampling or monitoring event.

*(Solid Waste Management Board; 329 IAC 10-1-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3762; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1791, eff Apr 1, 2004)*

**329 IAC 10-1-4.5 Electronic submission of information**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4.5. (a) Electronic submission of information that is required by this article may be requested by the commissioner. The format and submittal mechanism will be prescribed by the commissioner. Any information submitted on electronic media also must be submitted as a paper copy or copies, unless the commissioner makes a determination that only an electronic copy is needed.

(b) Electronically submitted information must meet the following requirements:
(1) Section 4 of this rule.
(2) The submittal deadlines of this article.

(c) In addition to the requirements of subsection (b), submittals of drawings, plans, or maps must meet one (1) of the following requirements:

(1) Be submitted in one (1) of the following coordinate systems:

(A) Universal Transverse Mercator.

(B) State Plane coordinate system.

(C) North American Datum (NAD) 1983 or NAD 1927 that includes a description of the coordinates on the document as annotation or described in a text file included with the drawing, plot plan, or map file. The description must include the following:

(i) Measurement units.

(ii) Datum.

(iii) Identification of the coordinate system.

(2) Provide information regarding the survey coordinate system used to create the drawing, plan, or map, including the following:

(A) At least two (2), but preferably four (4) or more, reference locations, field marked and of at least the third order on each drawing, plan, or map if the site was surveyed.

(B) Coordinates for the reference locations in clause (A) should be supplied in either Universal Transverse Mercator or State Plane coordinate system and may be submitted in a separate text file or as annotation on the drawing, plan, or map.

(C) The degree of accuracy, precision, and the manner in which coordinates in clause (A) were determined for the reference coordinates is documented in a narrative on the drawing, plan, or map or in a metadata file.

*(Solid Waste Management Board; 329 IAC 10-1-4.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1792, eff Apr 1, 2004)*

**329 IAC 10-1-5 Variances**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14-8; IC 13-18; IC 36-9-30

Sec. 5. (a) The commissioner may grant a variance from compliance with this article in accordance with IC 13-14-8.

(b) No term, condition, or requirement granted under this section may be less stringent than requirements of 40 CFR 257 and 40 CFR 258 (October 9, 1991) and the amendments to the financial assurance criteria for owners and operators of municipal solid waste landfill facilities (60 FR 40104, August 7, 1995). *(Solid Waste Management Board; 329 IAC 10-1-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2745; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-1-6 Severability**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. If any provision of this article, or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of this article that can be given effect without the invalid provision or application. *(Solid Waste Management Board; 329 IAC 10-1-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**Rule 2. Definitions**

**329 IAC 10-2-1 Definitions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2; IC 13-18; IC 25-31; IC 36-9-30

Sec. 1. (a) In addition to the definitions in IC 13-11-2, the definitions in this rule apply throughout this article to municipal solid waste landfills.

(b) In addition to the definitions in IC 13-11-2, the definitions in this rule apply to the regulation of nonmunicipal solid waste

landfills, construction/demolition sites, and restricted waste sites Types I, II, III, and IV as follows:

(1) 329 IAC 10-3-3.
(2) 329 IAC 10-4.
(3) 329 IAC 10-7.1 and 329 IAC 10-8.1.
(4) 329 IAC 10-9-3 and 329 IAC 10-9-5.
(5) 329 IAC 10-10 through 329 IAC 10-23.
(6) 329 IAC 10-39-10 and 329 IAC 10-39-11.

*(Solid Waste Management Board; 329 IAC 10-2-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1702, eff one hundred eighty (180) days after filing with the secretary of state; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2745, eff Jul 10, 1998; errata filed Apr 8, 1998, 2:20 p.m.: 21 IR 2990)*

**329 IAC 10-2-2 "Access road" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 2. "Access road" means a road that leads to the entrance of a solid waste processing or disposal facility, normally a county, state, or federal highway. *(Solid Waste Management Board; 329 IAC 10-2-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763)*

**329 IAC 10-2-3 "Active life" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 3. "Active life" means the period of operation of a solid waste land disposal facility beginning with the initial receipt of solid waste and ending with proper completion of closure activities in accordance with 329 IAC 10-22, 329 IAC 10-30, 329 IAC 10-37, 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996. *(Solid Waste Management Board; 329 IAC 10-2-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1763; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3762)*

**329 IAC 10-2-4 "Active portion" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 4. "Active portion" means the part of the solid waste land disposal facility that has received or is receiving wastes and that has not been closed in accordance with 329 IAC 10-22, 329 IAC 10-30, 329 IAC 10-37, 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996. *(Solid Waste Management Board; 329 IAC 10-2-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3762)*

**329 IAC 10-2-5 "Adjoining land" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 5. "Adjoining land" means the land that abuts or touches land upon which a solid waste land disposal facility is located. If the immediately adjoining land is owned by the permittee or the solid waste land disposal facility, the adjoining land is the first abutting land not owned by the permittee unless the first abutting land is greater than one-half (½) mile from the solid waste boundary. If there is a road or other right-of-way adjoining the property, then the land adjoining the road or other right-of-way is also adjoining. *(Solid Waste Management Board; 329 IAC 10-2-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3763)*

**329 IAC 10-2-6 "Air pollution" defined (Repealed)**

Sec. 6. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-7 "Airport" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 7. "Airport" means:
(1) a public use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities; or
(2) an active military airport.
*(Solid Waste Management Board; 329 IAC 10-2-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764)*

**329 IAC 10-2-7.3 "Alternative water supply" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 7.3. (a) "Alternative water supply" means a potable ground water source, or other source of potable water, that meets the requirements of subsection (b), that is a substitute for either:
(1) an aquifer being considered for aquifer of significance determination; or
(2) an aquifer that has been determined to be affected by a ground water contaminant plume.
(b) An alternative water supply must meet one (1) of the following criteria:
(1) The alternative water supply is a potable ground water source that:
(A) is not hydraulically connected to the aquifer described in subsection (a);
(B) is at a stratigraphic depth that does not exclude conventional household methods of drinking water extraction;
(C) is of comparable or superior yield to the aquifer described in subsection (a); and
(D) is of comparable or superior quality to the aquifer described in subsection (a).
(2) The alternative water supply is an independent public water supply system that does not draw water from the aquifer described in subsection (a), unless the ground water intake is demonstrably upgradient of the MSWLF unit.
(c) A demonstration that an aquifer meets the criteria in subsection (b)(1) may be limited to:
(1) information available in the local and regional hydrostudy; and
(2) information that can be obtained on-site.
*(Solid Waste Management Board; 329 IAC 10-2-7.3; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3763)*

**329 IAC 10-2-8 "Anchored mulch" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 8. "Anchored mulch" means mulch that is anchored to prevent the displacement of mulch by wind and water. Anchoring is achieved by methods such as:
(1) applying a tackifier;
(2) crimping the mulch material with an anchoring tool or a farm disk that is dull, serrated, and set straight; or
(3) stapling netting over the mulch.
*(Solid Waste Management Board; 329 IAC 10-2-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764)*

**329 IAC 10-2-9 "Annular space" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 9. "Annular space" means the open space formed between the borehole or protective casing and the well casing. *(Solid Waste Management Board; 329 IAC 10-2-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764)*

**329 IAC 10-2-10 "Applicant" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 10. "Applicant" means the person who applies for the permit. *(Solid Waste Management Board; 329 IAC 10-2-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764)*

**329 IAC 10-2-11 "Aquiclude" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 11. "Aquiclude" means a body of relatively impermeable material that is capable of absorbing water slowly but does not transmit rapidly enough to supply a well or spring. *(Solid Waste Management Board; 329 IAC 10-2-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1792, eff Apr 1, 2004)*

**329 IAC 10-2-12 "Aquifer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 12. "Aquifer" means a consolidated or unconsolidated geologic formation or group of formations or a portion of a formation, that is hydraulically interconnected and that has the ability to receive, store, or transmit water to wells, springs, or other surface water bodies. *(Solid Waste Management Board; 329 IAC 10-2-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1764)*

**329 IAC 10-2-13 "Aquifer of significance" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 13. (a) For the purpose of preparing the hydrogeologic site investigation report under 329 IAC 10-15-4 and to determine the applicable design requirements of 329 IAC 10-16-9 and 329 IAC 10-17-2, "aquifer of significance" means an aquifer:
(1) that has been identified as:
(A) a surficial aquifer;
(B) a buried aquifer;
(C) a bedrock aquifer; or
(D) a discontinuous aquifer; and
(2) that meets the criteria in either subsection (b) or (c).
(b) An aquifer that is described in subsection (a)(1) is an aquifer of significance if it meets the following criteria:
(1) The aquifer is below and extends beyond the solid waste boundary.
(2) The aquifer is capable of a yield of two hundred thousand (200,000) gallons per day as determined by the following equation:

$$K \geq 37/b^2$$

Where: K = Hydraulic Conductivity (cm/sec).
b = Saturated Thickness (ft).

The location of the determination is based on obtaining a maximum discharge from the aquifer.

The determination must consider the entire vertical extent of the aquifer to obtain a full "average" K value of all distinctive layers of a nonhomogeneous aquifer if distinctive layers are hydraulically connected.

(c) An aquifer that is described in subsection (a)(1) is an aquifer of significance if the following criteria are met:

(1) The aquifer is below and extends beyond the solid waste boundary.

(2) The aquifer is a potable ground water source described in clauses (A) and (B) or is capable of supplying drinking water for properties that are:

(A) within a one (1) mile radius of the solid waste boundary; and

(B) not demonstrably upgradient of the MSWLF unit.

(3) There is no alternative water supply that is available to properties for connection at the time the construction of the MSWLF unit begins.

*(Solid Waste Management Board; 329 IAC 10-2-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2745; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3763)*

**329 IAC 10-2-14 "Aquitard" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 14. "Aquitard" means a confining bed that retards but does not prevent the flow of water to or from an adjacent aquifer. It does not readily yield water to wells or springs, but may serve as a storage unit for ground water. *(Solid Waste Management Board; 329 IAC 10-2-14; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765)*

**329 IAC 10-2-15 "Areas susceptible to mass movement" defined**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 15. "Areas susceptible to mass movement" means those areas of influence that are 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 may include the following:

(1) Landslides.
(2) Avalanches.
(3) Debris slides and flows.
(4) Solifluction.
(5) Block sliding.
(6) Underground mine collapse.
(7) Rock fall.

*(Solid Waste Management Board; 329 IAC 10-2-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2745)*

**329 IAC 10-2-16 "Ash residue" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 16. "Ash residue" means all solid residue and any entrained liquids resulting from the combustion of solid waste, fossil

fuel, or solid waste in combination with fossil fuel at a solid waste incinerator, including:
(1) bottom ash;
(2) boiler ash;
(3) fly ash; or
(4) solid residue of any air pollution control device used at a solid waste incinerator.
*(Solid Waste Management Board; 329 IAC 10-2-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765)*

**329 IAC 10-2-17 "Assessment ground water monitoring well" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 17. "Assessment ground water monitoring well" means any ground water monitoring well placed within or beyond the monitoring boundary at the solid waste land disposal facility that is used to obtain ground water for the assessment ground water monitoring program or the corrective action ground water monitoring program. *(Solid Waste Management Board; 329 IAC 10-2-17; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-18 "Background ground water data" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 18. "Background ground water data" means all data collected from the background ground water monitoring well or wells during any period when background ground water quality is being established at a facility or the historical ground water data of a particular ground water monitoring well. *(Solid Waste Management Board; 329 IAC 10-2-18; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1765)*

**329 IAC 10-2-19 "Background ground water mean" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 19. "Background ground water mean" means the arithmetic mean of a constituent's concentrations collected from the background ground water monitoring well or wells of a defined hydrogeologic flow regime that is intended to monitor and characterize the background water quality or the pooled average of the historical ground water data of a particular ground water monitoring well per constituent. *(Solid Waste Management Board; 329 IAC 10-2-19; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-19.1 "Background ground water monitoring" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 19.1. "Background ground water monitoring" means a ground water monitoring well or system of wells where ground water samples are collected for the purpose of establishing a background ground water data base. The background ground water monitoring well or system of wells must be unaffected by the MSWLF unit and may be considered to be an upgradient ground water monitoring well. *(Solid Waste Management Board; 329 IAC 10-2-19.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-20 "Background ground water quality" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 20. "Background ground water quality" means ground water chemistry that is not attributed to a facility. *(Solid Waste Management Board; 329 IAC 10-2-20; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-21 "Barrier" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 21. "Barrier" means a layer of nonaquifer material between a liner and an aquifer. *(Solid Waste Management Board; 329 IAC 10-2-21; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-22 "Base flood" or "one hundred year flood" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 22. "Base flood" or "one hundred year flood" means a flood that has a one percent (1%) or greater chance of recurring in any year, or a flood of a magnitude equaled or exceeded, on the average, once in one hundred (100) years. *(Solid Waste Management Board; 329 IAC 10-2-22; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-23 "Bedrock" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 23. "Bedrock" means cemented or consolidated earth materials exposed on the earth's surface or underlying unconsolidated earth materials. *(Solid Waste Management Board; 329 IAC 10-2-23; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-23.1 "Bedrock aquifer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 23.1. "Bedrock aquifer" means an aquifer consisting of bedrock that may include sand and gravel hydraulically interconnected with the bedrock. *(Solid Waste Management Board; 329 IAC 10-2-23.1; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-24 "Bird hazard" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 24. "Bird hazard" means that which increases the likelihood of collisions between birds and aircraft that may cause damage to the aircraft or injury to its occupants. *(Solid Waste Management Board; 329 IAC 10-2-24; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-25 "Board" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 25. "Board" means the solid waste management board. *(Solid Waste Management Board; 329 IAC 10-2-25; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813)*

**329 IAC 10-2-26 "Borehole" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 26. "Borehole" means a hole drilled in the earth to identify consolidated materials, unconsolidated materials, and water table levels. *(Solid Waste Management Board; 329 IAC 10-2-26; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766)*

**329 IAC 10-2-27 "Buried aquifer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 27. "Buried aquifer" means an aquifer consisting of sand and gravel that includes bedrock hydraulically interconnected with the sand and gravel that is covered by ten (10) feet or more of nonaquifer material and in which sand and gravel deposits are continuous in at least one direction beyond the facility boundary. *(Solid Waste Management Board; 329 IAC 10-2-27; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1766; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-28 "Certificate of insurance" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 28. "Certificate of insurance" means a contractual agreement under which an insurer agrees to compensate an insured person for losses. By purchasing insurance, the insured person transfers financial risk to the insurer. *(Solid Waste Management Board; 329 IAC 10-2-28; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-29 "Certified professional geologist" defined (Repealed)**

Sec. 29. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-29.5 "CESQG hazardous waste" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-30-2; IC 36-9-30

Sec. 29.5. "CESQG hazardous waste" means hazardous waste that is:
(1) generated by a conditionally exempt small quantity generator; and
(2) regulated under 40 CFR 261.5, revised as of July 1, 2002, available from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop: SSOP, Washington, D.C. 20402-9328.
*(Solid Waste Management Board; 329 IAC 10-2-29.5; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3958)*

**329 IAC 10-2-30 "Closure" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 30. "Closure" means those activities to be completed at the end of waste acceptance at a solid waste land disposal facility or units of a facility, including certification required by 329 IAC 10-22-8, 329 IAC 10-30-7, or 329 IAC 10-37-7, but not including those activities required after certification. *(Solid Waste Management Board; 329 IAC 10-2-30; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-31 "Collection container system" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 31. "Collection container system" means a group of containers for solid waste collection from noncommercial, nonindustrial, and noninstitutional sources, and made available for use by the general public, such as a county wide collection box system. *(Solid Waste Management Board; 329 IAC 10-2-31; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-32 "Commercial solid waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-30-2; IC 36-9-30

Sec. 32. (a) "Commercial solid waste" means all types of solid waste generated by:
(1) retail outlets;
(2) offices;
(3) restaurants;
(4) warehouses; and
(5) other nonmanufacturing activities.
(b) The term does not include:
(1) household or residential waste;
(2) hazardous waste;
(3) infectious waste;
(4) industrial process wastes; or
(5) pollution control waste.
*(Solid Waste Management Board; 329 IAC 10-2-32; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3958)*

**329 IAC 10-2-33 "Commissioner" defined (Repealed)**

Sec. 33. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-34 "Composite liner" or "composite bottom liner system" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 34. "Composite liner" or "composite bottom liner system" means a system consisting of at least two (2) components:
(1) the upper component is a geomembrane liner; and
(2) the lower component is a layer of compacted soil.
*(Solid Waste Management Board; 329 IAC 10-2-34; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-35 "Confined aquifer" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 35. "Confined aquifer" means an aquifer bounded above and below by impermeable beds, or by beds of distinctly lower permeability than that of the aquifer itself. It is an aquifer containing confined ground water. *(Solid Waste Management Board; 329 IAC 10-2-35; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-36 "Construction/demolition site" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 36. "Construction/demolition site" means a permitted solid waste land disposal facility designed and operated to accept construction/demolition waste. *(Solid Waste Management Board; 329 IAC 10-2-36; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-37 "Construction/demolition waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 37. (a) "Construction/demolition waste" means solid waste resulting from the construction, remodeling, repair, or demolition of structures. Such wastes may include any of the following:

(1) Scrap lumber.
(2) Bricks.
(3) Concrete.
(4) Stone.
(5) Glass.
(6) Wallboard.
(7) Roofing.
(8) Plumbing fixtures.
(9) Wiring.
(10) Nonasbestos insulation.

(b) The term does not include the following types of regulated solid waste:

(1) Fluorescent light fixtures.
(2) Appliances.
(3) Regulated asbestos-containing material as defined in 40 CFR 61.
(4) Any other waste resulting from construction, remodeling, repair, or demolition of a structure that, when placed in the landfill, would potentially result in contamination of ground water or present a risk to human health or the environment.

*(Solid Waste Management Board; 329 IAC 10-2-37; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1767)*

**329 IAC 10-2-37.1 "Construction plan" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 37.1. "Construction plan" means:

(1) the detailed plans, design specifications, and any other information relative to the construction of a solid waste land disposal facility that are submitted with the permit application; and
(2) any permit conditions specified in the permit.

A construction plan is considered approved by the commissioner when the permit is issued. *(Solid Waste Management Board; 329 IAC 10-2-37.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1768; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3764)*

**329 IAC 10-2-38 "Construction quality assurance" or "CQA" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 38. "Construction quality assurance" or "CQA" means a planned system of activities that provides assurance that the solid waste land disposal facility was constructed as specified in the approved construction plan. Construction quality assurance includes inspections, verifications, audits, and evaluations of material and workmanship necessary to determine and document the quality of the constructed facility. Construction quality assurance refers to measures taken by a project engineer to assess if the installer or contractor is in compliance with the approved construction plan. *(Solid Waste Management Board; 329 IAC 10-2-38; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1768; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-39 "Construction quality control" or "CQC" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 39. "Construction quality control" or "CQC" means a planned system of inspections that is used to directly monitor and control the quality of a construction project. Construction quality control is normally performed by the geosynthetics manufacturer or installer, or for natural soil materials by the earthwork contractor, and is necessary to achieve quality in the constructed or installed system. Construction quality control refers to measures taken by the installer or contractor to determine compliance with the requirements for materials and workmanship as stated in the approved construction plan. *(Solid Waste Management Board; 329 IAC 10-2-39; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1768)*

**329 IAC 10-2-40 "Container" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 40. "Container" means a portable receptacle in which solid waste or recyclables are held for collection, storage, or transportation. *(Solid Waste Management Board; 329 IAC 10-2-40; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1768)*

**329 IAC 10-2-41 "Contaminant" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-11-2-42; IC 13-30-2; IC 36-9-30

Sec. 41. "Contaminant" has the meaning set forth in IC 13-11-2-42. *(Solid Waste Management Board; 329 IAC 10-2-41; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1768; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1792, eff Apr 1, 2004)*

**329 IAC 10-2-41.1 "Conterminous" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 41.1. "Conterminous" means contained within the same common boundary. *(Solid Waste Management Board; 329 IAC 10-2-41.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-42 "Contiguous land" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 42. "Contiguous land" means land touching along a boundary or at a point. *(Solid Waste Management Board; 329 IAC 10-2-42; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-43 "Contingency action plan" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 43. "Contingency action plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of an emergency such as a fire, explosion, release of solid waste byproducts, such as gases or chemical contaminants, or leachate that could threaten human health or the environment. *(Solid Waste Management Board; 329 IAC 10-2-43; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-44 "Continuously flowing river" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 44. "Continuously flowing river" means a body of water that has measurable velocity of flow for at least nine (9) months of the year and is labelled on a United States Geological Survey (USGS) seven and one-half (7.5) minute series topographical map as a river. *(Solid Waste Management Board; 329 IAC 10-2-44; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-45 "Continuously flowing stream" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 45. "Continuously flowing stream" means a body of water that has measurable velocity of flow for at least nine (9) months of the year or is designated as a perennial flowing stream on a United States Geological Survey (USGS) seven and one-half (7.5) minute series topographical map, but is not labelled as a river. *(Solid Waste Management Board; 329 IAC 10-2-45; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-46 "Corrective action" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 46. "Corrective action" means the steps taken to complete the following:
(1) Repair solid waste land disposal facility structures including any of the following:
(A) Liners.
(B) Monitoring wells.
(C) Methane gas systems.
(D) Separation equipment.
(E) Covers.
(F) Aeration devices.
(2) Bring the solid waste land disposal facility into compliance with design, construction, operation, ground water, surface

water, and air emission standards.
*(Solid Waste Management Board; 329 IAC 10-2-46; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-47 "Corrective action remedy" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 47. "Corrective action remedy" means the appropriate action or actions taken to correct or address the items identified in section 46 of this rule. *(Solid Waste Management Board; 329 IAC 10-2-47; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746)*

**329 IAC 10-2-48 "Cover" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 48. "Cover" means any soil or other suitable material approved by the commissioner placed over the solid waste in accordance with:
(1) 329 IAC 10-20 and 329 IAC 10-22;
(2) 329 IAC 10-28 and 329 IAC 10-30; or
(3) 329 IAC 10-36 and 329 IAC 10-37.
*(Solid Waste Management Board; 329 IAC 10-2-48; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-49 "Cover storage site" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 49. "Cover storage site" means any area where cover material is stockpiled for future use on the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-49; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1769)*

**329 IAC 10-2-50 "Current closure cost estimate" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 50. "Current closure cost estimate" means the original closure cost estimate or the most recent revision thereof made in accordance with 329 IAC 10-39. *(Solid Waste Management Board; 329 IAC 10-2-50; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-51 "Current post-closure cost estimate" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 51. "Current post-closure cost estimate" means the original post-closure cost estimate or the most recent revision thereof made in accordance with 329 IAC 10-39. *(Solid Waste Management Board; 329 IAC 10-2-51; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-52 "Daily cover" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 52. "Daily cover" means that cover applied to the working face of the solid waste land disposal facility on a daily basis. *(Solid Waste Management Board; 329 IAC 10-2-52; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-53 "Department" defined (Repealed)**

Sec. 53. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-54 "Design capacity" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 54. "Design capacity" means the total volume of compacted solid waste, topsoil or vegetated layer, and all cover material specified in the solid waste land disposal facility permit as calculated from final contour and cross-sectional plan sheets that define the lateral and vertical extent of the solid waste boundary. *(Solid Waste Management Board; 329 IAC 10-2-54; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-55 "Dike" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 55. "Dike" means an embankment or ridge of either natural or manmade materials used to prevent, control, or confine the movement of liquids or solids. *(Solid Waste Management Board; 329 IAC 10-2-55; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-56 "Discard" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 56. "Discard" means to abandon by:
(1) disposal;
(2) burning or incinerating, including being burned as a fuel for the purpose of recovering usable energy; or
(3) accumulating, storing, or physically or chemically treating, other than burning or incinerating, in lieu of or prior to disposal. *(Solid Waste Management Board; 329 IAC 10-2-56; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-57 "Discontinuous aquifer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 57. "Discontinuous aquifer" means an aquifer consisting of thin lenses of buried sand and gravel, which includes bedrock hydraulically interconnected with the sand and gravel that is not laterally extensive such as morainal areas. *(Solid Waste Management Board; 329 IAC 10-2-57; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-58 "Disease vectors" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 58. "Disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting microorganisms and disease to humans and other animals. *(Solid Waste Management Board; 329 IAC 10-2-58; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-59 "Displacement" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 59. "Displacement" means the relative movement of any two (2) sides of a fault measured in any direction. *(Solid Waste Management Board; 329 IAC 10-2-59; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1770)*

**329 IAC 10-2-60 "Disposal" defined (Repealed)**

Sec. 60. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-61 "Disposal capacity" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 61. "Disposal capacity" means the maximum volume of solid waste, including all cover material, to be received at the solid waste land disposal facility during its active life as approved by the department. *(Solid Waste Management Board; 329 IAC 10-2-61; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-62 "Downgradient ground water monitoring well" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 62. "Downgradient ground water monitoring well" means an approved ground water monitoring well that is used to obtain ground water samples at a solid waste land disposal facility and is located at or beyond the monitoring boundary. *(Solid Waste Management Board; 329 IAC 10-2-62; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-62.1 "Drinking water supply reservoir" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 62.1. "Drinking water supply reservoir" means an artificial or natural storage place for water, such as a lake, pond, or basin, from which water is being withdrawn or has the potential of being withdrawn for the purpose of human consumption and use. For the purposes of the setback requirement in 329 IAC 10-16-11(a)(9), a drinking water supply reservoir is being used as a drinking water supply for humans if one (1) or more service connections exist at the time of zoning of the solid waste disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-62.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-63 "Dwelling" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 63. "Dwelling" means any building that people inhabit on a regular or seasonal basis, including, but not limited to, the following:
(1) Home-based schools.
(2) Residences.
(3) Public or private hospitals with twenty (20) beds or less.
(4) Churches.
The term does not include offices, factories, public or non-public schools, or public or private hospitals with more than twenty (20) beds. *(Solid Waste Management Board; 329 IAC 10-2-63; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-63.5 "Electronic submission" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 63.5. "Electronic submission" means any submission of information to the department via electronic media. Such media may include the following:
(1) Magnetic storage tape or disk.
(2) Compact disc read-only memory (CD-ROM).
(3) Electronic mail and/or attachments.
(4) File transfer protocol (FTP).
(5) Hypertext transfer protocol (HTTP).
*(Solid Waste Management Board; 329 IAC 10-2-63.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-64 "Endangered species" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 64. "Endangered species" means any species listed as endangered or threatened under rules of the natural resources commission at 312 IAC 9-3-19, 312 IAC 9-4-14, 312 IAC 9-5-4, 312 IAC 9-6-9, or 312 IAC 9-9-4. *(Solid Waste Management Board; 329 IAC 10-2-64; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-65 "Environmental protection acts" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 65. "Environmental protection acts" means state and federal statutes relating to protection of the environment and public health. *(Solid Waste Management Board; 329 IAC 10-2-65; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-66 "Equivalent hydraulic conductivity" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 66. "Equivalent hydraulic conductivity" means the hydraulic conductivity averaged in such a manner as to represent the overall ability of a material to transmit flow. *(Solid Waste Management Board; 329 IAC 10-2-66; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-66.1 "Erosion" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 66.1. "Erosion" means the detachment and movement of soil, sediment, or rock fragments by water, wind, ice, or gravity. *(Solid Waste Management Board; 329 IAC 10-2-66.1; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-66.2 "Erosion and sediment control measure" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 66.2. "Erosion and sediment control measure" means a practice, or a combination of practices, to control erosion and resulting sedimentation. *(Solid Waste Management Board; 329 IAC 10-2-66.2; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-66.3 "Erosion and sediment control system" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 66.3. "Erosion and sediment control system" means the use of appropriate erosion and sediment control measures to minimize sedimentation by first reducing or eliminating erosion at the source and then, as necessary, trapping sediment to prevent it from being discharged from or within a facility boundary. *(Solid Waste Management Board; 329 IAC 10-2-66.3; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-67 "Existing municipal solid waste landfill unit" or "existing MSWLF unit" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 67. "Existing municipal solid waste landfill unit" or "existing MSWLF unit" means any MSWLF unit that has received solid waste and has not been certified as closed under 329 IAC 10-22. *(Solid Waste Management Board; 329 IAC 10-2-67; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1771)*

**329 IAC 10-2-68 "Face amount" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 68. "Face amount" means the total amount the insurer is obligated to pay under the insurance policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments. *(Solid Waste Management Board; 329 IAC 10-2-68; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772)*

**329 IAC 10-2-69 "Facility" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 69. "Facility" may consist of one (1) or more permitted processing, storage, disposal, or operational units used for processing, storing in conjunction with processing or disposal, or disposing of solid waste. The term includes:
(1) all conterminous land and structures related to the permit within the facility boundary;
(2) other appurtenances related to the permit; and
(3) improvements on the land related to the permit.
*(Solid Waste Management Board; 329 IAC 10-2-69; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1793, eff Apr 1, 2004)*

**329 IAC 10-2-70 "Facility boundary" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 70. "Facility boundary" means the outermost perimeter of land related to the facility as defined in section 69 of this rule. *(Solid Waste Management Board; 329 IAC 10-2-70; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746)*

**329 IAC 10-2-71 "Factories" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 71. "Factories" means a building or set of buildings with facilities for manufacturing. *(Solid Waste Management Board; 329 IAC 10-2-71; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772)*

**329 IAC 10-2-72 "Fault" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 72. "Fault" means a fracture or a zone of fractures in any material along which strata on one (1) side have been displaced with respect to that on the other side. *(Solid Waste Management Board; 329 IAC 10-2-72; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772)*

**329 IAC 10-2-72.1 "Final closure" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-19-3; IC 36-9-30

Sec. 72.1. (a) "Final closure" means those activities required at the end of waste acceptance for the entire area of a facility.
(b) The term includes:
(1) the placement of final cover;
(2) the establishment of vegetation in accordance with approved closure plans; and
(3) activities to be completed at the end of waste acceptance at a facility, including certification required by:
(A) 329 IAC 10-22-8;
(B) 329 IAC 10-30-7; or
(C) 329 IAC 10-37-7.

(c) The term does not include:
(1) monitoring and maintenance activities required under post-closure care; and
(2) activities required after certification.
*(Solid Waste Management Board; 329 IAC 10-2-72.1; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3958)*

**329 IAC 10-2-72.2 "Final closure certification" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 72.2. "Final closure certification" means a written certification signed by the owner, operator, or permittee and an independent registered professional engineer submitted to the commissioner stating that final closure for all units of the facility have been completed in accordance with the approved closure plan. *(Solid Waste Management Board; 329 IAC 10-2-72.2; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746)*

**329 IAC 10-2-73 "Final cover" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 73. "Final cover" means any cover of a type and thickness approved by the commissioner to be placed on top of the waste upon the termination of filling in an area. *(Solid Waste Management Board; 329 IAC 10-2-73; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772)*

**329 IAC 10-2-74 "Flood plain" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 74. "Flood plain" means the areas adjoining a river, stream, or lake that are inundated by the base flood. *(Solid Waste Management Board; 329 IAC 10-2-74; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1794, eff Apr 1, 2004)*

**329 IAC 10-2-75 "Floodway" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 75. "Floodway" means the channel of a river or stream and those portions of the flood plain adjoining the channel that are reasonably required to efficiently carry and discharge the peak flow of the base flood. *(Solid Waste Management Board; 329 IAC 10-2-75; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1794, eff Apr 1, 2004)*

**329 IAC 10-2-75.1 "Floodway fringe" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 75.1. "Floodway fringe" means any area of flood plain that has not been adequately protected from flooding by the base flood by means of dikes, levees, reservoirs, or other similar works. *(Solid Waste Management Board: 329 IAC 10-2-75.1; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1794, eff Apr 1, 2004)*

**329 IAC 10-2-76 "Garbage" defined (Repealed)**

Sec. 76. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-77 "Gas condensate" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 77. "Gas condensate" means the liquid generated as a result of the gas recovery process or processes at the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-77; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1772; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-78 "Generator" or "generating facility" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 78. "Generator" or "generating facility" means any person or location, at, on, or by which one (1) or more solid wastes are generated, such as a manufacturing plant that may generate more than one (1) source of solid waste at the plant location. The term does not include a hazardous waste generator as regulated by 329 IAC 3.1. *(Solid Waste Management Board; 329 IAC 10-2-78; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-78.1 "Generator knowledge" defined**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3
Affected: IC 13-11-2; IC 13-18-1; IC 13-18-20; IC 25-31; IC 36-9-30

Sec. 78.1. "Generator knowledge" means the relevant, accurate, and reliable information available to or developed by the generator about a waste that allows a person to determine the correct regulatory status of that waste. This information may include, but is not limited to, the following categories of information:
(1) Information provided by the manufacturer or supplier of the materials used in the process.
(2) Information provided in reference materials.
(3) Information describing the process that generates the waste.
(4) Information describing the materials used in the process that generates the waste.
(5) Information describing principles of science, including chemistry and physics, applied to the raw materials and process used.
(6) Information developed through prior testing of the waste.
*(Solid Waste Management Board; 329 IAC 10-2-78.1; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1703, eff one hundred eighty (180) days after filing with the secretary of state)*

**329 IAC 10-2-79 "Geogrid" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 79. "Geogrid" means a deformed or nondeformed netlike polymeric material used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of the manmade structure or system to provide reinforcement. *(Solid Waste Management Board; 329 IAC 10-2-79; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-80 "Geomembrane" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 80. "Geomembrane" means an essentially impermeable membrane used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of a manmade structure or system designed to limit the movement of liquid or gas in the system. *(Solid Waste Management Board; 329 IAC 10-2-80; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-81 "Geonet" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 81. "Geonet" means a geosynthetic consisting of integrally connected parallel sets of ribs overlying similar sets at various angles for planar drainage of liquids and gases. *(Solid Waste Management Board; 329 IAC 10-2-81; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-82 "Geosynthetics" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 82. "Geosynthetics" means the generic classification of all synthetic materials used in geotechnical engineering applications including geotextiles, geogrids, geomembranes, geonets, and geocomposites. *(Solid Waste Management Board; 329 IAC 10-2-82; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-83 "Geotextile" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 83. "Geotextile" means any permeable textile used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of a manmade structure or system designed:
(1) to act as a filter to prevent the flow of soil fines into drainage systems;
(2) to provide planar flow for drainage;
(3) to serve as a cushion to protect geomembranes; or
(4) to provide structural support.
*(Solid Waste Management Board; 329 IAC 10-2-83; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-84 "Grading" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 84. "Grading" means the contouring of land so that surface water flow and erosion are controlled according to an approved plan. *(Solid Waste Management Board; 329 IAC 10-2-84; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-85 "Ground water" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 85. "Ground water" means such accumulations of underground water, natural and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this state, but excluding manmade underground storage or conveyance structures. *(Solid Waste Management Board; 329 IAC 10-2-85; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-86 "Ground water monitoring well" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 86. "Ground water monitoring well" means a well that is approved by the commissioner and is constructed for the purpose of obtaining ground water samples. *(Solid Waste Management Board; 329 IAC 10-2-86; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-87 "Hauler" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 87. "Hauler" means a person engaged in the transportation of solid waste by air, rail, roadway, or water. *(Solid Waste Management Board; 329 IAC 10-2-87; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1773)*

**329 IAC 10-2-88 "Hazardous waste" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 88. "Hazardous waste" means that waste that is regulated under 329 IAC 3.1. *(Solid Waste Management Board; 329 IAC 10-2-88; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-88.5 "Holding time" defined**
Authority: IC 13-4-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 88.5. "Holding time" means the maximum allowable elapsed time between sample collection and sample preparation and analysis. *(Solid Waste Management Board; 329 IAC 10-2-88.5; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765)*

**329 IAC 10-2-89 "Holocene" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 89. "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch, eleven thousand (11,000) years ago, to the present. *(Solid Waste Management Board; 329 IAC 10-2-89; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-90 "Household waste" or "residential waste" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 90. "Household waste" or "residential waste" means any solid waste, such as garbage, trash, and sanitary waste in septic tanks, derived from households, including:

(1) single and multiple residences;
(2) hotels;
(3) motels;
(4) bunkhouses;
(5) ranger stations;
(6) crew quarters;
(7) campgrounds;
(8) picnic grounds; and
(9) day-use recreation areas.

*(Solid Waste Management Board; 329 IAC 10-2-90; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-91 "Hydraulic gradient" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 91. "Hydraulic gradient" means the head loss per unit length where the head loss is expressed in terms of the unit length so as to produce a dimensionless value. *(Solid Waste Management Board; 329 IAC 10-2-91; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-91.1 "Incidental disposal" defined**

Authority: IC 13-14-8; IC 13-15-2; IC 13-19-3; IC 13-20-14-1
Affected: IC 13-20-14-1

Sec. 91.1. "Incidental disposal" means the disposal of a whole waste tire in a municipal solid waste landfill when:

(1) the tire arrives at the working face of the municipal solid waste landfill in a load of municipal solid waste; and
(2) removing the tire would endanger persons or equipment or cause delays that result in safety problems at the working face of the municipal solid waste landfill.

*(Solid Waste Management Board; 329 IAC 10-2-91.1; filed Aug 25, 1997, 9:40 a.m.: 21 IR 75)*

**329 IAC 10-2-92 "Incinerator" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 92. "Incinerator" has the meaning set forth in 329 IAC 11-2-16. *(Solid Waste Management Board; 329 IAC 10-2-92; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-93 "Independent ground water sample" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 93. "Independent ground water sample" means a sample or sample set of ground water collected that provides a measure of the chemical and physical properties of the ground water within the area affected by the well screen's interval after a well has been purged or stabilized sufficiently. *(Solid Waste Management Board; 329 IAC 10-2-93; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-94 "Independent, registered professional engineer" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 94. "Independent, registered professional engineer" means a registered professional engineer who is not permanently employed by the owner, operator, or permittee of a solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-94; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-95 "Industrial process waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 95. "Industrial process waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste defined by section 88 of this rule and regulated under 329 IAC 3.1. Such waste may include, but is not limited to, waste resulting from any of the following manufacturing processes:

(1) Electric power generation.
(2) Fertilizer or agricultural chemicals production.
(3) Food and related products or byproducts production.
(4) Inorganic chemicals production.
(5) Iron and steel manufacture or foundries.
(6) Leather and leather products production.
(7) Nonferrous metals manufacture or foundries.
(8) Organic chemicals production.
(9) Plastics and resins manufacture.
(10) Pulp and paper industry.
(11) Rubber and miscellaneous plastic products production.
(12) Stone, glass, clay, and concrete products.
(13) Textile manufacture.
(14) Transportation equipment.
(15) Oil and gas processing and refining but not exploration and recovery.
(16) Painting, printing, and allied industries.
(17) Contaminated, off-specification, or outdated wholesale products.
(18) Waste recycling and processing activities, excluding operations in which processing consists solely of segregation of components of municipal solid waste and no chemical or physical alteration of the waste is performed.
(19) Processing of ores and minerals as defined under 40 CFR 261.4(b)(7), but not the extraction and beneficiation of ores or minerals as defined under 40 CFR 261.4(b)(7).

The term does not include mining operations waste or oil and gas recovery waste. *(Solid Waste Management Board; 329 IAC 10-2-95; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1774)*

**329 IAC 10-2-96 "Infectious waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 96. "Infectious waste" has the meaning set forth in the rules of the state department of health at 410 IAC 1-3-10, as supported by the ancillary definitions of 410 IAC 1-3. *(Solid Waste Management Board; 329 IAC 10-2-96; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1794, eff Apr 1, 2004)*

**329 IAC 10-2-97 "Infectious waste incinerator" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 97. "Infectious waste incinerator" has the meaning set forth in 329 IAC 11-2-19. *(Solid Waste Management Board; 329 IAC 10-2-97; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775)*

**329 IAC 10-2-97.1 "Insignificant facility modification" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 97.1. "Insignificant facility modification" means the following:
(1) Relocation of a solid waste land disposal facility waste hauling road.
(2) Relocation of office buildings.
(3) Changes in sequences of filling in permitted areas.
(4) Installation of temporary sediment control measures.
(5) Installation of leachate control systems to prevent leachate migration off-site.
(6) Installation of additional methane venting wells to an approved system.
(7) Installation of weighing scales.
(8) Replacement of a ground water monitoring well or piezometer no more than fifteen (15) feet horizontally from the original location and at an equal depth.
(9) Use of an alternative daily cover (ADC) under 329 IAC 10-20-14.1(c).
(10) Approvals granted under 329 IAC 10-21 unless the commissioner determines the approval to be a minor modification.
(11) Alternative storage methods for salvaged or recycled materials under 329 IAC 10-20-6(b).
(12) Changes in the frequency that collection containers regulated under 329 IAC 10-20-4(g)(1) and 329 IAC 10-20-4(g)(2) must be emptied.
(13) Improvements to drainage at the facility or modifications to sediment controls.
(14) Use of an ADC under 329 IAC 10-20-14.1(d).
(15) Any modification to the solid waste land disposal facility that the commissioner determines will improve the operation of the facility without significantly altering the approved solid waste land disposal permit.
*(Solid Waste Management Board; 329 IAC 10-2-97.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2746; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3765; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1794, eff Apr 1, 2004)*

**329 IAC 10-2-98 "Intrawell comparison" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 98. "Intrawell comparison" means statistically comparing the historical or background data of one (1) ground water monitoring well to the present ground water result of that same ground water monitoring well. *(Solid Waste Management Board; 329 IAC 10-2-98; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775)*

**329 IAC 10-2-99 "Karst terrain" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 99. "Karst terrain" means an area where karst topography, including the characteristic surface and subterranean features, has developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present

in karst terrains or characteristics of karst terrains include any of the following:

(1) Sinkholes.
(2) Sinking streams.
(3) Caves.
(4) Large springs.
(5) Blind valleys.
(6) Grikes.
(7) Karren.
(8) Solution widened joints or bedding planes.
(9) Loss of drilling fluid during core drilling.
(10) Anasotmosis, and conduits of less than one (1) meter, but more than two and five-tenths (2.5) millimeters.
(11) Karst aquifer.

*(Solid Waste Management Board; 329 IAC 10-2-99; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004)*

**329 IAC 10-2-100 "Land application unit" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 100. "Land application unit" means an area where waste is applied onto or incorporated or injected into the soil surface, excluding manure spreading operations, for agricultural purposes. *(Solid Waste Management Board; 329 IAC 10-2-100; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004)*

**329 IAC 10-2-101 "Land owner" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 101. "Land owner" means an owner of real property. *(Solid Waste Management Board; 329 IAC 10-2-101; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1775)*

**329 IAC 10-2-102 "Lateral expansion" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 102. "Lateral expansion" means a horizontal expansion of the solid waste boundaries of more than one (1) acre beyond a previously permitted solid waste boundary that meets the requirements for a major modification as defined by section 109 of this rule. The closest sides of the solid waste boundary of the permitted area and the solid waste boundary of the lateral expansion must be within fifty (50) feet or less of each other. *(Solid Waste Management Board; 329 IAC 10-2-102; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3766)*

**329 IAC 10-2-103 "Leachate" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 103. "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, immiscible, or miscible material removed from such waste. *(Solid Waste Management Board; 329 IAC 10-2-103; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-104 "Legal description" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 104. "Legal description" means information from the recorded deed that includes the county, township, range, section numbers, total acreage, and, if applicable, the metes and bounds description. *(Solid Waste Management Board; 329 IAC 10-2-104; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-105 "Letter of credit" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 105. "Letter of credit" means an instrument issued by a bank or other financial institution, known as the issuer, in which the issuer agrees on behalf of its customer, known as the account party, to honor demands for payment to the beneficiary usually upon presentation of the documents specified in the instrument. *(Solid Waste Management Board; 329 IAC 10-2-105; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-105.3 "Licensed professional geologist" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-17.6-1-6.5; IC 36-9-30

Sec. 105.3. "Licensed professional geologist" has the meaning set forth in IC 25-17.6-1-6.5. *(Solid Waste Management Board; 329 IAC 10-2-105.3; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004)*

**329 IAC 10-2-106 "Liquid waste" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 106. "Liquid waste" means any waste material that contains free liquids as determined by Method 9095A (Paint Filter Liquids Test), as described in U.S. EPA Publication SW-846. *(Solid Waste Management Board; 329 IAC 10-2-106; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004)*

**329 IAC 10-2-107 "Lithified earth material" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 107. "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. The term does not include manmade materials such as fill, concrete, asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth's surface. *(Solid Waste Management Board; 329 IAC 10-2-107; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-108 "Lower explosive limit" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 108. "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate

a flame at twenty-five degrees Celsius (25°C) and atmospheric pressure. *(Solid Waste Management Board; 329 IAC 10-2-108; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-109 "Major modification of solid waste land disposal facilities" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 109. "Major modification of solid waste land disposal facilities" means any increase in a permitted solid waste land disposal facility that would:

(1) increase the permitted capacity to process or dispose of solid waste by the lesser of:
  (A) more than ten percent (10%); or
  (B) five hundred thousand (500,000) cubic yards; or
(2) increase the area within the permitted solid waste boundary by more than one (1) acre.

*(Solid Waste Management Board; 329 IAC 10-2-109; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3766; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004)*

**329 IAC 10-2-110 "Maximum contaminant level" or "MCL" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 110. "Maximum contaminant level" or "MCL" means the levels developed under Section 1412 of the Safe Drinking Water Act, codified under 40 CFR 141. *(Solid Waste Management Board; 329 IAC 10-2-110; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1776)*

**329 IAC 10-2-111 "Maximum horizontal acceleration in lithified earth material" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 111. "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety percent (90%) or greater probability that the acceleration will not be exceeded in two hundred fifty (250) years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment. *(Solid Waste Management Board; 329 IAC 10-2-111; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777)*

**329 IAC 10-2-112 "Minor modification of solid waste land disposal facilities" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 112. (a) "Minor modification of solid waste land disposal facilities" means any modification in a permitted solid waste land disposal facility that would not:

(1) increase the:
  (A) facility's permitted capacity to dispose of solid waste by the lesser of:
    (i) more than ten percent (10%); or
    (ii) five hundred thousand (500,000) cubic yards; or
  (B) area within the permitted solid waste boundary by more than one (1) acre; or
(2) include those items determined to be:
  (A) insignificant modifications under 329 IAC 10-3-3(b) or by the commissioner; or
  (B) major modifications under section 109 of this rule.

(b) A minor modification includes, but is not limited to, the following:

(1) An alternative daily cover (ADC) under 329 IAC 10-20-14.1(e).
(2) A baled waste management plan under 329 IAC 10-20-31(3).
(3) A borrow pit:
(A) owned by the owner, operator, or permittee;
(B) not permitted by the department before April 1, 2004; and
(C) located on-site or on property adjoining the facility.
(4) The run-on control systems, the liquids restriction, and the final cover as allowed under the research, development, and demonstration minor permit modification in 329 IAC 10-11-6.5.
*(Solid Waste Management Board; 329 IAC 10-2-112; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3766; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1795, eff Apr 1, 2004; filed May 2, 2005, 2:30 p.m.: 28 IR 2670)*

**329 IAC 10-2-113 "Monitoring boundary" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 113. "Monitoring boundary" means the vertical plane provided by the ground water monitoring wells that are nearest to the permitted solid waste disposal boundary and are not hydraulically upgradient from the permitted solid waste disposal boundary. The vertical plane extends through the uppermost aquifer. *(Solid Waste Management Board; 329 IAC 10-2-113; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3766)*

**329 IAC 10-2-114 "Mulch" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 114. "Mulch" means a natural or artificial layer of plant residue or other material covering the land surface that conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes soil temperature fluctuations. *(Solid Waste Management Board; 329 IAC 10-2-114; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777)*

**329 IAC 10-2-115 "Municipal solid waste" or "MSW" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3-3; IC 13-30-2; IC 36-9-30

Sec. 115. (a) "Municipal solid waste" or "MSW" means any solid waste generated by community activities or the operation of residential or commercial establishments.
(b) The term includes the following:
(1) Household or residential waste.
(2) Commercial solid waste.
(c) The term does not include the following:
(1) Construction/demolition waste.
(2) Industrial process waste.
(3) Infectious waste.
(4) Coal combustion and flue gas desulfurization wastes excluded from regulation by IC 13-19-3-3.
(5) Hazardous waste.
(6) Pollution control waste.
*(Solid Waste Management Board; 329 IAC 10-2-115; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3959)*

**329 IAC 10-2-116 "Municipal solid waste landfill" or "MSWLF" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-20-21; IC 13-30-2; IC 36-9-30

Sec. 116. (a) "Municipal solid waste landfill" or "MSWLF" means a solid waste land disposal facility that is:
(1) permitted to accept municipal solid waste; and
(2) not:
(A) a land application unit;
(B) a surface impoundment;
(C) an injection well; or
(D) a waste pile.
(b) An MSWLF is a sanitary landfill for purposes of IC 13-20-21. Such a landfill may be publicly or privately owned. *(Solid Waste Management Board; 329 IAC 10-2-116; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1703, eff one hundred eighty (180) days after filing with the secretary of state; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747, eff Jul 10, 1998; errata filed Apr 8, 1998, 2:20 p.m.: 21 IR 2990; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3959)*

**329 IAC 10-2-117 "Municipal solid waste landfill unit" or "MSWLF unit" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-30-2; IC 36-9-30

Sec. 117. (a) "Municipal solid waste landfill unit" or "MSWLF unit" means a discrete area of land or an excavation that is:
(1) permitted to accept municipal solid waste for disposal; and
(2) not:
(A) a land application unit;
(B) a surface impoundment;
(C) an injection well; or
(D) a waste pile.
(b) The landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion. *(Solid Waste Management Board; 329 IAC 10-2-117; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1777; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1703, eff one hundred eighty (180) days after filing with the secretary of state; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747, eff Jul 10, 1998; errata filed Apr 8, 1998, 2:20 p.m.: 21 IR 2990; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3959)*

**329 IAC 10-2-118 "Net worth" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 118. "Net worth" means total assets minus total liabilities. *(Solid Waste Management Board; 329 IAC 10-2-118; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-119 "New municipal solid waste landfill unit" or "new MSWLF unit" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 119. "New municipal solid waste landfill unit" or "new MSWLF unit" means any MSWLF unit that has not received solid waste. *(Solid Waste Management Board; 329 IAC 10-2-119; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-120 "Nonaquifer material" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 120. "Nonaquifer material" means an aquitard with a hydraulic conductivity no greater than $1 \times 10^{-5}$ cm/sec. *(Solid Waste Management Board; 329 IAC 10-2-120; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-121 "Nonmunicipal solid waste landfill" or "non-MSWLF" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-20-21; IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 121. "Nonmunicipal solid waste landfill" or "non-MSWLF" means a solid waste land disposal facility that is permitted to receive general types of solid waste, excluding municipal solid waste as defined in section 115 of this rule and hazardous waste regulated by 329 IAC 3.1, and operated by spreading the waste in thin layers, compacting it to the smallest practical volume, and covering it with cover material at the end of each working day. A nonmunicipal solid waste landfill is a sanitary landfill for purposes of IC 13-20-21. *(Solid Waste Management Board; 329 IAC 10-2-121; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1703, eff one hundred eighty (180) days after filing with the secretary of state; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767)*

**329 IAC 10-2-121.1 "Nonmunicipal solid waste landfill unit" or "non-MSWLF unit" defined**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3
Affected: IC 13-11-2; IC 36-9-30

Sec. 121.1. "Nonmunicipal solid waste landfill unit" or "non-MSWLF unit" means a discrete area of land or an excavation that is permitted to receive general types of solid waste, excluding municipal solid waste as defined in section 115 of this rule and hazardous waste regulated by 329 IAC 3.1, for disposal and that is not a land application unit, surface impoundment, injection well, or waste pile. Such a landfill unit may be publicly or privately owned. A nonmunicipal solid waste landfill unit may be a new nonmunicipal solid waste landfill unit, an existing nonmunicipal solid waste landfill unit, or a lateral expansion. *(Solid Waste Management Board; 329 IAC 10-2-121.1; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1703, eff one hundred eighty (180) days after filing with the secretary of state; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-122 "Normal water line" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 122. "Normal water line" means the average normal water level, as determined by the department of natural resources under 310 IAC 6, or the average boundary of the water as evidenced by either water level records or changes in the character of vegetation and soil due to the presence of the water. *(Solid Waste Management Board; 329 IAC 10-2-122; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-123 "Occupant" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 123. "Occupant" means the person who resides in or uses as an owner or tenant the structure, facility, or property. *(Solid Waste Management Board; 329 IAC 10-2-123; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-124 "Offices" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 124. "Offices" means places where a particular kind of business is transacted or a service is supplied. *(Solid Waste Management Board; 329 IAC 10-2-124; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045)*

**329 IAC 10-2-125 "On-site" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 125. "On-site" means all areas within the facility boundary. *(Solid Waste Management Board; 329 IAC 10-2-125; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778)*

**329 IAC 10-2-126 "On-site road" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 126. "On-site road" means a road for the passage of vehicles from the solid waste land disposal facility entrance to the disposal area or other areas at a permitted solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-126; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1778; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767)*

**329 IAC 10-2-127 "Open burning" defined (Repealed)**

Sec. 127. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-128 "Open dump" defined (Repealed)**

Sec. 128. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-129 "Operating days" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 129. "Operating days" means time expressed in total number of days during which a solid waste land disposal facility is open to actively accept solid waste for disposal. *(Solid Waste Management Board; 329 IAC 10-2-129; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767)*

**329 IAC 10-2-130 "Operator" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1; IC 13-20-4-7; IC 13-20-6
Affected: IC 13-11-2-148; IC 13-19-3; IC 13-30-2; IC 36-9-30

Sec. 130. (a) "Operator", except as provided in subsection (b), means the person or persons responsible for the overall operation of a solid waste land disposal facility or part of a solid waste land disposal facility.
(b) In:

(1) 329 IAC 10-20-30;
(2) 329 IAC 10-28-22 through 329 IAC 10-28-24; and
(3) 329 IAC 10-36-17 through 329 IAC 10-36-19;
the term has the meaning as set forth in IC 13-11-2-148(c). *(Solid Waste Management Board; 329 IAC 10-2-130; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3767; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3959)*

**329 IAC 10-2-131 "Owner" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 131. "Owner" means the person who owns a solid waste land disposal facility or part of a solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-131; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-132 "Partial closure" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 132. "Partial closure" means those activities required at the end of waste acceptance for an area of a solid waste land disposal facility, including the placement of final cover and the establishment of vegetation in accordance with approved closure plans but exclusive of monitoring and maintenance activities required under post-closure care. *(Solid Waste Management Board; 329 IAC 10-2-132; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-132.1 "Partial closure certification" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 132.1. "Partial closure certification" means a written certification signed by the owner, operator, or permittee and an independent registered professional engineer submitted to the commissioner stating that partial closure for a unit or units of a solid waste land disposal facility has been completed in accordance with the approved closure plan. *(Solid Waste Management Board; 329 IAC 10-2-132.1; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-132.2 "Peak discharge" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 132.2. "Peak discharge" means the maximum rate of flow during a storm, usually in reference to a specific design storm event. *(Solid Waste Management Board; 329 IAC 10-2-132.2; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-132.3 "Permanent stabilization" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 132.3. "Permanent stabilization" means the establishment, at a uniform density of ninety percent (90%) across the disturbed area, of vegetative cover or permanent nonerosive material that will ensure the resistance of the soil to erosion, sliding,

or other movement. *(Solid Waste Management Board; 329 IAC 10-2-132.3; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-133 "Permit" defined**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 13-20; IC 25-31; IC 36-9-30

Sec. 133. "Permit" means a permit, a determination related to a permit, license, registration, certificate, or other type of authorization required before construction or operation, that may be issued by the commissioner under IC 13-15 or IC 13-20. *(Solid Waste Management Board; 329 IAC 10-2-133; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2747)*

**329 IAC 10-2-134 "Permittee" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 134. "Permittee" means the person who applies for and receives a permit from the department. *(Solid Waste Management Board; 329 IAC 10-2-134; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779)*

**329 IAC 10-2-135 "Person" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 135. "Person" means any of the following:
(1) An individual.
(2) A partnership.
(3) A copartnership.
(4) A firm.
(5) A company.
(6) A corporation.
(7) An association.
(8) A joint stock company.
(9) A trust.
(10) An estate.
(11) A municipal corporation.
(12) A city.
(13) A school city.
(14) A town.
(15) A school town.
(16) A school district.
(17) A school corporation.
(18) A county.
(19) Any consolidated unit of government.
(20) A political subdivision.
(21) A solid waste management district.
(22) A state agency.
(23) A federal government or agency.
(24) Any other legal entity.
*(Solid Waste Management Board; 329 IAC 10-2-135; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1779)*

**329 IAC 10-2-135.1 "Petroleum contaminated spill waste" defined (Repealed)**

Sec. 135.1. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**329 IAC 10-2-135.5 "Petroleum contaminated soil" defined**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3
Affected: IC 13-12; IC 13-19; IC 13-20-7-6; IC 36-9-30

Sec. 135.5. "Petroleum contaminated soil" means soil that is contaminated with any of the following:
(1) Asphalt or asphaltic suspension.
(2) Aviation turbine fuel.
(3) Crude oil.
(4) Diesel fuel.
(5) Fuel oil.
(6) Gas oil.
(7) Gasoline.
(8) Heating oil.
(9) Hydraulic oil.
(10) Jet fuel.
(11) Kerosene.
(12) Lubricating oil.
(13) Mineral spirits.
(14) Motor fuel.
(15) Transformer oil.
(16) Transmission fluid.
*(Solid Waste Management Board; 329 IAC 10-2-135.5; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3960)*

**329 IAC 10-2-136 "Piezometer" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 136. "Piezometer" means a type of monitoring well or other device that is constructed for the purpose of measuring hydraulic head in ground water. *(Solid Waste Management Board; 329 IAC 10-2-136; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-137 "Pollution control waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 137. "Pollution control waste" includes liquid, solid, semisolid, or gaseous waste generated as a direct or indirect result from the removal of contaminants from air, water, or land and may include, but is not limited to, wastes such as:
(1) water and wastewater treatment sludges;
(2) baghouse dust;
(3) scrubber sludges;
(4) chemical spill clean-up wastes; or
(5) remedial activity clean-up wastes.
*(Solid Waste Management Board; 329 IAC 10-2-137; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-138 "Poor foundation conditions" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 138. "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 MSWLF unit. Poor foundation conditions may be caused by conditions such as expansive soil, or soils subject to rapid settlement such as loess, unconsolidated soils, wetland soils, or other unstable soil conditions. See also the definition of "unstable area" in section 194 of this rule. *(Solid Waste Management Board; 329 IAC 10-2-138; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-139 "Post-closure" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 139. "Post-closure" means the monitoring and maintenance activities required after final closure of a solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-139; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-140 "Post-closure cost estimate" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 140. "Post-closure cost estimate" means the original or most recently submitted written estimate, in current dollars, of the total cost of post-closure monitoring and maintenance of the solid waste land disposal facility during the entire post-closure care period in accordance with the post-closure plan. *(Solid Waste Management Board; 329 IAC 10-2-140; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-141 "Potable" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 141. "Potable" means fit to drink. *(Solid Waste Management Board; 329 IAC 10-2-141; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-141.3 "Potable ground water source" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 141.3. "Potable ground water source" means an aquifer that is capable of sustaining the daily drinking water needs of an average single family dwelling based on natural yield and quality and that meets all the following criteria:

(1) Natural yield of six and forty-five hundredths (6.45) $cm^3$/sec (one hundred fifty (150) gallons per day) to a well or spring throughout the year.

(2) Hydraulic conductivity greater than or equal to one ten-thousandth centimeters per second ($1 \times 10^{-4}$cm/sec).

(3) Total dissolved solids concentration less than ten thousand (10,000) milligrams per liter.

(4) Levels of natural contaminants that can be treated using conventional household water supply treatment methods.

*(Solid Waste Management Board; 329 IAC 10-2-141.3; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-142 "Practical quantitation limit" or "PQL" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 142. "Practical quantitation limit" or "PQL" means the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions available to the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-142; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3768)*

**329 IAC 10-2-142.5 "Preliminary exceedance" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 142.5. "Preliminary exceedance" means the statistically significant increase in concentration of any constituent prior to the increase being verified under 329 IAC 10-21-8. *(Solid Waste Management Board; 329 IAC 10-2-142.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-143 "Processing" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 143. "Processing" has the meaning set forth in 329 IAC 11-2-30. *(Solid Waste Management Board; 329 IAC 10-2-143; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-144 "Project engineer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 144. "Project engineer" means the specific individual designated by the owner with knowledge of the project, project plans, specifications, and quality assurance/quality control (QA/QC) document and shall be supervised by a registered professional engineer. *(Solid Waste Management Board; 329 IAC 10-2-144; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1780)*

**329 IAC 10-2-145 "Public water supply stabilized cone of depression area" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 145. "Public water supply stabilized cone of depression area" means the surface and subsurface area between a public water supply well or well field and the ninety-nine percent (99%) theoretical maximum extent of the stabilized cone of depression of that well or well field considering all flow system boundaries and seasonal fluctuations. *(Solid Waste Management Board; 329 IAC 10-2-145; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781)*

**329 IAC 10-2-146 "Public water supply system" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 146. "Public water supply system" means a public water supply for the provision to the public of piped water for human consumption and use, if such system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. The term includes any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water supply system is either a community water system or a noncommunity water system as defined in 327 IAC 8-2-1(8) and 327 IAC 8-2-1(41). *(Solid Waste Management Board; 329 IAC 10-2-146; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2748)*

**329 IAC 10-2-147 "Qualified ground water scientist" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 147. "Qualified ground water scientist" means a scientist or engineer who:

(1) has received a baccalaureate or postgraduate degree in the natural sciences or engineering; and

(2) is trained and experienced in ground water hydrology and related fields as may be demonstrated by state registration, professional certification, or completion of accredited university programs that enable that individual to make sound, professional judgments regarding ground water monitoring, contaminant fate and transport, and corrective action.

*(Solid Waste Management Board; 329 IAC 10-2-147; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781)*

**329 IAC 10-2-147.5 "Quality assurance/quality control" or "QA/QC" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 147.5. "Quality assurance/quality control" or "QA/QC" means the program to assure that all data be scientifically valid, defensible, and of known precision and accuracy. *(Solid Waste Management Board; 329 IAC 10-2-147.5; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-148 "Real property boundary" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 148. "Real property boundary" means the outermost perimeter of the land owned by a person upon which the solid waste land disposal facility is located, as the real property is described in the recorded deed and the current county or counties plats. *(Solid Waste Management Board; 329 IAC 10-2-148; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-149 "Recovery" defined (Repealed)**

Sec. 149. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-150 "Regional aquifer" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 150. "Regional aquifer" means the aquifer used as a primary source of water for wells within one (1) mile of the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-150; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781)*

**329 IAC 10-2-151 "Registered land surveyor" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-21.5; IC 36-9-30

Sec. 151. "Registered land surveyor" means a land surveyor registered by the board of registration for land surveyors under IC 25-21.5. *(Solid Waste Management Board; 329 IAC 10-2-151; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-152 "Registered professional engineer" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 152. "Registered professional engineer" means a professional engineer registered by the state under IC 25-31. *(Solid Waste Management Board; 329 IAC 10-2-152; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1781)*

**329 IAC 10-2-152.5 "Regulated asbestos-containing material" or "RACM" defined**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-18-1; IC 13-18-20

Sec. 152.5. (a) "Regulated asbestos-containing material" or "RACM" means the following:

(1) Friable asbestos material defined at 40 CFR 61.141.

(2) Category I nonfriable asbestos-containing material, defined at 40 CFR 61.141, that has become friable.

(3) Category I nonfriable asbestos-containing material, defined at 40 CFR 61.141, that:

(A) will be; or

(B) has been;

subjected to sanding, grinding, cutting, or abrading.

(4) Category II nonfriable asbestos-containing material, defined at 40 CFR 61.141, that:

(A) has a high probability of becoming; or

(B) has become;

crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition, renovation, or disposal operations.

(b) The term does not include regulated asbestos-containing materials that have not become solid waste. *(Solid Waste Management Board; 329 IAC 10-2-152.5; filed Sep 10, 1999, 9:24 a.m.: 23 IR 6)*

**329 IAC 10-2-153 "Regulated hazardous waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 153. "Regulated hazardous waste" means a solid waste:

(1) that is a hazardous waste as defined by the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq., January 1, 1989) as amended;

(2) that is not excluded from regulation as a hazardous waste under 329 IAC 3.1; and

(3) that is not generated by a conditionally exempt small quantity generator as defined in 329 IAC 3.1.

*(Solid Waste Management Board; 329 IAC 10-2-153; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-154 "Remaining disposal capacity" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 154. "Remaining disposal capacity" means the volume of permitted space in cubic yards available beyond the current date to continue to accept solid waste for final disposal at a solid waste land disposal facility. The remaining disposal capacity is calculated by subtracting the existing fill volume as determined by the contour map required by 329 IAC 10-20-8(a)(6), from the design capacity. This volume, which excludes areas under post-closure care, does not reflect the potential for additional volume that may become available through a vertical or lateral expansion. *(Solid Waste Management Board; 329 IAC 10-2-154; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-155 "Remaining facility life" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 155. "Remaining facility life" means the estimated amount of time beyond the current date during which a solid waste land disposal facility is expected to continue to accept solid waste for final disposal. Remaining facility life is associated with increases or decreases in remaining disposal capacity, but the rate of capacity depletion may be affected by other factors such as changes in:

(1) solid waste management techniques;
(2) regional facility capacity; or
(3) solid waste sources and destination.

The term does not include the post-closure period. *(Solid Waste Management Board; 329 IAC 10-2-155; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-156 "Residential waste" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 156. "Residential waste" has the same meaning as household waste defined in section 90 of this rule. *(Solid Waste Management Board; 329 IAC 10-2-156; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-157 "Residue" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 157. "Residue" means any solid waste remaining after incineration or processing that is not completely combusted or recovered, including any of the following:

(1) Ash.
(2) Ceramics.
(3) Glass.
(4) Metal.
(5) Other inorganic substances or organic substances.

*(Solid Waste Management Board; 329 IAC 10-2-157; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-158 "Responsible corporate officer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 158. "Responsible corporate officer" means a president, secretary, treasurer, or any vice president of the corporation or corporate division in charge of a principal business function that includes the activity to be permitted. *(Solid Waste Management Board; 329 IAC 10-2-158; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1796, eff Apr 1, 2004)*

**329 IAC 10-2-159 "Restricted waste site" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 159. "Restricted waste site" means a solid waste land disposal facility designed and operated to accommodate specific types of waste as specified in 329 IAC 10-9-4. *(Solid Waste Management Board; 329 IAC 10-2-159; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-160 "Road demolition waste" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 160. "Road demolition waste" means any reinforced or unreinforced concrete or solidified asphalt. The term does not include liquid or uncured asphalt. *(Solid Waste Management Board; 329 IAC 10-2-160; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1782)*

**329 IAC 10-2-161 "Run-off" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 161. "Run-off" means any rainwater and surface water that has not come into any contact with solid waste that drains over land from any part of a solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-161; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-162 "Run-on" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 162. "Run-on" means any rainwater and surface water that drains over land onto any part of a solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-162; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-163 "Salvaging" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 163. "Salvaging" means the controlled and organized removal of materials from solid waste for utilization. *(Solid Waste Management Board; 329 IAC 10-2-163; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-164 "Scavenging" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 164. "Scavenging" means the uncontrolled and unauthorized removal or collection of materials from solid waste. *(Solid Waste Management Board; 329 IAC 10-2-164; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-165 "Secondary maximum contaminant level" or "SMCL" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 165. "Secondary maximum contaminant level" or "SMCL" means the level or concentration that has been established under Section 1412 of the Safe Drinking Water Act, as codified under 40 CFR 143.3. *(Solid Waste Management Board; 329 IAC 10-2-165; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-165.5 "Sedimentation" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 165.5. "Sedimentation" means the settling and accumulation of unconsolidated sediment carried by storm water run-off. *(Solid Waste Management Board; 329 IAC 10-2-165.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-166 "Sedimentation basin" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 166. "Sedimentation basin" means an artificial or natural surface structure to allow the settlement of any unconsolidated material carried by run-off from the facility. *(Solid Waste Management Board; 329 IAC 10-2-166; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-167 "Seep" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 167. "Seep" means an area, generally small in nature, where water percolates slowly to the land surface and no visible flow of water occurs at the surface. *(Solid Waste Management Board; 329 IAC 10-2-167; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-168 "Seismic impact zone" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 168. "Seismic impact zone" means an area with a ten percent (10%) or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed one-tenth (0.10) gravitational pull in two hundred fifty (250) years. *(Solid Waste Management Board; 329 IAC 10-2-168; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783)*

**329 IAC 10-2-168.1 "Sensitive environment" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 168.1. "Sensitive environment" means an area to which a solid waste land disposal facility poses a specific threat to the environment or to the public health because a small contamination release could have a significant impact. This may be due to proximity to other sensitive environments that include, but are not limited to:

(1) aquifers of significance;
(2) public water supply systems;
(3) wellhead protection areas;
(4) drinking water supply reservoirs;
(5) areas requiring special protection, such as:
  (A) regulated wetlands;
  (B) karst terrains; or
  (C) the critical habitat of an endangered species;
(6) areas containing highly permeable soils or bedrock formations, such as karst carbonate formations; or
(7) other special circumstances.

*(Solid Waste Management Board; 329 IAC 10-2-168.1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1783; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-168.2 "Setback" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 168.2. "Setback" means the distance between a designated point and the permitted solid waste boundary of a solid waste land disposal facility as projected at the time of final closure and approved by the department as part of the solid waste land disposal facility's original or modified permit. The designated point of a public or nonpublic school is the property boundary of public or nonpublic school property that contains a facility intended for regularly scheduled student use. *(Solid Waste Management Board; 329 IAC 10-2-168.2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-169 "Significant stratum" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 169. "Significant stratum" means a geologic unit with a minimum thickness of eighteen (18) inches which, based on appearance, mainly color and texture, can be visually distinguished from other layers. *(Solid Waste Management Board; 329 IAC 10-2-169; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784)*

**329 IAC 10-2-170 "Significant zone of saturation" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 170. "Significant zone of saturation" means a zone of saturation that may act as a preferential pathway of migration away from the limits of solid waste placement. *(Solid Waste Management Board; 329 IAC 10-2-170; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784)*

**329 IAC 10-2-171 "Site" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 171. "Site" means the land area on which a permitted solid waste land disposal facility is situated. *(Solid Waste Management Board; 329 IAC 10-2-171; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3769)*

**329 IAC 10-2-172 "Sludge" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 172. "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant. *(Solid Waste Management Board; 329 IAC 10-2-172; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784)*

**329 IAC 10-2-172.5 "Soil and water conservation district" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 172.5. "Soil and water conservation district" or "SWCD" means a political subdivision established under IC 14-32. *(Solid Waste Management Board; 329 IAC 10-2-172.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-173 "Soil borings" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 173. "Soil borings" means holes drilled in the earth to identify soil types, subsurface materials, and water table levels. *(Solid Waste Management Board; 329 IAC 10-2-173; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784)*

**329 IAC 10-2-174 "Solid waste" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-11-2-205; IC 13-19-3; IC 13-20-10; IC 36-9-30

Sec. 174. (a) "Solid waste" has the meaning as set forth in IC 13-11-2-205(a).
(b) The following are examples of other discarded material:
(1) Ash residue.
(2) Contaminated sediments.
(3) Commercial solid waste.
(4) Construction/demolition waste.
(5) Hazardous waste.
(6) Household waste.
(7) Infectious waste.
(8) Liquid waste.
(9) Pollution control waste.
(10) Municipal solid waste.
(11) Regulated hazardous waste.

(12) Residential waste.
(13) Industrial process waste.
*(Solid Waste Management Board; 329 IAC 10-2-174; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1784; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2748; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3960)*

**329 IAC 10-2-175 "Solid waste boundary" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 175. "Solid waste boundary" means the outermost perimeter of the area within a solid waste land disposal facility that is permitted to receive solid waste for disposal. *(Solid Waste Management Board; 329 IAC 10-2-175; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1785)*

**329 IAC 10-2-176 "Solid waste land disposal facility" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 176. (a) "Solid waste land disposal facility" means a permitted facility that accepts solid waste for deposit and covering in or on the ground surface. Permitted solid waste land disposal facilities must be classified into one (1) of the following types:
(1) Municipal solid waste landfill (MSWLF).
(2) Construction/demolition site.
(3) Restricted waste site.
(4) Nonmunicipal solid waste landfill.
(b) The term does not include solid waste processing or land application facilities or activities. *(Solid Waste Management Board; 329 IAC 10-2-176; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1785; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770)*

**329 IAC 10-2-177 "Solid waste management" defined (Repealed)**

Sec. 177. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-178 "Solid waste processing facility" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 178. "Solid waste processing facility" has the meaning set forth in 329 IAC 11-2-43. *(Solid Waste Management Board; 329 IAC 10-2-178; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1785)*

**329 IAC 10-2-179 "Special waste" defined (Repealed)**

Sec. 179. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**329 IAC 10-2-180 "Statistically significant increase for ground water" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 180. "Statistically significant increase for ground water" means an increase of a constituent's concentration that is too large to be attributed to natural variation or laboratory and sampling variance in the ground water between ground water quality at the monitoring boundary for each constituent and the background ground water quality for the constituent. *(Solid Waste Management Board; 329 IAC 10-2-180; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-181 "Storage" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 181. "Storage" means the retention, containment, or accumulation of solid waste on a temporary basis in such a manner that it does not threaten or potentially threaten human health or impact or potentially impact the environment, for a period of more than twenty-four (24) hours, in such a manner as not to constitute disposal of the waste. It must be a rebuttable presumption that storage of waste for more than six (6) months constitutes disposal. *(Solid Waste Management Board; 329 IAC 10-2-181; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-181.2 "Storm water discharge" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 181.2. "Storm water discharge" means the release or flow of storm water past the facility boundary or into a water of the state. *(Solid Waste Management Board; 329 IAC 10-2-181.2; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-181.5 "Storm water pollution prevention plan" or "SWP3" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 181.5. "Storm water pollution prevention plan" or "SWP3" means a written plan developed to minimize the impact of storm water pollutants resulting from construction and landfill operation activities. *(Solid Waste Management Board; 329 IAC 10-2-181.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-181.6 "Storm water quality measure" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 181.6. "Storm water quality measure" means a practice, or a combination of practices, to control or minimize pollutants associated with storm water run-off. *(Solid Waste Management Board; 329 IAC 10-2-181.6; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-182 "Structural components" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 182. "Structural components" means:
(1) liners;
(2) leachate collection systems;
(3) final covers;

(4) run-on or run-off systems; and
(5) any other components used in the construction and operation of the solid waste land disposal facility that are necessary for the protection of human health and the environment.
*(Solid Waste Management Board; 329 IAC 10-2-182; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770)*

**329 IAC 10-2-183 "Structural fill" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 183. "Structural fill" means soil material that is placed in lifts and compacted to a specified density as determined by the CQA/CQC document or by the design specification. *(Solid Waste Management Board; 329 IAC 10-2-183; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-184 "Surety bond" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 184. "Surety bond" means a contract by which a surety company engages to be answerable for the default or debts of a permittee on responsibilities relating to closure or post-closure care, and agrees to satisfy these responsibilities if the permittee does not, in accordance with the terms specified in 329 IAC 10-39. *(Solid Waste Management Board; 329 IAC 10-2-184; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-185 "Surface impoundment" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 185. (a) "Surface impoundment" means a facility or part of a facility that:
(1) is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials, although it may be lined with manmade materials;
(2) holds or is designed to hold an accumulation of liquid wastes or wastes containing free liquids; and
(3) is not an injection well.
(b) Examples of surface impoundments may include the following:
(1) Holding, storage, settling, and aeration pits.
(2) Holding, storage, settling, and aeration ponds.
(3) Holding, storage, settling, and aeration lagoons.
*(Solid Waste Management Board; 329 IAC 10-2-185; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-186 "Surface water" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 186. "Surface water" means water present on the surface of the earth, including:
(1) streams;
(2) lakes;
(3) ponds;
(4) rivers;

(5) swamps;
(6) marshes;
(7) wetlands; or
(8) rainwater present on the earth.
*(Solid Waste Management Board; 329 IAC 10-2-186; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1786)*

**329 IAC 10-2-187 "Surficial aquifer" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 187. "Surficial aquifer" means an aquifer consisting of sand and gravel, which includes bedrock that is hydraulically interconnected with the sand and gravel, that is covered by less than ten (10) feet of nonaquifer material. *(Solid Waste Management Board; 329 IAC 10-2-187; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-187.5 "Temporary stabilization" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 187.5. "Temporary stabilization" means the covering of soil to ensure the resistance of the soil to erosion, sliding, or other movement. The term includes vegetative cover, anchored mulch, or other nonerosive material applied at a uniform density of seventy percent (70%) across the disturbed area. *(Solid Waste Management Board; 329 IAC 10-2-187.5; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

**329 IAC 10-2-188 "Tons per day" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 188. "Tons per day" means tons per operating day. *(Solid Waste Management Board; 329 IAC 10-2-188; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-188.1 "Topsoil" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 188.1. "Topsoil" means any of the following:
(1) The dark-colored surface layer, or A horizon, of a soil. When present, it ranges in depth from a fraction of an inch to three (3) feet.
(2) Surface soil equivalent to the plow layer of cultivated soils.
(3) Refers to any surface layers enriched in organic matter and having textural and structural characteristics favorable to plant growth.
*(Solid Waste Management Board; 329 IAC 10-2-188.1; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2748)*

**329 IAC 10-2-189 "Transfer station" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 189. "Transfer station" has the meaning set forth in 329 IAC 11-2-47. *(Solid Waste Management Board; 329 IAC 10-2-189; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-190 "Trust fund" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 190. "Trust fund" means a fund established by a permittee and held by a financial institution licensed by Indiana, as the trustee with a fiduciary responsibility to carry out the terms of the trust, as specified in 329 IAC 10-39-10, for the benefit of the department. *(Solid Waste Management Board; 329 IAC 10-2-190; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-191 "Twenty-five year, twenty-four hour precipitation event" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 191. "Twenty-five (25) year, twenty-four (24) hour precipitation event" means the maximum twenty-four (24) hour precipitation event with the probable recurrence interval of once in twenty-five (25) years as determined in the following:

(1) "Rainfall Frequency Atlas of the United States for Duration from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years", Technical Paper 40, Weather Bureau, United States Department of Commerce.

(2) "Rainfall Frequency for Indiana", Indiana department of natural resources, division of water, November 1994.

*(Solid Waste Management Board; 329 IAC 10-2-191; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-192 "Unauthorized solid waste" defined**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 192. "Unauthorized solid waste" means solid waste that is prohibited from disposal in a solid waste land disposal facility by:

(1) permit conditions;

(2) Indiana statutes or rules; or

(3) federal acts or regulations.

*(Solid Waste Management Board; 329 IAC 10-2-192; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2748)*

**329 IAC 10-2-193 "Unit of government" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 193. "Unit of government" means a county, municipality, township, or solid waste management district. *(Solid Waste Management Board; 329 IAC 10-2-193; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-194 "Unstable area" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 194. "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 solid waste land disposal facility's structural components responsible for preventing releases from within the solid waste boundary. The term may include poor foundation conditions, underground mines, mine spoil, areas susceptible to mass movements, and karst terrains. *(Solid Waste Management Board; 329 IAC 10-2-194; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770)*

**329 IAC 10-2-195 "Upgradient ground water monitoring well" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 195. "Upgradient ground water monitoring well" means an approved ground water monitoring well that is used to obtain ground water and is located at any point beyond the permitted solid waste boundary that is extrapolated as having a higher potentiometric surface than that of the permitted solid waste boundary. *(Solid Waste Management Board; 329 IAC 10-2-195; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1787)*

**329 IAC 10-2-196 "Upgradient water quality" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 196. "Upgradient water quality" means the chemical composition of water in the stream or ground water that is in the direction of increasing static head of the solid waste boundary and that is representative of the flow system before it has passed by or beneath the monitoring boundary of the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-2-196; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770)*

**329 IAC 10-2-197 "Uppermost aquifer system" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 197. "Uppermost aquifer system" means the geologic formation nearest the natural ground surface within the facility boundary of a solid waste land disposal facility that is an aquifer as well as lower aquifers that are hydraulically interconnected with the uppermost aquifer. *(Solid Waste Management Board; 329 IAC 10-2-197; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770)*

**329 IAC 10-2-197.1 "U.S. Environmental Protection Agency Publication SW-846" or "SW-846" defined**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19
Affected: IC 13-11-2; IC 13-19-3; IC 36-9-30

Sec. 197.1. "U.S. Environmental Protection Agency Publication SW-846" or "SW-846" means "Test Methods for Evaluating Solid Waste, Physical Chemical Methods", U.S. Environmental Protection Agency Publication SW-846, Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), and III (December 1996). SW-846 is available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238. *(Solid Waste Management Board; 329 IAC 10-2-197.1; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1705, eff one hundred eighty (180) days after filing with the secretary of state; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3960)*

**329 IAC 10-2-198 "Vertical expansion" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 198. "Vertical expansion" means an increase in the currently permitted elevation the solid waste land disposal facility may fill with solid waste, cover, and final cover. *(Solid Waste Management Board; 329 IAC 10-2-198; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-199 "Washout" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 199. "Washout" means the carrying away of solid waste by waters of the base flood. *(Solid Waste Management Board; 329 IAC 10-2-199; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-199.1 "Waste determination" defined (Repealed)**

Sec. 199.1. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**329 IAC 10-2-200 "Waste management unit boundary" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 200. "Waste management unit boundary" means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer. *(Solid Waste Management Board; 329 IAC 10-2-200; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-201 "Waste pile" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 201. "Waste pile" means any noncontainerized accumulation of nonflowing solid waste that is used for treatment or storage. *(Solid Waste Management Board; 329 IAC 10-2-201; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-201.1 "Waste stream" defined (Repealed)**

Sec. 201.1. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**329 IAC 10-2-202 "Water course" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 202. "Water course" means the path taken by flowing surface water. *(Solid Waste Management Board; 329 IAC 10-2-202; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-203 "Water pollution" defined (Repealed)**

Sec. 203. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-204 "Water table" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 204. "Water table" means the upper surface of the ground water at which the fluid pressure of the ground water is equal to atmospheric pressure. *(Solid Waste Management Board; 329 IAC 10-2-204; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1788)*

**329 IAC 10-2-205 "Waters" defined (Repealed)**

Sec. 205. *(Repealed by Solid Waste Management Board; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1873, eff Apr 1, 2004)*

**329 IAC 10-2-206 "Well cluster" defined**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 206. "Well cluster" means a number of monitoring wells grouped closely together but not in the same borehole and often screened at different positions within a thick stratigraphic sequence or screened at different stratigraphic horizons. *(Solid Waste Management Board; 329 IAC 10-2-206; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789)*

**329 IAC 10-2-206.3 "Wentworth grain-size scale" defined**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-17; IC 13-18; IC 25-31; IC 36-9-30

Sec. 206.3. "Wentworth grain-size scale" means grain-size divisions defined by the following:

| Grain Size Scales* | | |
|---|---|---|
| Grade Limits in Millimeters | | Grade Name |
| Lower Limit | Upper Limit | |
| 256 and above | | Boulders |
| 64 | 256 | Cobbles |
| 16 | 64 Coarse | Pebbles |
| 4 | 16 Fine | |
| 2 | 4 | Granules |
| 1 | 2 Very Coarse | Sand |
| 0.5 | 1 Coarse | |
| 0.25 | 0.5 Medium | |
| 0.125 | 0.25 Fine | |
| 0.062 | 0.125 Very Fine | |
| 0.031 | 0.062 Very Coarse | Silt |
| 0.016 | 0.031 Coarse | |
| 0.008 | 0.016 Medium | |
| 0.004 | 0.008 Fine | |
| 0.002 | 0.004 Very Fine | |
| Below 0.002 | 0.002 | Clay |

*IDEM, Requirements for Describing Unconsolidated Deposits, revised November 19, 1988. *(Solid Waste Management Board; 329 IAC 10-2-206.3; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3770; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27)*

**329 IAC 10-2-207 "Wetlands" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 207. "Wetlands" means those areas classified as jurisdictional wetlands or jurisdictional waters of the United States by the United States Army Corps of Engineers under authority from the Clean Water Act, 33 U.S.C. 1344. *(Solid Waste Management Board; 329 IAC 10-2-207; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789)*

**329 IAC 10-2-208 "Working face" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 208. "Working face" means that portion of a solid waste land disposal facility where the solid waste is actively being deposited on a daily basis. *(Solid Waste Management Board; 329 IAC 10-2-208; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789)*

**329 IAC 10-2-209 "Zone of aeration" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 209. "Zone of aeration" means a subsurface zone containing water under pressure less than that of the atmosphere including water held by capillarity and air or gases generally under atmospheric pressure. *(Solid Waste Management Board; 329 IAC 10-2-209; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789)*

**329 IAC 10-2-210 "Zone of saturation" defined**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 25-31; IC 36-9-30

Sec. 210. "Zone of saturation" means a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. *(Solid Waste Management Board; 329 IAC 10-2-210; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789)*

## Rule 2.5. Definitions for Nonmunicipal Solid Waste Landfills, Construction/Demolition Sites, and Restricted Waste Sites Types I, II, III, and IV

**329 IAC 10-2.5-1 Definitions**

Authority: IC 13-14-8-7; IC 13-19
Affected: IC 13-11-2; IC 13-13-1-1; IC 13-17-5-8; IC 13-18-1; IC 13-18-20; IC 13-20-21; IC 16-18-2-371; IC 25-31; IC 36-9-30

Sec. 1. (a) In addition to the definitions in IC 13-17-5-8, the definitions in this section apply to nonmunicipal solid waste landfills, construction/demolition sites, and restricted waste sites Types I, II, III, and IV as follows:

(1) In 329 IAC 10-1.
(2) In 329 IAC 10-3, except in 329 IAC 10-3-3.
(3) In 329 IAC 10-5 and 329 IAC 10-6.
(4) In 329 IAC 10-9, except in 329 IAC 10-9-2 and 329 IAC 10-9-4.
(5) In 329 IAC 10-24 through 329 IAC 10-38.
(6) In 329 IAC 10-39, except in 329 IAC 10-39-10 and 329 IAC 10-39-11.

(b) The following definitions apply as described in subsection (a):
(1) "Access road" means a road that leads to the entrance of a solid waste disposal facility, normally a county, state, or federal highway.
(2) "Airport" means a public use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities and military airports.
(3) "Aquifer" means a geologic formation, group of formations, or part of a formation, that is capable of yielding a significant amount of ground water.
(4) "Base flood" means a flood that has a one percent (1%) or greater chance of recurring in any year or a flood of a magnitude equaled or exceeded once in one hundred (100) years on the average over a significantly long period. In any given one hundred (100) year interval, such a flood may not occur or more than one (1) such flood may occur.
(5) "Bedrock" means cemented or consolidated earth materials exposed on the earth's surface or underlying unconsolidated earth materials.
(6) "Board" means the solid waste management board as defined in IC 13-11-2-17(e).
(7) "Cell" means a volume of solid waste completely enclosed by cover.
(8) "Certified professional geologist" means a professional geologist certified by the state of Indiana pursuant to IC 25-17.6-1-4 *[IC 25-17.6-1-4 was repealed by P.L.17-1999, SECTION 35, effective July 1, 1999.]*.
(9) "Collection container system" means a group of containers for solid waste collection from noncommercial, nonindustrial, and noninstitutional sources and made available for use by the general public, such as county wide collection box systems.
(10) "Commissioner" refers to the commissioner of the department created under IC 13-13-1-1 (the department of environmental management).
(11) "Construction/demolition site" means a solid waste land disposal facility designed and operated to accommodate large volumes of solid waste having minimal potential for ground water contamination.
(12) "Contaminant" means any of the following:
(A) Pollutant as defined in the federal Water Pollution Control Act (33 U.S.C. 1362, as amended November 18, 1988).
(B) Radioactive material as regulated by the Atomic Energy Act of 1954 (42 U.S.C. 2014, as amended October 24, 1992).
(C) Solid or hazardous waste as determined by the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq., as effective January 1, 1989).
(D) Hazardous substance as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et seq., as amended November 23, 1988).
(E) Any toxic substance as determined by the Toxic Substances Control Act (15 U.S.C. 2603 et seq., as amended October 22, 1986).
(F) Any commingled waste containing waste as defined in clauses (A) through (E), from whatever source that:
(i) is injurious to human health, plant or animal life, or property;
(ii) interferes unreasonably with the enjoyment of life or property; or
(iii) is otherwise violative of this article.
(13) "Cover" means any soil or other suitable material approved by the commissioner placed over the solid waste in accordance and applicable with 329 IAC 10-28-11, 329 IAC 10-28-12, 329 IAC 10-28-13, 329 IAC 10-30-2, 329 IAC 10-30-3, 329 IAC 10-36-11, 329 IAC 10-36-12, 329 IAC 10-36-13, 329 IAC 10-37-2, and 329 IAC 10-37-3.
(14) "Current closure cost estimate" means the original closure cost estimate or the most recent revision thereof made in accordance and applicable with 329 IAC 10-30-4(b) and 329 IAC 10-37-4(b).
(15) "Current post-closure cost estimate" means the original post-closure cost estimate or the most recent revisions thereof made in accordance and applicable with 329 IAC 10-31-3(b)(4) and 329 IAC 10-38-3(b)(3).
(16) "Daily cover" means that cover applied to the working face of the solid waste land disposal facility on a daily basis.
(17) "Department" refers to the department of environmental management created under IC 13-13.
(18) "Disposal" means the discharge, deposit, injection, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that the solid waste or hazardous waste or any constituent of the waste may enter the environment or be emitted into the air or discharged into any waters, including ground waters.
(19) "Dwelling" means any building that people inhabit on a regular or seasonal basis. The term shall include schools, hospitals, residences, factories, and offices.
(20) "Equivalent hydraulic conductivity" means the hydraulic conductivity averaged in such a manner as to represent the

overall ability of a material to transmit flow.
(21) "Final closure" or "closure" means those activities to be completed at the end of waste acceptance at a facility, including certification required by 329 IAC 10-30-7 and 329 IAC 10-37-7, as applicable, but not including those activities required after said certification.
(22) "Final cover" means any cover of a type, thickness, elevation, and slope approved by the commissioner for the termination of filling in an area.
(23) "Flood plain" means the areas adjoining a river, stream, or lake that are inundated by the base flood as determined by the Indiana department of natural resources.
(24) "Floodway" means the channel of a river or stream and those portions of the flood plain adjoining the channel that are reasonably required to efficiently carry and discharge the peak flow from the base flood as determined by the Indiana department of natural resources.
(25) "Garbage" means all putrescible animal solid, vegetable solid, and semisolid wastes resulting from the processing, handling, preparation, cooking, serving, or consumption of food or food materials.
(26) "Generator" or "generating facility" means any person or site, at, on, or by which one (1) or more solid wastes are generated, such as a manufacturing plant that may generate more than one (1) source of solid waste at the plant location. The term does not include a hazardous waste generator as regulated by 329 IAC 3.1.
(27) "Grading" means the contouring of land so that surface water flow and erosion are controlled according to a predetermined plan.
(28) "Ground water" means water below the land surface in the zone of saturation.
(29) "Hazardous waste" means a solid waste or combination of solid wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may:

(A) cause or significantly contribute to an increase in mortality or increase in serious irreversible or incapacitating reversible illness; or

(B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

(30) "Hydraulic gradient" means the head loss per unit length where the head loss is expressed in terms of the unit length so as to produce a dimensionless value.
(31) "Incinerator" means an engineered apparatus designed for the burning of solid waste under the effect of controls of temperature, retention time, air, and other combustion factors.
(32) "Industrial process waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste defined by 329 IAC 10-2-88 and regulated under 329 IAC 3.1. Such waste may include, but is not limited to, waste resulting from any of the following manufacturing processes:

(A) Electric power generation.
(B) Fertilizer or agricultural chemicals production.
(C) Food and related products or byproducts production.
(D) Inorganic chemicals production.
(E) Iron and steel manufacture or foundries.
(F) Leather and leather products production.
(G) Nonferrous metals manufacture or foundries.
(H) Organic chemicals production.
(I) Plastics and resins manufacture.
(J) Pulp and paper industry.
(K) Rubber and miscellaneous plastic products production.
(L) Stone, glass, clay, and concrete products.
(M) Textile manufacture.
(N) Transportation equipment.
(O) Oil and gas process and refinery wastes and disposed products.
(P) Painting, printing, and allied industries.
(Q) Contaminated, off-specification, or outdated wholesale products.
(R) Waste recycling and processing activities, excluding operations in which processing consists solely of segregating components of municipal solid waste and no chemical or physical alteration of the waste is performed.

The term does not include mining operations waste or oil and gas recovery waste.
(33) "Infectious waste" means waste that epidemiologic evidence indicates is capable of transmitting a dangerous communicable disease (as defined by rule adopted under IC 16-41-2-1). Infectious waste includes the following:
(A) Pathological wastes, including tissue, organs, body parts, and blood or body fluids in liquid or semiliquid form that are removed during surgery, biopsy, or autopsy.
(B) Biological cultures and associated biologicals.
(C) Contaminated sharps.
(D) Infectious agent stock and associated biologicals.
(E) Blood and blood products in liquid or semiliquid form.
(F) Laboratory animal carcasses, body parts, and bedding.
(G) Wastes (as defined under IC 16-18-2-371).
(34) "Infectious waste incinerator" means a solid waste incinerator that is used to burn infectious waste or mixture of infectious and noninfectious solid waste.
(35) "Karst topography" means a topography formed on a carbonate rock formation and dominated by features of solutional origin.
(36) "Leachate" means liquid that has passed through or emerged from solid waste and contains soluble, suspended, immiscible, or miscible materials removed from such wastes.
(37) "Legal description" means a legal description of the real property, to include the county, township, range, and section numbers and, if applicable, the metes and bounds description, together with the acreage thereof.
(38) "Lift" means a layer of cells covering a designated area of a solid waste land disposal facility.
(39) "Locally useful aquifer" means an aquifer which, based on productivity, quality, depth, and alternate sources available, is a source or a probable source of water for any user or potential user within one (1) mile of a particular location.
(40) "Major modification" means any change in a permitted solid waste land disposal facility which would increase the facility's permitted capacity to process or dispose of solid waste.
(41) "Normal water line" means the average normal water level, where established through the Indiana department of natural resources, or the average boundary of the water as evidenced by either water level records or changes in the character of vegetation and soil due to the presence of the water.
(42) "On-site roads" means roads for the passage of vehicles from a facility entrance to the disposal area.
(43) "Open burning" means the combustion of any matter in the open or in an open dump.
(44) "Open dump" means the consolidation of solid waste from one (1) or more sources or the disposal of solid waste at a single disposal site that does not fulfill the requirements of a solid waste land disposal facility or other land disposal method as prescribed by law or regulations and that is established and maintained without cover and without regard to the possibilities of contamination of surface or subsurface water resources.
(45) "Operating personnel" means persons necessary to properly operate a solid waste land disposal or processing facility.
(46) "Partial closure" means those activities required at the end of waste acceptance for a solid waste land disposal facility or area of a solid waste land disposal facility to include the placement of final cover and the establishment of vegetation in accordance with approved closure plans but exclusive of monitoring and maintenance activities required under post-closure care.
(47) "Permittee" means any person to whom a solid waste facility permit has been issued.
(48) "Person" means:
(A) an individual;
(B) a partnership;
(C) a copartnership;
(D) a firm;
(E) a company;
(F) a corporation;
(G) an association;
(H) a joint stock company;
(I) a trust;
(J) an estate;
(K) a municipal corporation;

(L) a city;
(M) a school city;
(N) a town;
(O) a school town;
(P) a school district;
(Q) a school corporation;
(R) a county;
(S) any consolidated unit of government;
(T) a political subdivision;
(U) a state agency; or
(V) any other legal entity.

(49) "Pollution control waste" includes liquid, solid, semisolid, or gaseous waste generated as a direct or indirect result from the removal of contaminants from air, water, or land and may include, but is not limited to, wastes such as:
(A) water and wastewater treatment sludges;
(B) baghouse dust;
(C) scrubber sludges;
(D) chemical spill clean-up wastes; or
(E) remedial activity clean-up wastes.

(50) "Post-closure" means the monitoring and maintenance activities required after final closure of a solid waste land disposal facility.

(51) "Post-closure cost estimate" means the original written estimate, in current dollars, or the total cost of post-closure monitoring and maintenance of the solid waste land disposal facility during the entire post-closure care period in accordance with the post-closure plan.

(52) "Processing" means the method, system, or other handling of solid waste so as to change its chemical, biological, or physical form or to render it more amenable for disposal or recovery of materials or energy, or the transfer of solid waste materials but excluding the transportation of solid waste.

(53) "Recovery" means obtaining materials or energy for commercial or industrial use from solid waste or hazardous waste.

(54) "Registered professional engineer" means a professional engineer registered by the state of Indiana pursuant to IC 25-31.

(55) "Residue" means any solid waste remaining after incineration or processing that is not completely combusted or recovered, including any of the following:
(A) Ash.
(B) Ceramics.
(C) Glass.
(D) Metal.
(E) Other inorganic substances or organic substances.

(56) "Resource recovery" means the processing of solid waste into commercially valuable materials or energy.

(57) "Restricted waste site" means a solid waste land disposal facility designed and operated to accommodate specific types of waste as specified in 329 IAC 10-9-4.

(58) "Salvaging" means the controlled and organized removal of materials from solid waste for utilization.

(59) "Sanitary landfill" means a solid waste land disposal facility designed to accommodate general types of solid waste, excluding waste regulated by 329 IAC 3.1, and operated by spreading the waste in thin layers, compacting it to the smallest practical volume, and covering it with cover material at the end of each working day.

(60) "Scavenging" means the uncontrolled and unauthorized removal of materials from solid waste.

(61) "Site" means the land area on which a permitted solid waste land disposal facility is situated.

(62) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

(63) "Soil borings" means the drilling of holes in the earth for the purpose of identifying soil types, subsurface materials, and water table level.

(64) "Solid waste" means any garbage, refuse, sludge from a waste treatment plant, sludge from a water supply treatment plant, sludge from an air pollution control facility, or other discarded material, including solid, liquid, semisolid, or contained gaseous

material resulting from industrial, commercial, mining, or agricultural operations or from community activities. However, the term does not include:

(A) solid or dissolved material in domestic sewage or solid or dissolved materials in irrigation return flows or industrial discharges which are point source subject to permits under Section 402 of the federal Water Pollution Control Act Amendments (33 U.S.C. 1342);

(B) source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.); or

(C) manures or crop residues returned to the soil at the point of generation as fertilizers or soil conditioners as part of a total farm operation under IC 13-11-2-205(a).

(65) "Solid waste boundary" means the outermost perimeter of the solid waste fill area, as it would exist at the time of closure, as projected in the facility's closure plan.

(66) "Solid waste facility" or "facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for processing, storing in conjunction with processing or disposal, or disposing of solid waste and may consist of several processing, storage, or disposal operational units, for example, one (1) or more landfills, surface impoundments, or combinations thereof.

(67) "Solid waste land disposal facility" means a permitted facility that accepts solid waste for deposit and covering in or on the ground surface. Permitted solid waste land disposal facilities must be classified into one (1) of the following types:

(A) Municipal solid waste landfills.

(B) Construction/demolition sites.

(C) Restricted waste sites.

(D) Nonmunicipal solid waste landfill.

The term does not include solid waste processing or land application facilities or activities.

(68) "Solid waste management" means the systematic administration of activities that provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste under IC 13-11-2-209.

(69) "Solid waste processing facility" means a solid waste facility upon which is located a solid waste incinerator, transfer station, solid waste baler, solid waste shredder, resource recovery system, composting facility, or garbage grinding facility.

(70) "Surface impoundment" means a facility or part of a facility that is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), that holds or is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments include the following:

(A) Holding, storage, settling, or aeration pits.

(B) Holding, storage, settling, or aeration ponds.

(C) Holding, storage, settling, or aeration lagoons.

(71) "Surface water" means water present on the surface of the earth, including:

(A) streams;

(B) lakes;

(C) ponds;

(D) rivers;

(E) swamps;

(F) marshes; or

(G) rainwater present on the earth.

(72) "Transfer station" means a facility at which solid waste is transferred from a vehicle or container to another vehicle or container for transportation or from one (1) mode of transportation to another mode of transportation, including, but not limited to, the transfer of a trailer, container, or waste from rail to road transportation. The term does not include the following:

(A) Collection container for solid waste.

(B) The transfer of solid waste at the point of generation.

(C) A recycling facility that receives distinct and recognizable solid waste items that do not require substantial further processing and are delivered back to manufacturing companies and reused. Based on a calendar quarter, a recycling facility shall have not more than ten percent (10%), by volume, of the solid waste which passes through the facility ultimately taken for final disposal.

(D) Curbside satellite collection vehicles used for collecting residential waste, which are small motorized vehicles or

equivalent, with bins or containers that once full are deposited into larger solid waste collection vehicles or containers.

(73) "Twenty-five (25) year, twenty-four (24) hour precipitation event" means the maximum twenty-four (24) hour precipitation event with the probable recurrence interval of once in twenty-five (25) years as defined by the Indiana department of natural resources.

(74) "Vector" means any animal capable of harboring and transmitting micro-organisms from one (1) animal to another or to a human.

(75) "Wash-out" means the carrying away of solid waste by water of the base flood.

(76) "Water course" means the path taken by flowing surface water.

(77) "Water pollution" means:

(A) actual or threatened alteration of the physical, thermal, chemical, biological, bacteriological, or radioactive properties of any waters; or

(B) the discharge or threatened discharge of any contaminant into any water that does or can create a nuisance or render the waters harmful, detrimental, or injurious to:

(i) public health, safety, or welfare;

(ii) domestic, commercial, industrial, agricultural, recreational, or other legitimate uses; or

(iii) livestock, wild animals, birds, fish, or aquatic life.

(78) "Water table" means the upper surface at which the fluid pressure of the ground water is equal to atmospheric pressure.

(79) "Waters" means the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof, that are wholly or partially within, flow through, or border upon this state. The term does not include any private pond or any off-stream pond, reservoir, or facility built for reduction or control of pollution or cooling of water prior to discharge unless the discharge from the pond, reservoir, or facility causes or threatens to cause water pollution.

(80) "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and, that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(81) "Working face" means that portion of a solid waste land disposal facility where the solid waste is deposited.

(82) "Ash residue" means all solid residue and any entrained liquids resulting from the combustion of solid waste, fossil fuel, or solid waste in combination with fossil fuel at a solid waste incinerator, including:

(A) bottom ash;

(B) boiler ash;

(C) fly ash; or

(D) solid residue of any air pollution control device used at a solid waste incinerator.

(83) "Liquid waste" means any waste material that contains free liquids as determined by Method 9095 (Paint Filter Liquids Test), as described in U.S. Environmental Protection Agency Publication SW-846.

(84) "Municipal solid waste landfill" or "MSWLF" means a solid waste land disposal facility that has received or is permitted to receive household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile. An MSWLF is a sanitary landfill for purposes of IC 13-20-21. An MSWLF also may receive commercial solid waste, construction/demolition waste, small quantity generator waste, industrial solid waste, and special waste in accordance with 329 IAC 10-8.1. Such a landfill may be publicly or privately owned.

(85) "Nonmunicipal solid waste landfill" or "non-MSWLF" means a solid waste land disposal facility that has received or is permitted to receive general types of solid waste, excluding municipal solid waste as defined in 329 IAC 10-2-115 and hazardous waste regulated by 329 IAC 3.1, and operated by spreading the waste in thin layers, compacting it to the smallest practical volume, and covering it with cover material at the end of each working day. A nonmunicipal solid waste landfill is a sanitary landfill for purposes of IC 13-20-21.

(86) "Special waste" has the meaning as set forth in 329 IAC 10-2-179.

(87) "U.S. Environmental Protection Agency Publication SW-846" or "SW-846" means "Test Methods for Evaluating Solid Waste, Physical Chemical Methods", U.S. Environmental Protection Agency Publication SW-846, [Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995) and III (December 1996)].

*(Solid Waste Management Board; 329 IAC 10-2.5-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1789; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1706, eff one hundred eighty (180) days after filing with the secretary of state; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3771; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

## Rule 3. Exclusions

### 329 IAC 10-3-1 Exclusions; general

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-14; IC 13-19-3; IC 13-20; IC 36-9-30

Sec. 1. The following solid waste management activities are not subject to the provisions of this article:
(1) Disposal of only uncontaminated rocks, bricks, concrete, road demolition waste materials, or dirt.
(2) Land application activities regulated under rules of the water pollution control board at 327 IAC 6.1 and 327 IAC 7.1.
(3) Confined feeding control activities regulated under rules of the water pollution control board at 327 IAC 16.
(4) Wastewater discharge activities regulated under rules of the water pollution control board at 327 IAC 5.
(5) Solid waste management activities regulated under 329 IAC 11.
(6) Disposal of uncontaminated and untreated natural growth solid waste, including tree limbs, stumps, leaves, and grass clippings.
(7) Disposal of saw dust derived from processing untreated natural wood.
(8) Disposal of coal ash, transported by water, into an ash pond which has received a water pollution control facility construction permit under rules of the water pollution control board at 327 IAC 3.
(9) The operation of surface impoundments; however, the final disposal of solid waste in such facilities at the end of their operation is subject to approval by the commissioner except as excluded under subdivisions (8) and (10). The commissioner's approval is based on management practices that are protective of human health and the environment.
(10) Disposal of coal ash at a site receiving a total of less than one hundred (100) cubic yards per year from generators who each produce less than one hundred (100) cubic yards per year.
(11) The uses and disposal of coal waste as exempted under IC 13-19-3-3.
(12) Activities concerning wastes containing polychlorinated biphenyls (PCBs) regulated under 329 IAC 4.1, except those regulated as alternative daily cover under 329 IAC 10-20-14.1.
(13) Storage, transportation, and processing of used oil as regulated under 329 IAC 13.
(14) The legitimate use of slag under IC 13-19-3-8.
(15) The legitimate use of foundry sand under IC 13-19-3-7.
(16) Any other use of solid waste approved by the commissioner based on the commissioner's determination that the use is a legitimate use that does not pose a threat to public health or the environment.

*(Solid Waste Management Board; 329 IAC 10-3-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1795; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2749; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3771; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1797, eff Apr 1, 2004)*

### 329 IAC 10-3-2 Exclusion; hazardous waste

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-14; IC 13-30; IC 36-9-30

Sec. 2. (a) Hazardous wastes are regulated by and shall be treated, stored, and disposed of in accordance with 329 IAC 3.1. Hazardous waste that is regulated by 329 IAC 3.1 is not subject to the provisions of this article, except as provided in subsection (c).

(b) No hazardous waste that is regulated by 329 IAC 3.1 shall be disposed at any solid waste land disposal facility regulated under this article, except as provided in subsection (c).

(c) Hazardous waste generated by a conditionally exempt small quantity generator (CESQG hazardous waste), as regulated under 40 CFR 261.5, revised July 1, 2002, may only be disposed of in either:
(1) a municipal solid waste landfill permitted in accordance with this article; or
(2) a hazardous waste landfill permitted in accordance with 329 IAC 3.1.

(d) Facilities permitted under 329 IAC 3.1 are not required to obtain permits under this article for the storage, treatment, or disposal of nonhazardous solid waste where such solid waste is treated or disposed of as a hazardous waste at the receiving hazardous waste facility. *(Solid Waste Management Board; 329 IAC 10-3-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1795; filed Aug 2, 1999, 11:50*

*a.m.: 22 IR 3776; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1798, eff Apr 1, 2004)*

**329 IAC 10-3-3 Insignificant facility modifications**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-14; IC 13-30; IC 36-9-30

Sec. 3. (a) A permittee of a solid waste land disposal facility proposing insignificant facility modifications may not be required to apply for a minor or a major modification of the current permit from the commissioner. See the definition of insignificant facility modification at 329 IAC 10-2-97.1.

(b) If a permittee proposes or is required to make an insignificant facility modification described in 329 IAC 10-2-97.1(1), 329 IAC 10-2-97.1(2), 329 IAC 10-2-97.1(3), 329 IAC 10-2-97.1(4), 329 IAC 10-2-97.1(5), 329 IAC 10-2-97.1(6), 329 IAC 10-2-97.1(7), 329 IAC 10-2-97.1(8), 329 IAC 10-2-97.1(9), 329 IAC 10-2-97.1(10), 329 IAC 10-2-97.1(11), or 329 IAC 10-2-97.1(12), the permittee shall provide notice to the commissioner no later than seven (7) calendar days after the modification has been made. The notice shall include a detailed description of the project and the date the project was or is expected to be completed.

(c) If the permittee proposes to make an insignificant facility modification described in 329 IAC 10-2-97.1(13), 329 IAC 10-2-97.1(14), or 329 IAC 10-2-97.1(15) the permittee shall submit documentation of the proposed insignificant facility modifications to the commissioner. The documentation must include a detailed description of the proposed project.

(d) If the commissioner determines that insufficient documentation has been provided to determine whether or not the proposed modification under subsection (c) is an insignificant facility modification, the permittee will be notified in writing by the commissioner within thirty (30) days after receipt of the proposal that the permittee must submit a new proposal for the insignificant modification.

(e) If the commissioner determines that the modification under subsection (c) is a major or minor modification, the permittee will be notified in writing within thirty (30) days after receipt of the information to the commissioner that the permittee must submit an application for a minor or major modification to the current permit.

(f) If the permittee does not receive notification from the commissioner within thirty (30) days after receipt of the proposed modifications to the commissioner, the permittee may initiate the insignificant facility modifications in accordance with documentation provided to the commissioner.

(g) No permit modification shall be required for insignificant facility modifications made under this subsection to:

(1) correct operational violations under this article; or

(2) protect human health or the environment.

*(Solid Waste Management Board; 329 IAC 10-3-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1795; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2749; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3776; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1798, eff Apr 1, 2004)*

**329 IAC 10-3-4 Exclusion; disposal of wastes that meet restricted waste site Type IV criteria**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) Except as provided in this section, the disposal of coal ash residues (including flue gas desulphurization sludge), foundry sands, and other wastes that have been classified by the commissioner to meet the criteria established in 329 IAC 10-9-4 for restricted waste site Type IV waste is not subject to this article.

(b) Restricted waste site Type IV waste must not be disposed of in violation of the prohibitions specified under the following:

(1) Wetlands in violation of Section 404 of the Clean Water Act.

(2) The critical habitat of an endangered species as defined by 50 CFR 17.

(3) Any floodways:

(A) with drainage areas greater than one (1) square mile without the approval of the department of natural resources; or

(B) without provisions to prevent washout of the waste.

(4) Within areas of karst topography:

(A) without provisions to collect and contain all of the leachate generated; and

(B) without a demonstration that the integrity of the area within the solid waste boundary will not be damaged by subsidence.

(5) Over mines unless it is demonstrated that the integrity of the area within the solid waste boundary will not be damaged by subsidence.

(6) Within six hundred (600) feet of a potable water well in use as a water supply for a dwelling or dwellings on the date of public notice for zoning approval for the permitted activity or the date of waste classification by the commissioner, whichever occurs first, unless written consent is obtained from the owner of the well.

(c) The disposal of all restricted waste site Type IV waste must meet the disposal control requirements specified under the following:

(1) If the disposal operation is found to be in violation of fugitive dust regulations of the air pollution control board or if the commissioner documents evidence of visible waste deposits carried by wind or surface water beyond the site property boundary, restricted waste site Type IV must:

(A) apply daily cover; and

(B) submit a plan to control dispersal.

(2) Application of daily cover must continue until a dispersal control plan is approved by the commissioner.

(d) Restricted waste site Type IV waste must not be disposed into standing water where the standing water reflects the water table. *(Solid Waste Management Board; 329 IAC 10-3-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1796; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3777; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

## Rule 4. Open Dumping and Open Dumps

### 329 IAC 10-4-1 Purpose

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-30-2-1; IC 36-9-30-35

Sec. 1. The purpose of this rule is to implement the provisions of the following:

(1) IC 13-30-2-1(3) and IC 13-30-2-1(4) relating to the deposit of contaminants or solid waste upon the land except as permitted in this article.

(2) IC 13-30-2-1(5) and IC 36-9-30-35 prohibiting dumping, causing, or allowing the open dumping of garbage or of other solid waste in violation of this article.

*(Solid Waste Management Board; 329 IAC 10-4-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1796; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2750; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

### 329 IAC 10-4-2 Acts prohibited

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. No person shall cause or allow the storage, containment, processing, or disposal of solid waste in a manner which creates a threat to human health or the environment, including the creating of a fire hazard, vector attraction, air or water pollution, or other contamination. *(Solid Waste Management Board; 329 IAC 10-4-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1797; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

### 329 IAC 10-4-3 Open dumps prohibited

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-146; IC 13-11-2-147; IC 13-18; IC 36-9-30

Sec. 3. Open dumping and open dumps, as those terms are defined in IC 13-11-2-146 and IC 13-11-2-147, are prohibited.

*(Solid Waste Management Board; 329 IAC 10-4-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1797; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2750; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-4-4 Owner responsibilities**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-18; IC 13-25-4-7; IC 13-25-4-8; IC 13-30-2; IC 36-9-30

Sec. 4. (a) The owner of real estate upon which an open dump is located is responsible for the following:

(1) Correcting and controlling any nuisance conditions that occur as a result of the open dump. Correction and control of nuisance conditions must include:

(A) removal of all solid waste from the area of the open dump and disposal of such wastes in a solid waste land disposal facility permitted to accept the waste; or

(B) other methods as approved by the commissioner.

(2) Eliminating any threat to human health or the environment.

(b) If the commissioner determines that the open dump is or may be a threat to human health or the environment due to a release of contaminants from the open dump into the environment, the commissioner may proceed under IC 13-25-4 and rules adopted under IC 13-25-4-7 that require the owner of real estate upon which an open dump is located or any other responsible persons under IC 13-25-4-8, to perform remedial action, including the installation and monitoring of ground water monitoring wells or other devices. *(Solid Waste Management Board; 329 IAC 10-4-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1797; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2750; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3777; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**Rule 5. Industrial On-Site Activities Needing Permits**

**329 IAC 10-5-1 Applicability**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-25-4; IC 36-9-30

Sec. 1. (a) This rule applies to all industries:

(1) that dispose of solid waste on the site where the waste is generated or off-site at a solid waste land disposal facility that is owned and operated by the generator for its exclusive use; and

(2) that are required to have a permit under this article, but did not have a permit under:

(A) 329 IAC 1.5, which was repealed in 1989; or

(B) 329 IAC 2, which was repealed in 1996.

(b) To continue on-site disposal after September 1, 1989, industries subject to this rule and operating before September 1, 1989, must have submitted all information required by section 2 of this rule on or before September 1, 1989, to the commissioner. Compliance with section 2 of this rule must constitute an interim permit and must allow the facility to continue operating until such time as the commissioner issues or denies a permit under section 3 of this rule.

(c) This rule does not preclude the commissioner from taking action under IC 13-25-4 where a particular disposal practice is demonstrated to threaten human health or the environment. *(Solid Waste Management Board; 329 IAC 10-5-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1797; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2750; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3778; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3961)*

**329 IAC 10-5-2 Application requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) All industries operating before the effective date of this rule are subject to this rule and must file a complete application with the commissioner for a permit under this article or submit the following information:

(1) The name and address of the facility producing the solid waste.
(2) A description of the process or processes producing the solid waste.
(3) Information on the total quantity of solid waste produced.
(4) A description of the appearance of the material, any odor produced by the material, and the susceptibility of the material to wind and water dispersal.
(5) Information on the chemical and physical characteristics of the solid waste, including the following:
(A) Composition.
(B) Density.
(C) Leachability.
(D) Reactivity.
(E) Ignitability.
(F) Toxicity.
(6) Information on all known hazards associated with the waste.
(7) A description of the current method and location of disposal.
(b) The information submitted must be identified as the information necessary to satisfy the requirements of this rule and must be signed as required by 329 IAC 10-11-3. *(Solid Waste Management Board; 329 IAC 10-5-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1797; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-5-3 Action on the application**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) The commissioner shall review the information submitted and prioritize permit determinations based upon an assessment of the health and environmental threat posed by the disposal activity. To achieve prioritization the commissioner shall consider the data, or lack of data, regarding the characteristics of the material and the current disposal method.
(b) To the extent practical, the commissioner shall endeavor to process permits for solid waste land disposal facilities that dispose of similar types of solid wastes in the same time period to allow industrial categories to share data collection efforts.
(c) In cases where the commissioner determines that further data is needed to adequately evaluate the disposal activities for the purposes of issuing a permit, the commissioner shall provide written notice of such requirements to the facility and allow a reasonable time period for compliance with requests for additional information. *(Solid Waste Management Board; 329 IAC 10-5-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1798; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3778; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**Rule 6. Previously Permitted Solid Waste Land Disposal Facilities and Sanitary Landfills Closed Prior to April 14, 1996; Responsibilities**

**329 IAC 10-6-1 Applicability**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14; IC 13-18; IC 13-20; IC 36-9-30

Sec. 1. This rule applies to any previously permitted solid waste land disposal facility or sanitary landfill that closed prior to the repeal of 329 IAC 2 in 1996. *(Solid Waste Management Board; 329 IAC 10-6-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1798; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2750)*

**329 IAC 10-6-2 Maintenance, monitoring, or correcting nuisance; permittee responsibilities**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) The owner, operator, or permittee of a closed solid waste land disposal facility must continue to monitor and provide maintenance to the solid waste land disposal facility in accordance with the rules under which the permit was granted to the solid waste land disposal facility and in force at the time the solid waste land disposal facility was closed, and in accordance with the facility permit.

(b) The owner, operator, or permittee of a closed solid waste land disposal facility, or the owner of real estate upon which a closed solid waste land disposal facility is located, shall be responsible for correcting and controlling any nuisance conditions occurring at the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-6-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1798; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3778)*

**329 IAC 10-6-3 Elimination of threats to human health or the environment**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. The owner, operator, or permittee of a closed solid waste land disposal facility or the owner of real estate on which a closed solid waste land disposal facility is located shall be responsible for eliminating any threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-6-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1798; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3778)*

**329 IAC 10-6-4 Remedial action**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-25-4-7; IC 13-25-4-8; IC 36-9-30

Sec. 4. If the commissioner determines that the closed solid waste land disposal facility is or may be a threat to human health or the environment, due to a release or threat of release of contaminants from the solid waste land disposal facility into the environment, the commissioner may proceed under IC 13-25-4 and rules adopted under IC 13-25-4-7 that require the owner, operator, or permittee of a closed solid waste land disposal facility or the owner of real estate upon which a closed solid waste land disposal facility is located, or any other responsible person under IC 13-25-4-8, to perform remedial action, including the installation and monitoring of ground water monitoring wells or other devices and corrective action under 329 IAC 10-21-13. *(Solid Waste Management Board; 329 IAC 10-6-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1798; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2751; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3778; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1799, eff Apr 1, 2004)*

## Rule 7. Waste Characterization Requirements (Repealed)

*(Repealed by Solid Waste Management Board; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1733, eff one hundred eighty (180) days after filing with the secretary of state)*

## Rule 7.1. Waste Determination (Repealed)

*(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

## Rule 7.2. Generator Responsibilities for Waste Information

**329 IAC 10-7.2-1 Generator responsibilities for waste information**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-12; IC 13-14-1-4; IC 13-14-2-7; IC 13-19; IC 13-30-2-1

Sec. 1. (a) A person who generates a solid waste shall carry out the hazardous waste determination required by 40 CFR 262.11, incorporated by reference in 329 IAC 3.1-7.

(b) A person who generates a nonhazardous solid waste and disposes of it in a solid waste land disposal facility regulated under this article shall determine if any of the following are present in the waste:

(1) Fugitive dust regulated under the rules of the air pollution control board at 326 IAC 6-4, or fugitive particulate matter

regulated under the rules of the air pollution control board at 326 IAC 6-5.
(2) Heat, or the capability of generating heat, regulated under 329 IAC 10-8.2-3.
(3) Regulated asbestos-containing material regulated under 329 IAC 10-8.2-4.
(4) Polychlorinated biphenyls regulated under 329 IAC 4.1 or this article.
(5) Pesticides regulated under this article or 329 IAC 3.1.
(6) Infectious waste regulated under the rules of the Indiana state department of health at 410 IAC 1-3.
(7) Liquid waste regulated under 329 IAC 10-20-27.
(8) Other materials prohibited from disposal under 329 IAC 10-9-2.
(c) Nothing in this rule limits the authority of the commissioner to require any information necessary to secure compliance with, or grant an approval under, this article. *(Solid Waste Management Board; 329 IAC 10-7.2-1; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3961)*

**Rule 8. Special Waste (Repealed)**
*(Repealed by Solid Waste Management Board; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1733, eff one hundred eighty (180) days after filing with the secretary of state)*

**Rule 8.1. Special Waste Management and Disposal at Municipal Solid Waste Landfills, Nonmunicipal Solid Waste Landfills, and Restricted Waste Landfills (Repealed)**
*(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**Rule 8.2. Management Requirements for Certain Solid Wastes**

**329 IAC 10-8.2-1 General**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-19; IC 13-20-7-6

Sec. 1. This rule describes certain solid waste that must be managed using the handling or disposal requirements described in this rule. *(Solid Waste Management Board; 329 IAC 10-8.2-1; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3961; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608)*

**329 IAC 10-8.2-2 Wastes that generate fugitive dust**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-18-1; IC 13-19; IC 13-20-7-6

Sec. 2. Waste that generates fugitive dust or fugitive particulate matter must be managed in a way that does not violate any of the following:
(1) The rules of the air pollution control board at 326 IAC 6-4 for fugitive dust.
(2) The rules of the air pollution control board at 326 IAC 6-5 for fugitive particulate matter, including 326 IAC 6-5-4(g) for control measures for solid waste handling.
*(Solid Waste Management Board; 329 IAC 10-8.2-2; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3961; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608)*

**329 IAC 10-8.2-3 Waste that is hot or capable of generating heat**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-19; IC 13-20-7-6

Sec. 3. (a) Waste that is hot, or capable of generating heat in combination with other wastes or water, such that the heat may adversely affect:

(1) routine solid waste disposal operations;
(2) the structure of the MSWLF unit or non-MSWLF unit; or
(3) human health;
must be managed in accordance with this section, as applicable.
(b) The waste must be cooled or allowed to cool to a temperature that will not adversely affect:
(1) routine solid waste disposal operations;
(2) the structure of the MSWLF unit or non-MSWLF unit; or
(3) human health;
prior to shipment for disposal.
(c) The waste must be treated to prevent any exothermic reaction if such contact may adversely affect:
(1) routine solid waste disposal operations;
(2) the structure of the MSWLF unit or non-MSWLF unit; or
(3) human health.
(d) The waste must be isolated to prevent contact with another waste or with water if such contact may adversely affect:
(1) routine solid waste disposal operations;
(2) the structure of the MSWLF unit or non-MSWLF unit; or
(3) human health.
*(Solid Waste Management Board; 329 IAC 10-8.2-3; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3961)*

**329 IAC 10-8.2-4 Regulated asbestos-containing materials**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-19; IC 13-20-7-6

Sec. 4. (a) Regulated asbestos-containing materials, except for Category II nonfriable asbestos-containing materials regulated under subsection (b), must be managed in accordance with the rules of the air pollution control board at 326 IAC 14-10, 40 CFR 61, Subpart M, revised as of February 12, 1999, and the following:
(1) The generator shall provide the solid waste land disposal facility with sufficient notice in advance of the disposal such that the facility may prepare to accept the regulated asbestos-containing material.
(2) All regulated asbestos-containing material must be handled in accordance with the wetting, packaging, and labeling provisions of 40 CFR 61.145(c), revised as of January 16, 1991, and 40 CFR 61.150(a), revised as of January 16, 1991.
(3) Each load of regulated asbestos-containing material must be accompanied by a waste shipment record prepared on one (1) of the following:
(A) A form provided by the department.
(B) A form produced by the generator that includes all the information included on the form provided by the department.
(4) All regulated asbestos-containing material must be disposed of in accordance with the provisions of the following:
(A) 40 CFR 61.154, revised as of January 16, 1991.
(B) The rules of the air pollution control board at 326 IAC 14-10.
(C) The following:
(i) There must not be direct physical contact between regulated asbestos-containing material and heavy equipment during disposal and covering operations.
(ii) All regulated asbestos-containing material must be covered with soil, approved alternative material, or solid waste before compaction with heavy equipment or within twenty-four (24) hours of receipt of the waste to prevent airborne release.
(iii) Any regulated asbestos-containing material that is improperly packaged or in which packaging has been damaged must be placed in the working face of the MSWLF unit or non-MSWLF unit and covered immediately after placement of the waste.
(iv) An asbestos waste disposal manager shall be present at the MSWLF unit or non-MSWLF unit during all handling and disposal of regulated asbestos-containing material to ensure compliance with this subsection. The asbestos waste disposal manager shall be licensed in accordance with the rules of the air pollution control board at 326 IAC 18-1.

(v) All personnel involved in off-loading or in covering shall use appropriate personal protective equipment as necessary to prevent exposure to any airborne release of asbestos fibers during disposal operations.

(vi) The solid waste land disposal facility must have a written contingency plan to safely control torn and broken containers. Dedicated equipment and supplies must be maintained at the facility to properly handle spilled or improperly packaged or wetted regulated asbestos-containing material. If release of asbestos-containing waste materials occurs, the solid waste land disposal facility must take immediate corrective action directed by the asbestos waste disposal manager.

(b) Category II nonfriable asbestos-containing material, as defined in 40 CFR 61.141, revised as of June 19, 1995, that has not been made friable by forces reasonably expected to act on the material before disposal must be managed in accordance with the following:

(1) Subsection (a)(1).

(2) Subsection (a)(3).

(3) Subsection (a)(4).

(4) Label the containers or wrapped materials using warning labels that meet the requirements of 29 CFR 1910.1001(j)(4), revised as of January 8, 1998, and include the information in the following figure:

| |
|---|
| DANGER<br>CONTAINS ASBESTOS FIBERS<br>AVOID CREATING DUST<br>CANCER AND LUNG DISEASE HAZARD |

(5) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(c) 29 CFR 1910 and 40 CFR 61 are available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238. *(Solid Waste Management Board; 329 IAC 10-8.2-4; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3962)*

**329 IAC 10-8.2-5 Wastes that contain PCBs**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-19; IC 13-20-7-6; IC 15-3-3.5-34

Sec. 5. Wastes that contain PCBs must be managed and disposed of in accordance with 329 IAC 4.1. *(Solid Waste Management Board; 329 IAC 10-8.2-5; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3963)*

**329 IAC 10-8.2-6 Waste pesticides or wastes contaminated with pesticides**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3-1
Affected: IC 13-11-2-155; IC 13-12; IC 13-19; IC 13-20-7-6; IC 15-3-3.5-34

Sec. 6. Waste pesticides or wastes contaminated with pesticides must be disposed of in accordance with:

(1) the label required by 40 CFR 156.10(a), revised as of February 23, 1998, available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238; and

(2) IC 15-3-3.5-34.

*(Solid Waste Management Board; 329 IAC 10-8.2-6; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3963)*

## Rule 9. Solid Waste Land Disposal Facility Classification

**329 IAC 10-9-1 Types of facilities**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. The following categories will be used for the purpose of defining site requirements and permissible wastes to be received for all solid waste land disposal facilities:

(1) Municipal solid waste landfill (MSWLF).

(2) Construction/demolition site.

(3) Restricted waste site as follows:

(A) Restricted waste site Type I.

(B) Restricted waste site Type II.

(C) Restricted waste site Type III.

(D) Restricted waste site Type IV.

(4) Nonmunicipal solid waste landfill.

*(Solid Waste Management Board; 329 IAC 10-9-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1805; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3787; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-9-2 Municipal solid waste landfill waste criteria**

Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3

Affected: IC 13-11-2; IC 13-19-3; IC 13-20-9; IC 13-20-16; IC 36-9-30

Sec. 2. (a) Except as provided in subsection (b), a municipal solid waste landfill may accept any solid waste including the following:

(1) Municipal solid waste.

(2) Construction/demolition waste.

(3) CESQG hazardous waste.

(4) Industrial process waste.

(5) Nonhazardous sludge.

(6) Pollution control waste.

(7) Any solid waste authorized by the facility permit.

(b) A municipal solid waste landfill may not accept for disposal any of the following solid wastes:

(1) Solid waste that is prohibited by the facility permit.

(2) Liquid waste, except those liquids allowed in 329 IAC 10-20-27.

(3) Hazardous waste, except CESQG hazardous waste.

(4) Infectious waste, except as provided in the rules of the Indiana state department of health at 410 IAC 1-3-26.

(5) Whole waste tires, except as provided in 329 IAC 10-20-32.

(6) Lead-acid batteries prohibited by IC 13-20-16.

(7) Vegetative matter prohibited by IC 13-20-9.

(8) Waste or material containing PCB prohibited by 329 IAC 4.1.

(9) Regulated asbestos-containing material that is not managed in accordance with the rules of the air pollution control board at 326 IAC 14-10 and 329 IAC 10-8.2-4.

(10) Any appliance or motor vehicle air conditioner containing a refrigerant or other class I or class II substance that has not been removed as required by 40 CFR 82.156, revised as of July 1, 2002. 40 CFR 82.156 is available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238.

(11) Biosolid, as defined in the rules of the water pollution control board at 327 IAC 6.1-2-7, that is not managed in accordance with the rules of the water pollution control board at 327 IAC 6.1-1-7.

(12) Wastewater, as defined in the rules of the water pollution control board at 327 IAC 7.1-2-41, that is not managed in accordance with the rules of the water pollution control board at 327 IAC 7.1-7-1.

*(Solid Waste Management Board; 329 IAC 10-9-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1805; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1725, eff one hundred eighty (180) days after filing with the secretary of state; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3963; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-9-3 Construction/demolition site waste criteria**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) A construction/demolition site may accept only construction/demolition waste as defined in 329 IAC 10-2-37. The construction/demolition waste must not be further shredded, crushed, ground, pulverized, or otherwise processed after construction/demolition or prior to disposal to a form unrecognizable as construction/demolition waste. Other items are prohibited, except as specified in subsection (b).

(b) Specific, written approval by the commissioner for disposal of other items may be requested. Approvals will be granted only if the other items to be disposed of:

(1) are incidental to the construction/demolition site;

(2) are of a similar type and size to the items allowed by subsection (a); and

(3) will not create a greater threat to the environment than the items allowed by subsection (a).

*(Solid Waste Management Board; 329 IAC 10-9-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1805; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-9-4 Restricted waste sites waste criteria**
Authority: IC 13-14-8-7; IC 13-15-2; IC 13-19-3
Affected: IC 13-11-2; IC 13-19-3; IC 36-9-30

Sec. 4. (a) A restricted waste site must accept only the restricted waste types specified in the facility permit, determined according to the classification criteria in this section.

(b) Restricted wastes accepted at a restricted waste site must be limited to one (1) waste type or related waste types that are as follows:

(1) Expected to have similar chemical and physical composition.

(2) Demonstrated to be within the concentration limits for the appropriate site type for each constituent for which testing is required. The concentration limits for each constituent for each restricted waste site type are as follows:

(A) Table 1 lists the maximum levels for constituents using Method 1311, the toxicity characteristic leaching procedure test described in U.S. Environmental Protection Agency Publication SW-846:

Table 1. Constituents Using Method 1311, Toxicity Characteristic Leaching Procedure

| Constituent | Concentration (milligrams per liter) | | | |
|---|---|---|---|---|
| | Type IV | Type III | Type II | Type I |
| Arsenic | ≤.05 | ≤.50 | ≤1.3 | <5.0 |
| Barium | ≤1.0 | ≤10. | ≤25. | <100. |
| Cadmium | ≤.01 | ≤.10 | ≤.25 | <1.0 |
| Chromium | ≤.05 | ≤.50 | ≤1.3 | <5.0 |
| Lead | ≤.05 | ≤.50 | ≤1.3 | <5.0 |
| Mercury | ≤.002 | ≤.02 | ≤.05 | <.20 |
| Selenium | ≤.01 | ≤.10 | ≤.25 | <1.0 |
| Silver | ≤.05 | ≤.50 | ≤1.3 | <5.0 |

"<" means less than

"≤" means less than or equal to

(B) Table 2 lists the maximum levels for constituents using the neutral leaching method test:

Table 2. Constituents Using the Neutral Leaching Method Test[1]

| Constituent | Concentration (milligrams per liter) | | | |
|---|---|---|---|---|
| | Type IV | Type III | Type II | Type I |
| Barium | ≤1.0 | ≤10.0 | ≤25. | ([2]) |

| | | | | |
|---|---|---|---|---|
| Chlorides | ≤250. | ≤2,500. | ≤6,300. | ([2]) |
| Copper | ≤.25 | ≤2.5 | ≤6.3 | ([2]) |
| Cyanide, total | ≤.20 | ≤2.0 | ≤5.0 | ([2]) |
| Fluoride | ≤1.4 | ≤14.0 | ≤35. | ([2]) |
| Iron | ≤1.5 | ≤15.0 | ([2]) | ([2]) |
| Manganese | ≤.05 | ≤.50 | ([2]) | ([2]) |
| Nickel | ≤.20 | ≤2.0 | ≤5.0 | ([2]) |
| Phenols | ≤.30 | ≤3.0 | ≤7.5 | ([2]) |
| Sodium | ≤250. | ≤2,500. | ≤6,300. | ([2]) |
| Sulfate | ≤250. | ≤2,500. | ≤6,300. | ([2]) |
| Sulfide, total | ≤1.0[3] | ≤5.0 | ≤13. | ([2]) |
| Total dissolved solids | ≤500. | ≤5,000. | ≤12,500. | ([2]) |
| Zinc | ≤2.5 | ≤25. | ≤63. | ([2]) |

"<" means less than

"≤" means less than or equal to

[1]The Neutral Leaching Method test is conducted as follows:

(1) Use Method 1311, Toxicity Characteristic Leaching Procedure, described in U.S. Environmental Protection Agency publication SW-846.

(2) Substitute deionized water for extraction fluids 1 and 2 described in Method 1311.

(3) Analyze for pH at the end of the eighteen (18) hour extraction period.

[2]Testing is not required.

[3]If detection limit problems exist, please consult the Office of Land Quality for guidance.

(C) Table 3 lists the maximum pH:

Table 3. pH

| Constituent | Acceptable Range (Standard Units) | | | |
|---|---|---|---|---|
| | Type IV | Type III | Type II | Type I |
| pH | 6.0-9.0 | 5.0-10.0 | 4.0-11.0 | ([1]) |

[1]Testing is not required.

(c) The following apply to those wastes that have previously been classified using the Method 1310, extraction procedure toxicity test, described in U.S. Environmental Protection Agency Publication SW-846, under 329 IAC 2, which was repealed in 1996, and now must be classified using Method 1311 under this article:

(1) The waste must be classified under this section at the renewal of the current waste classification.

(2) If the results using Method 1311 demonstrate a higher concentration of contaminants leaching from the waste than demonstrated using Method 1310 for the previous waste classification such that the waste now requires a restricted waste site type with more environmentally protective design and operating standards, the facility accepting the waste is subject to the following:

(A) For units undergoing closure, the facility must comply with the ground water monitoring and post-closure requirements of the more environmentally protective restricted waste site type.

(B) Within one (1) year from the date that the new waste classification type is determined, the owner or operator shall:

(i) submit an application to reclassify the facility to the restricted waste site type with the more environmentally protective standards; or

(ii) close the facility as required under clause (A).

(C) If the facility is comprised of previously closed units that are contiguous with existing or new units, the new and existing units must comply with clause (B) and the entire facility must comply with the ground water monitoring requirements of the more environmentally protective restricted waste site type.

(d) Coal combustion fly or bottom ash and flue gas desulfurization byproducts may be disposed of at a restricted waste site Type I without characterization testing, or at a restricted waste site Type II, III, or IV, if the following are completed:

(1) The waste is characterized as specified in this section.

(2) The waste is classified as specified in this section for disposal and meets the criteria under subsection (b) for a restricted waste site Type II, III, or IV.

(3) Resampling is conducted:

(A) at five (5) year intervals;

(B) whenever the characteristics of the coal changes;

(C) whenever the process generating the waste changes; or

(D) according to a schedule for resampling specified by the commissioner based on variability noted in previous sampling and other factors affecting the predictability of waste characteristics.

(e) Foundry waste may be disposed of at a restricted waste site Type I, II, III, or IV if the following are completed:

(1) The waste is characterized as specified in this section for disposal and meets the criteria under subsection (b) for a restricted waste site Type I, II, III, or IV.

(2) Resampling is conducted:

(A) at two (2) year intervals;

(B) whenever the process changes; or

(C) according to a schedule for resampling by the commissioner based on variability noted in previous sampling and other factors affecting the predictability of waste characteristics.

(f) For waste other than those in subsections (d) through (e), the generator may request that the commissioner define test constituents and concentration limits needed to determine which restricted waste site type controls the expected hazards of the waste based on the chemical and physical characteristics of the waste. The commissioner may deny such a request for wastes that are heterogeneous, such as municipal garbage and trash and demolition debris, or wastes that are subject to organic decomposition, and other wastes for which test methods are inadequate to determine the hazards posed by the waste or its decomposition products.

(g) Except as provided in subsections (a) through (f), even if sampling results that indicate that waste constituents exceed the criteria for a proposed restricted waste site type, the commissioner may approve the site if the permittee demonstrates that:

(1) the pH range encountered under leaching conditions likely to be encountered at the site will produce lower concentrations of waste constituents in any leachate generated;

(2) due to precipitation, sorption, ion exchange, neutralization, reaction, or decomposition, the waste constituents will be removed from solution; or

(3) dispersion and dilution likely to occur within the monitoring boundary, as defined in 329 IAC 10-2-113, will reduce the concentration of waste constituents in leachate as determined by the toxicity characteristic leaching procedure and leaching method tests.

(h) The generator shall submit a comprehensive list, comparable to material safety data sheets, of all organic additives used in the process unit operations generating the waste. If trade names are given to additives, it is the generator's responsibility to contact the manufacturer about supplying the commissioner with the chemical ingredient listing that makes up the trade name chemical and to have the manufacturer contact the commissioner with the proper information. The commissioner may require organic testing of the additive.

(i) Waste analyses submitted to the commissioner for review under subsections (a) through (h) must be accompanied by sufficient documentation of representative sampling and quality assurance and quality control measures to establish that the applicable procedures were conducted under adequate controls as stipulated in subsections (l) through (o).

(j) The person seeking the restricted waste site waste classification shall include a signed statement attesting that the information provided is true and accurate that states, "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that I am authorized to submit this information.".

(k) The results of the waste classification indicating the restricted waste type determined by the commissioner must be provided in writing to the generator of the waste. A waste classification is not considered valid unless provided in writing by the commissioner.

(l) Testing used to identify the contents and properties of a solid waste must follow appropriate methods described in U.S. Environmental Protection Agency Publication SW-846 or equivalent methods acceptable to the commissioner. All sampling, sample preparation, analytical, quality control, and reporting procedures for the methods used must be followed.

(m) Wastes must not be combined for testing.

(n) Nothing in this section limits the ability of the commissioner to require additional testing for activities other than disposal

in a municipal solid waste landfill that meets the requirements of 329 IAC 10-17.

(o) The methods listed in Table 4 must be used to determine if a waste is suitable for disposal in a restricted waste site:

Table 4. Testing Requirements for Waste to be Disposed of in a Restricted Waste Site

| Waste | Use These Extraction Methods[1] | Analyze for These Constituents[2] |
|---|---|---|
| Coal Ash or Flue Gas Desulfurization Byproducts | Method 1311 (Toxicity Characteristic Leaching Procedure) | Arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver |
| | Neutral Leaching Method[3] or Method 1312 (Synthetic Precipitation Leaching Procedure) | Barium, chlorides, total cyanide, fluoride, pH, sodium, sulfate, total sulfide, total dissolved solids |
| Foundry Waste | Method 1311 (Toxicity Characteristic Leaching Procedure) | Arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver |
| | Neutral Leaching Method[3] or Method 1312 (Synthetic Precipitation Leaching Procedure) | Chlorides, copper, total cyanide, fluoride, iron, manganese, nickel, pH, phenols, sodium, sulfate, total sulfide, total dissolved solids, zinc |
| All Other Waste | Test methods from SW-846 specific to the waste | Constituents will be determined based on the specific waste |

[1]Extraction methods and procedures are found in U.S. Environmental Protection Agency Publication SW-846 unless otherwise noted.

[2]Use appropriate analytical methods from SW-846, "Methods for Chemical Analysis of Water and Waste", EPA-600/4-79-020, revised March 1983, or use other equivalent analytical methods approved by the commissioner. EPA-600/4-79-020 is available from the National Technical Information Service, Springfield, Virginia 22161, order number PB84-128677.

[3]The Neutral Leaching Method is conducted as follows:

(1) Use Method 1311, Toxicity Characteristic Leaching Procedure, described in U.S. Environmental Protection Agency Publication SW-846.

(2) Substitute deionized water for extraction fluids 1 and 2 described in Method 1311.

(3) Analyze for pH at the end of the eighteen (18) hour extraction period.

*(Solid Waste Management Board; 329 IAC 10-9-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1805; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1725, eff one hundred eighty (180) days after filing with the secretary of state; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3963; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608; errata filed Jan 3, 2005, 10:32 a.m.: 28 IR 1485; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-9-5 Nonmunicipal solid waste landfill waste criteria**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30-35

Sec. 5. (a) Nonmunicipal solid waste landfills may accept waste as specified in the facility permit. Other waste is prohibited, except as specified in subsection (b).

(b) A nonmunicipal solid waste landfill may accept other waste streams if:

(1) it makes a written request to dispose of other solid waste; and

(2) it is granted specific, written approval by the commissioner for disposal of other solid waste at the facility.

*(Solid Waste Management Board; 329 IAC 10-9-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1807; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 10. Transition Requirements of Municipal Solid Waste Landfill Siting, Design, and Closure

**329 IAC 10-10-1 Applicability**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) Unless otherwise addressed in this rule, all MSWLFs and new and existing MSWLF units must comply with applicable requirements in this article.

(b) Within one hundred twenty (120) days following April 13, 1996, the owner, operator, or permittee of a MSWLF permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, shall submit any necessary permit modification application to comply with the requirements of this article, 329 IAC 10, as effective on April 13, 1996.

(c) On or before August 2, 2004, the owner, operator, or permittee of an MSWLF shall submit any necessary permit modification applications to comply with the requirements of this article as amended on April 1, 2004, unless subsection (d) is applicable.

(d) On or before August 2, 2004, the owner, operator or permittee of an MSWLF shall submit information for the agency's approval which includes the SWP3 and associated information as required in 329 IAC 10-11-2.5(a)(10) through (13), 329 IAC 10-15-2(b)(10) and (11), 329 IAC 10-15-2(d)(4)(G) through (L), and 329 IAC 10-15-12 *[329 IAC 10-11-2.5(a)(10) through 329 IAC 10-11-2.5(a)(13), 329 IAC 10-15-2(b)(10) and 329 IAC 10-15-2(b)(11), 329 IAC 10-15-2(d)(4)(G) through 329 IAC 10-15-2(d)(4)(L), and 329 IAC 10-15-12]*. Approvals will be issued subject to the following schedule:

(1) Any owner, operator, or permittee of an MSWLF located in the counties of:

(A) Adams;
(B) Allen;
(C) Bartholomew;
(D) Benton;
(E) Blackford;
(F) Boone;
(G) Brown;
(H) Carroll;
(I) Cass;
(J) Clark;
(K) Clay;
(L) Clinton;
(M) Crawford;
(N) Daviess;
(O) Dearborn;
(P) Decatur;
(Q) Dekalb;
(R) Delaware;
(S) Dubois;
(T) Elkhart;
(U) Fayette;
(V) Floyd;
(W) Fountain;
(X) Franklin;
(Y) Fulton;
(Z) Gibson;
(AA) Grant; and
(BB) Greene;

in Indiana shall be issued an approval within sixty (60) days of the receipt of all information required. The sixty (60) day period shall be suspended from the date that a notice of deficiency has been issued by the department to the owner, operator, or permittee until receipt by the department of a complete and technically adequate response to the notice of deficiency.

(2) Any owner, operator, or permittee of an MSWLF located in the counties of:

(A) Hamilton;
(B) Hancock;
(C) Harrison;
(D) Hendricks;

(E) Henry;
(F) Howard;
(G) Huntington;
(H) Jackson;
(I) Jasper;
(J) Jay;
(K) Jefferson;
(L) Jennings;
(M) Johnson;
(N) Knox;
(O) Kosciusko;
(P) LaGrange;
(Q) Lake;
(R) LaPorte;
(S) Lawrence;
(T) Madison;
(U) Marion;
(V) Marshall;
(W) Martin;
(X) Miami; and
(Y) Monroe;

in Indiana will be issued an approval within ninety (90) days of the receipt of all information required. The ninety (90) day period shall be suspended from the date that a notice of deficiency has been issued by the department to the owner, operator, or permittee until receipt by the department of a complete and technically adequate response to the notice of deficiency.

(3) Any owner, operator, or permittee of an MSWLF located in the counties of:

(A) Montgomery;
(B) Morgan;
(C) Newton;
(D) Noble;
(E) Ohio;
(F) Orange;
(G) Owen;
(H) Parke;
(I) Perry;
(J) Pike;
(K) Porter;
(L) Posey;
(M) Pulaski;
(N) Putnam;
(O) Randolph;
(P) Ripley;
(Q) Rush;
(R) St. Joseph;
(S) Scott;
(T) Shelby;
(U) Spencer;
(V) Starke;
(W) Steuben;
(X) Sullivan;
(Y) Switzerland;
(Z) Tippecanoe;

(AA) Tipton;
(BB) Union;
(CC) Vanderburgh;
(DD) Vermillion;
(EE) Vigo;
(FF) Wabash;
(GG) Warren;
(HH) Warrick;
(II) Washington;
(JJ) Wayne;
(KK) Wells;
(LL) White; and
(MM) Whitley;

in Indiana will be issued an approval within one hundred twenty (120) days of receipt of all information required. The one hundred twenty (120) day period shall be suspended from the date that a notice of deficiency has been issued by the department to the owner, operator, or permittee until receipt by the department of a complete and technically adequate response to the notice of deficiency.

*(Solid Waste Management Board; 329 IAC 10-10-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1807; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3787; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1799, eff Apr 1, 2004)*

**329 IAC 10-10-2 Pending applications**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14; IC 13-20; IC 36-9-30

Sec. 2. An owner, operator, or permittee of an MSWLF that is issued a permit for a new facility or a major modification on or after April 1, 2004, based upon an application received before that date, shall, within sixty (60) days following issuance of the permit for a new facility or a major modification, submit the following:

(1) Any necessary permit modification application to comply with this article, as amended on April 1, 2004, unless subdivision (2) is applicable.

(2) All information for the agency's approval, which includes the SWP3 and associated information as required in 329 IAC 10-11-2.5(a)(10) through (13), 329 IAC 10-15-2(b)(10) and (11), 329 IAC 10-15-2(d)(4)(G) through (L), and 329 IAC 10-15-12 *[329 IAC 10-11-2.5(a)(10) through 329 IAC 10-11-2.5(a)(13), 329 IAC 10-15-2(b)(10) and 329 IAC 10-15-2(b)(11), 329 IAC 10-15-2(d)(4)(G) through 329 IAC 10-15-2(d)(4)(L), and 329 IAC 10-15-12]*. The submission must include all required information.

*(Solid Waste Management Board; 329 IAC 10-10-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1807; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2751; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1801, eff Apr 1, 2004)*

**329 IAC 10-10-3 New and existing municipal solid waste landfill units**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) A new MSWLF unit for which a construction certification was submitted after January 1, 1997, must comply with the subsections of 329 IAC 10-16 and 329 IAC 10-17 that are applicable to the unit.

(b) A MSWLF unit that:

(1) is constructed before the effective date of this article;

(2) submits a construction certification before January 1, 1997; and

(3) has not received waste in a constructed area of two (2) acres or less on January 1, 1998;

may continue to be filled to the permitted elevation.

(c) A MSWLF unit that:

(1) is constructed before the effective date of this article;
(2) has had a construction certification submitted before January 1, 1997; and
(3) has not received waste in a constructed area greater than two (2) acres prior to January 1, 1998;
must comply with the applicable requirements of 329 IAC 10-16 and 329 IAC 10-17 in the portions of the MSWLF unit that have not received waste.

(d) A MSWLF unit that:
(1) is constructed after the effective date of this article;
(2) has had a construction certification submitted before January 1, 1997; and
(3) has not received waste in a constructed area greater than two (2) acres prior to January 1, 1997;
must comply with the applicable requirements of 329 IAC 10-16 and 329 IAC 10-17 in the portions of the MSWLF unit that have not received waste.

(e) A MSWLF unit that:
(1) is constructed after the effective date of this article;
(2) has had a construction certification submitted before January 1, 1997; and
(3) has not received waste in a constructed area of two (2) acres or less on January 1, 1997;
may continue to fill the MSWLF unit to the permitted elevation.

(f) Any sump area of a MSWLF unit that is constructed after January 1, 1996, and before January 1, 1997, must comply with the sump area requirements of 329 IAC 10-17-2(a)(2)(C) through 329 IAC 10-17-2(a)(2)(H).

(g) A MSWLF unit permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, and that closes on or before January 1, 1998, must close under the MSWLF's existing approved closure plan if it was constructed without:
(1) a soil bottom liner; or
(2) a leachate collection system.

(h) Those MSWLF units meeting the requirements of subsection (g) may apply for up to a one (1) year extension of the closure period. The extension of the closure period must end on or before January 1, 1999. *(Solid Waste Management Board; 329 IAC 10-10-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1807; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2751; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3788)*

## Rule 11. Application Procedure for All Solid Waste Land Disposal Facilities

### 329 IAC 10-11-1 Permit requirements

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-15-7; IC 13-18; IC 13-26; IC 36-9-30-35

Sec. 1. (a) Unless excluded by 329 IAC 10-3-1 or 329 IAC 10-3-2, and except for activities related to open dumps under 329 IAC 10-4-4, and as otherwise provided in 329 IAC 10-5, any person who disposes of solid waste shall have a solid waste land disposal facility permit prior to construction and disposal.

(b) In the event that after the permit application is submitted but prior to the issuance of the permit, there is any change that renders the information in the application incorrect, the applicant shall notify the commissioner of the change within fifteen (15) days and submit corrected information within a reasonable period of time.

(c) The commissioner may deny a permit application, including a renewal permit, or place conditions on a permit for the following:
(1) The applicant has been convicted of a crime under IC 13-30-6 *[IC 13-30-6 was repealed by P.L.137-2007, SECTION 37, effective July 1, 2007.]* or IC 36-9-30-35.
(2) The commissioner, under IC 13-15-7, has revoked the applicant's previous permit to operate under:
(A) this article;
(B) 329 IAC 1.5, which was repealed in 1989; or
(C) 329 IAC 2, which was repealed in 1996.
(3) The applicant is, at the time of the application or permit decision, not in compliance with the Environmental Protection Acts or regulations promulgated thereunder, or has a history of repeated violations of the Acts or regulations or material permit

conditions that evidence an inability or unwillingness to comply with requirements of this article or a facility permit.
*(Solid Waste Management Board; 329 IAC 10-11-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1808; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2752)*

**329 IAC 10-11-2 Permit application for new facilities and lateral expansions (Repealed)**

Sec. 2. *(Repealed by Solid Waste Management Board; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3875)*

**329 IAC 10-11-2.1 Permit application requirements; general**

Authority: IC 13-14-8-7; IC 13-15-2-1
Affected: IC 4-21.5-3-5; IC 13-14-11-3; IC 13-19-4; IC 13-20-21; IC 36-7-4; IC 36-9-30

Sec. 2.1. (a) An application for:
(1) any solid waste land disposal facility permit, including renewals; or
(2) a modification to a solid waste land disposal facility permit, excluding insignificant modifications;
must be submitted to the commissioner on permit application forms provided by the commissioner in a format specified by the commissioner. All narrative, plans, and other support documentation accompanying the application must also be submitted in a format specified by the commissioner.
(b) A complete application must include all of the following information:
(1) The names and addresses of the following:
(A) The applicant.
(B) The solid waste land disposal facility site.
(C) The solid waste land disposal facility owner, operator, or permittee if different from the real property owner.
(D) The members of the board of county commissioners of a county that is affected by the permit application.
(E) The:
(i) mayors of any cities; and
(ii) presidents of town councils of any towns;
that are affected by the permit application.
(2) The legal description as defined in 329 IAC 10-2-104 for the following:
(A) The solid waste land disposal facility boundary.
(B) If applicable, the solid waste boundary defining the area where the solid waste is to be deposited.
Sufficient documentation must be provided to verify that the waste deposition area is located within the facility boundaries. The documentation must include a map of the legal description for these areas certified by a registered land surveyor.
(3) Solid waste land disposal facility information, including the following:
(A) A description of the type of operation.
(B) The planned or remaining life of the solid waste land disposal facility in years.
(C) The expected amount of waste to be received in:
(i) tons; or
(ii) cubic yards;
per operating day.
(D) The type of waste to be received.
(4) Signatures and certification statements in compliance with section 3 of this rule.
(5) Disclosure of all good character information as described in IC 13-19-4 unless the application is for a renewal or minor modification.
(c) Five (5) copies of the completed application and all supporting documentation must be submitted to the commissioner as follows:
(1) Sent by registered mail, certified mail, or private carrier or delivered in person.
(2) In addition to the paper copies, a copy of the completed application and all supporting documentation may be submitted by electronic submission, the type and format of which will be prescribed by the commissioner. The commissioner may make

a determination that only an electronic copy is needed.

(3) Plans and documentation accompanying the application shall be submitted as required in 329 IAC 10-15-1(c).

(d) Confidential treatment of information may be requested in accordance with 329 IAC 6.1 for all or a portion of the permit application and supporting documentation.

(e) All corporations must submit a copy of the certificate of existence signed by the secretary of state.

(f) Fees must be submitted with the application in accordance with IC 13-20-21. *(Solid Waste Management Board; 329 IAC 10-11-2.1; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3788; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1801, eff Apr 1, 2004; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA)*

**329 IAC 10-11-2.5 Permit application for new land disposal facility and lateral expansions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1

Affected: IC 4-21.5-3-5; IC 13-11-2-265; IC 13-14-11-3; IC 13-20-21; IC 14-31-1; IC 36-7-4; IC 36-9-30

Sec. 2.5. (a) In addition to the application requirements given at section 2.1 of this rule, a complete application for a solid waste land disposal facility permit or for a major modification of a solid waste land disposal facility permit for a lateral expansion must include all the following information:

(1) Detailed plans and design specifications as required by:

(A) 329 IAC 10-15 through 329 IAC 10-19 and 329 IAC 10-22, as applicable;

(B) 329 IAC 10-24 through 329 IAC 10-27 and 329 IAC 10-30, as applicable; or

(C) 329 IAC 10-32 through 329 IAC 10-35 and 329 IAC 10-37, as applicable.

(2) Closure and post-closure plans as required by:

(A) 329 IAC 10-22-2 and 329 IAC 10-23-3, as applicable;

(B) 329 IAC 10-30-4 and 329 IAC 10-31-3, as applicable; or

(C) 329 IAC 10-37-4 and 329 IAC 10-38-3, as applicable.

(3) The detailed plans and design specifications required by subdivision (1) and the closure and post-closure plans required by subdivision (2) must be certified by a registered professional engineer and must be properly titled.

(4) A description of the financial instrument that will be used to achieve compliance with financial responsibility provisions of 329 IAC 10-39.

(5) Documents necessary to establish ownership or other tenancy, such as an option to purchase, of the real estate upon which the solid waste land disposal facility to be permitted is located. The documentation must include a certified copy of the deed to the subject real estate showing ownership in the person identified as the owner in the application or the deed and evidence satisfactory to the commissioner that ownership will be transferred to the proper person for purposes of this rule, if not already done, prior to operation of the solid waste land disposal facility.

(6) Documentation that proper zoning approvals have been obtained, including the following, if applicable:

(A) A copy of the zoning requirements, if any, for solid waste facilities in the area where the solid waste land disposal facility is to be located.

(B) A copy of the improvement location permit or occupancy permit issued by the zoning authority having jurisdiction for the site, if a solid waste land disposal facility is permitted by the zoning ordinance in the area where the solid waste land disposal facility is to be located.

(C) A copy of the amendment to the zoning ordinance adopted under IC 36-7-4-901 et seq. if a change in the zone maps is required for the area where the solid waste land disposal facility is to be located.

(D) A copy of the amendment to the zoning ordinance adopted under IC 36-7-4-901 et seq. if such amendment is required for the area where the solid waste land disposal facility is to be located.

(E) A copy of the variance, special exception, special use, contingent use, or conditional use approved under IC 36-7-4-921 et seq. if such approval is required for the area where the solid waste land disposal facility is to be located.

(F) The status of any appeal of any zoning determination as described in clauses (B) through (E) and, if none is pending, the date by which the appeal must be initiated.

(7) A United States Geological Survey topographical quadrangle map seven and one-half (7½) minute, or equivalent, to include all areas within two (2) miles of the proposed facility boundaries with real property boundaries and proposed solid waste boundaries clearly delineated.

(8) Documentation of the base flood elevation within one-fourth (¼) mile of the proposed facility boundaries. Either of the following forms of documentation are acceptable:

(A) A letter from the department of natural resources.

(B) A national flood insurance program map.

(9) A scaled map that depicts the following features, which are known to the applicant or are discernable from public records, on and within one-half (½) mile of the proposed facility boundaries:

(A) Airports.

(B) Buildings.

(C) City, township, county, state, or national forests or parks.

(D) Coal borings.

(E) Culverts.

(F) Drainage tiles.

(G) Dwellings.

(H) Fault areas.

(I) Floodplains, floodway fringes, and floodways.

(J) Gas or oil wells.

(K) Hospitals.

(L) Legal drains.

(M) Nature preserves regulated under IC 14-31-1 or any critical habitats as contained in 50 CFR 17.95 or 50 CFR 17.96, revised as of October 1, 2002.

(N) Pipelines.

(O) Power lines.

(P) Roads.

(Q) Schools.

(R) Sewers.

(S) Sinkholes.

(T) Springs and seeps.

(U) Surface or underground mines.

(V) Swamps.

(W) Water courses or surface water, including reservoirs.

(X) Wells.

(Y) Wetlands.

Where any of these features do not exist, it should be noted either on the map or in an attached document.

(10) Locations where storm water may be directly discharged into ground water, such as abandoned wells or sinkholes. Please note if none exist.

(11) Locations of specific points where storm water discharge will leave the facility boundary.

(12) Names of all receiving waters. If the discharge is to a separate municipal storm sewer, identify the name of the municipal operator and the ultimate receiving water of the storm water discharge.

(13) Identification of the regulated municipal separate storm sewer system entity receiving the storm water discharge, if applicable.

(14) A soil map and related description data as published by the United States Department of Agriculture, Natural Resources Conservation Service.

(15) Current United States Geological Survey (USGS) hydrologic unit code (up to fourteen (14) digits).

(16) Well logs and a topographic map indicating the location and identifying with respect to the drilling logs, all wells within one (1) mile of the proposed facility boundaries that are on file with the department of natural resources.

(17) A survey must be conducted for any residences or occupied buildings within one-fourth (¼) of a mile of the proposed facility boundaries that do not have a well log. The survey is to determine whether wells that do not have well logs on file with the department of natural resources are present and obtain any information regarding these wells. A summary of the results of the survey and any information gained must be included with the application.

(18) The name and address of all owners or last taxpayers of record of property:

(A) located within one (1) mile of the proposed solid waste boundaries of a solid waste land disposal facility; and

(B) of adjoining land that is within one-half (½) of a mile of the solid waste boundary.

(19) A signed affidavit to the department agreeing to notify adjoining landowners as required in 329 IAC 10-12-1(b)(1).

(20) The following information relative to wetlands under 329 IAC 10-16-3 and other waters defined under IC 13-11-2-265:

(A) A copy of the U.S. Army Corps of Engineers Section 404 of the Clean Water Act permit and a copy of the Indiana department of environmental management Section 401 water quality certification or documentation acceptable to the department that a Section 404 permit and Section 401 water quality certification are not required.

(B) Any other mitigation plans required by any other government agency including permit conditions or restrictions placed on the siting of the solid waste land disposal facility in relationship to any other waters defined under IC 13-11-2-265.

(b) Restricted waste site Type III and construction/demolition landfills are exempt from submitting the information required in subsection (a)(9). *(Solid Waste Management Board; 329 IAC 10-11-2.5; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3789; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1802, eff Apr 1, 2004)*

**329 IAC 10-11-3 Signatories to permit application and reports**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) All permit applications must be signed as follows:

(1) For a corporation, by a responsible corporate officer.

(2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.

(3) For a unit of government or state, by the executive of the unit.

(4) For a federal or other public agency, by either:

(A) a principal executive officer or ranking elected official; or

(B) a senior executive officer;

having responsibility for the overall operations of a principal geographic unit of the agency that covers the facility to be permitted.

(b) All reports required by permits and other information requested by or on behalf of the commissioner must be signed by the permittee or by a duly authorized representative of that person. A person is presumed to be an authorized representative if:

(1) the information is submitted on behalf of a person described in subsection (a);

(2) the information is submitted in response to a requirement of the permit or in response to a request for information directed to a person described in subsection (a); or

(3) written authorization is submitted to the commissioner by an individual identified in subsection (a) that identifies a specific individual or position as authorized to submit information.

(c) If an authorization under subsection (b)(3) is no longer accurate, a new authorization satisfying the requirements of subsection (b)(3) must be submitted to the commissioner prior to or together with any reports of information to be signed by the authorized representative.

(d) Any person signing a document under subsection (a) or (b) shall make a certification that states, "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that I am authorized to submit this information.". *(Solid Waste Management Board; 329 IAC 10-11-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1810)*

**329 IAC 10-11-4 Renewal permit application (Repealed)**

Sec. 4. *(Repealed by Solid Waste Management Board; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3875)*

**329 IAC 10-11-4.1 Application for vertical expansions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20-21; IC 36-9-30

Sec. 4.1. (a) In addition to the application requirements given at section 2.1 of this rule, a complete application for major modification of a solid waste land disposal facility permit involving only a vertical expansion must include all the information and documentation required at 329 IAC 10-18-1 for MSWLFs and at 329 IAC 10-26-3 for non-MSWLFs.

(b) In addition to the application requirements given at subsection (a) and section 2.1 of this rule, a complete application for a vertical expansion of a solid waste land disposal facility permit involving only a minor modification must include the name and address of all owners or last taxpayers of record of property of adjoining land that is within one-half (½) mile of the solid waste boundary.

(c) Fees must be submitted with the application in accordance with IC 13-20-21. *(Solid Waste Management Board; 329 IAC 10-11-4.1; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3791)*

**329 IAC 10-11-5 Applications for vertical expansions (Repealed)**

Sec. 5. *(Repealed by Solid Waste Management Board; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3875)*

**329 IAC 10-11-5.1 Renewal permit application**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20-21; IC 36-9-30

Sec. 5.1. (a) In addition to the application requirements given at section 2.1 of this rule, excluding section 2.1(c)(3) of this rule, a complete application for a renewal of a solid waste land disposal facility permit must include all the following information:

(1) The name and address of all owners or last taxpayers of record of property of adjoining land that is within one-half (½) mile of the solid waste boundary.

(2) The operation permit number of the solid waste land disposal facility.

(3) The number of acres permitted for waste disposal.

(4) A topographic plot plan that reflects the current condition of the solid waste land disposal facility and current elevations taken within twelve (12) months of the submittal of the application and accurately identifies the following information to a scale as required by 329 IAC 10-15-2(a), 329 IAC 10-24-2(a), or 329 IAC 10-32-2(a):

(A) Areas of final cover, including certified closed area, and type of final cover.

(B) Filled areas lacking final cover, grading, and seeding.

(C) Current areas of operation.

(D) Projected solid waste disposal areas on a per year basis for the next five (5) years.

(5) A copy of the latest approved final contour plot plan with scale, as required by 329 IAC 10-15-2(a).

(6) A copy of the latest approved subgrade contours or the uppermost contour of the soil liner.

(b) An application for a renewal of a solid waste land disposal facility permit must be submitted at least one hundred twenty (120) days prior to the expiration date of the permit or the permit will be invalid upon expiration.

(c) Fees must be submitted with the application in accordance with IC 13-20-21. *(Solid Waste Management Board; 329 IAC 10-11-5.1; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3791; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1803, eff Apr 1, 2004)*

**329 IAC 10-11-6 Minor modification applications**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3; IC 13-20-1
Affected: IC 13-20-1; IC 13-21-5; IC 36-9-30

Sec. 6. (a) In addition to the application requirements given at section 2.1 of this rule, excluding section 2.1(b)(10) of this rule,

adequate information must be included in an application for a minor modification of a solid waste land disposal facility permit to demonstrate that the minor modification will be protective of human health and the environment. The commissioner shall determine the information adequate based on the type of minor modification requested by the facility.

(b) In addition to the requirements in subsection (a), the application must also include the name and address of all owners or last taxpayers of record of property of adjoining land that is within one-half (½) mile of the solid waste boundary.

(c) Fees must be submitted with the application in accordance with IC 13-20-21.

(d) Borrow pits owned by the owner, operator, or permittee and not permitted by the department before April 1, 2004, must be included in the facility permit through application for minor modification on application forms provided by the commissioner. This requirement includes a borrow pit:

(1) owned by the owner, operator, or permittee;

(2) not permitted by the department before April 1, 2004; and

(3) located on-site or on property adjoining the facility.

*(Solid Waste Management Board; 329 IAC 10-11-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1812; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2755; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3791; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1804, eff Apr 1, 2004)*

**329 IAC 10-11-6.5 Research, development, and demonstration minor modification application**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1

Affected: IC 13-30-2; IC 36-9-30

Sec. 6.5. (a) Except as provided in subsection (f), the commissioner may issue a minor modification for research, development, and demonstration for a new MSWLF, existing MSWLF, or lateral expansion for which the owner or operator proposes to utilize innovative and new methods that vary from either or both of the following criteria provided that the MSWLF has a leachate collection system designed and constructed to maintain less than twelve (12) inches depth of leachate on the liner and an active gas extraction system, which is designed to extract or recover at least sixty percent (60%) of the total volume of the landfill gas produced or generated at the MSWLF:

(1) The run-on control system in 329 IAC 10-20-11(a)(1).

(2) The liquids restrictions in 329 IAC 10-20-27.

(b) The commissioner may issue a minor modification for research, development and demonstration for a new MSWLF, existing MSWLF, or lateral expansion for which the owner or operator proposes to utilize innovative and new methods that vary from the final cover requirements at 329 IAC 10-22-6, provided:

(1) the MSWLF owner/operator demonstrates that the percolation of liquid through the alternative cover system will not cause contamination of ground water or surface water; and

(2) will not cause leachate depth on the liner to exceed twelve (12) inches.

(c) Any MSWLF permit minor modification issued under this section must also meet the requirements in section 6 of this rule and must include such terms and conditions at least as protective as this article to assure protection of human health and the environment. The minor modification issued under this section shall do the following:

(1) Provide for the construction and operation of such facilities as necessary, for not longer than three (3) years, unless renewed as provided in subsection (e).

(2) Provide that the MSWLF must receive only those types and quantities of municipal solid waste and nonhazardous wastes that the commissioner deems appropriate for the purposes of determining the efficacy and performance capabilities of the technology or process.

(3) Include such requirements as necessary to protect human health and the environment, including such requirements as necessary for testing and providing information to the commissioner with respect to the operation of the facility.

(4) Require the owner or operator of the MSWLF with a minor modification under this section to submit an annual report to the commissioner showing whether and to what extent the site is progressing in attaining project goals. The report will also include a summary of all monitoring and testing results, as well as any other operating information specified by the commissioner in the minor modification given under this section.

(5) Require compliance with all requirements, as applicable, under this article.

(d) The commissioner may revoke or amend the minor modification issued under this section and require immediate termination of all operations at the facility allowed by the minor modification issued under this section or other corrective measures

at any time the commissioner determines that the overall goals of the project are not being attained, including protection of human health or the environment.

(e) Any minor modification issued under this section shall not exceed a term of three (3) years, and each renewal of this minor modification may not exceed a term of three (3) years. The following apply to this section:

(1) The total term for a minor modification issued under this section, including all renewals issued under this section, must not exceed twelve (12) years.

(2) As part of the minor modification renewal application under this section, the owner or operator shall provide the following:

(A) A detailed assessment of the approved research, development, and demonstration project showing the status with respect to achieving project goals.

(B) A list of problems and status with respect to problem resolutions.

(C) Any other information that the commissioner determines necessary to assure protection of human health or the environment for the minor modification renewal issued under this section.

(f) An owner or operator of a MSWLF:

(1) operating under an exemption set forth in 40 CFR 258.1(f)(1); or

(2) that disposes of twenty (20) tons of municipal solid waste per day or less based on an annual average;

is not eligible for a minor modification under this section. *(Solid Waste Management Board; 329 IAC 10-11-6.5; filed May 2, 2005, 2:30 p.m.: 28 IR 2670)*

**329 IAC 10-11-7 Demonstration and determination of need requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3; IC 13-20-1
Affected: IC 13-18; IC 13-20-1; IC 13-21-5; IC 36-9-30

Sec. 7. (a) This section applies to all permits for new solid waste land disposal facilities or major modifications of permits submitted after March 20, 1990, except those solid waste land disposal facilities exempt under IC 13-20-1.

(b) In accordance with subsection (a) and in addition to other permit application requirements outlined in this article, the following are also required:

(1) A description of the anticipated area that would be served by the solid waste land disposal facility as indicated by the following:

(A) Solid waste management districts or portions of districts.

(B) A county, multiple counties, or portions of counties.

(C) A county or multiple counties and the state if the area includes portions outside of Indiana.

(2) A description of the existing solid waste facilities that serve the same described area.

(3) A description of the need that would be fulfilled by constructing the proposed solid waste land disposal facility, as follows:

(A) If the solid waste land disposal facility is proposed in areas with approved district solid waste management plans, a description of the need identified in the district solid waste management plan required by IC 13-21-5.

(B) If the solid waste land disposal facility is proposed in areas without approved district solid waste management plans, a description of the need for the proposed area to be served.

(4) A description of recycling, composting, or other activities that the solid waste land disposal facility would operate within the proposed area of service.

(5) A description of the additional disposal capacity that the solid waste land disposal facility, if permitted, would provide for the proposed area of service.

(6) Additional information as requested by the commissioner.

(c) This application requirement is satisfied if it is determined that the capacity applied for is reasonably related to the need shown based upon:

(1) average or representative annual existing disposal volumes for the solid waste land disposal facility, multiplied by twenty (20) years;

(2) twenty (20) year solid waste disposal projections in approved solid waste district plans for each solid waste management district identifying the solid waste land disposal facility as a facility to be used by the district;

(3) a shortfall in capacity as shown by the twenty (20) year solid waste plan for the solid waste management district in which the solid waste land disposal facility is located; or

(4) any combination of the criteria listed in this subsection.

(d) The commissioner shall review the submitted application and the accompanying materials in accordance with provisions of this article. If it is determined that there is not a local or regional need in Indiana for the solid waste land disposal facility, the commissioner shall deny the permit application. *(Solid Waste Management Board; 329 IAC 10-11-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1812; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2755; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3792)*

## Rule 12. Actions for Permit and Renewal Permit Application

### 329 IAC 10-12-1 Public process for new solid waste land disposal facility permits; major permit modifications; minor permit modifications

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3; IC 13-20-1
Affected: IC 5-3-1-2; IC 5-3-1-6; IC 5-3-2; IC 13-15-3-3; IC 13-20; IC 36-9-30

Sec. 1. (a) A person submitting an application for one (1) of the following shall submit an affidavit as required by 329 IAC 10-11-2.5(a)(19) and shall make notice as required in subsection (b):

(1) A new solid waste land disposal facility permit.

(2) A major modification for a lateral expansion permit or a vertical expansion permit.

(3) A minor modification permit for an acreage expansion that would not:

(A) increase the facility's permitted capacity to dispose of solid waste by the lesser of:

(i) more than ten percent (10%); or

(ii) five hundred thousand (500,000) cubic yards; or

(B) in an acreage expansion, increase the area within the permitted solid waste boundary by more than one (1) acre.

(b) The notice required by subsection (a) must include the following:

(1) Not more than ten (10) working days after submitting an application, an applicant shall make a reasonable effort to notify the owners of record of adjoining land to the solid waste land disposal facility or proposed solid waste land disposal facility.

(2) The notice provided by the applicant in this subsection must:

(A) be in writing;

(B) include the date on which the application for the permit was submitted to the department; and

(C) include a brief description of the subject of the application.

(c) A public meeting must be conducted by the applicant submitting an application for the following:

(1) A new solid waste land disposal facility permit.

(2) A major modification to a solid waste land disposal facility permit.

(d) The applicant shall complete the following for the public meeting as required in subsection (c):

(1) Within sixty (60) days after the date the applicant received notification from the commissioner that the application has been deemed complete, conduct a public meeting in the county where the solid waste land disposal facility or major modification designated in the application will be located.

(2) Publish notice of the public meeting at least ten (10) days prior to the meeting in a newspaper of general circulation in the county where the solid waste land disposal facility or major modification will be located. The notice must:

(A) be at least two (2) columns wide by five (5) inches long;

(B) not be placed in the part of the newspaper where the legal notices and classified advertisements appear;

(C) include the time and date of the public meeting;

(D) state the exact place of the public meeting; and

(E) have every effort made by the applicant and the department to coordinate the publication date of the notice of the public meeting held by the applicant as required by this subdivision with the publication date of the notice of public hearing held by the department as required in subsection (i)(1).

(3) Conduct the public meeting as follows:

(A) Present a brief description of the location and operation of the proposed solid waste land disposal facility or major modification.

(B) Indicate where copies of the application have been filed.

(C) If the applicant proposes a design alternative, the applicant must briefly describe the alternative design.

(D) State that the department will accept written comments and questions from the public on the permit application and announce the address of the department and name of the person accepting comments on behalf of the department.

(E) Provide fact sheets on the proposed solid waste land disposal facility or major modification that have been prepared by the department for the public. A department representative shall attend the meeting.

(F) Offer the opportunity for public comments and questions.

(e) Within five (5) days after the date the applicant received notification from the commissioner that the application has been deemed complete by the department, the applicant shall place a copy of the complete application and any additional information that the department requests at a library in the county where the solid waste land disposal facility or major modification will be located.

(f) The applicant shall pay the costs of complying with subsections (c) through (e).

(g) Failure of the applicant to comply with subsections (c) through (f) may result in the denial of the application by the department.

(h) Public notice must be made by the department as required by IC 5-3-1-2(i) after the date the applicant received notification from the commissioner that the permit application is deemed completed. The public notice must meet the following requirements:

(1) Indicate where copies of the application are available for public review.

(2) State that the department will accept comments from the public on the application for at least thirty (30) days.

(3) Offer the opportunity for a public hearing on the application.

(4) The department shall publish the notice in accordance with IC 5-3-1-6.

(5) If the facility boundary of the proposed solid waste land disposal facility or major modification, if also a lateral expansion, will be within one (1) mile of the county boundary, the department will publish the notice in accordance with IC 5-3-1-6 in the adjacent county.

(6) In addition to the requirements in IC 5-3-1-6, the department shall publish the notice in two (2) newspapers in the county where the solid waste land disposal facility or major modification is located, if there are two (2) newspapers of general circulation in the county.

(i) The department shall hold a public hearing if required by IC 13-15-3-3. The following apply to a public hearing:

(1) The department shall publish notice of the hearing as required in IC 5-3-1 and IC 5-3-2 in newspapers of general circulation in the county where the solid waste land disposal facility (if a major modification) or proposed solid waste land disposal facility is located.

(2) During a hearing, a person may testify within the time provided or submit written comments, or both. The department will consider testimony that is relevant to the requirements of IC 13 and this article.

*(Solid Waste Management Board; 329 IAC 10-12-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1812; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2756; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3792; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1804, eff Apr 1, 2004)*

**329 IAC 10-12-2 Application review**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-15-8; IC 13-18; IC 13-20-8; IC 36-9-30

Sec. 2. (a) Time periods for determination on permit application are under IC 13-15-8.

(b) Procedures for application review are under IC 13-15-8.

(c) Remedies are under IC 13-15-8. *(Solid Waste Management Board; 329 IAC 10-12-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1813; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2757)*

**Rule 13. Permit Issuance and Miscellaneous Provisions**

**329 IAC 10-13-1 Issuance procedures; original permits**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11; IC 13-12; IC 13-13; IC 13-14-8; IC 13-16; IC 13-17; IC 13-19; IC 13-20; IC 13-21; IC 13-22; IC 13-23; IC 13-24; IC 13-25; IC 13-26; IC 13-27; IC 13-27.5; IC 13-29; IC 13-30-2; IC 36-9-30

Sec. 1. (a) The department shall comply with the procedural requirements of IC 13-15-3, IC 13-15-5, and IC 13-15-6 pertaining

to public notice, public comment, and public hearing for an application for a permit for a solid waste land disposal facility regulated under IC 13-19-3.

(b) Subject to the provision of 329 IAC 10-11-1(c), if the department determines that the permit application meets the requirements of this article, and that the solid waste land disposal facility will be constructed and operated in accordance with the requirements of this article and the applicant is otherwise in compliance with the environmental statutes of Indiana, the permit will be granted. The department may impose such conditions in a permit as may be necessary to:

(1) comply with the requirements of this article, IC 13-11 through IC 13-30, and IC 36-9-30; or

(2) protect the public health or the environment.

(c) The notice of the granting of a permit must state that the permit will not become effective until the completion and execution of any real estate transfers necessary to vest legal title of the real estate upon which the permitted activity is to occur in the name of the owner listed on the application have been completed, executed, and such documentation necessary to evidence such transfer has been recorded and delivered to the department, or proof of the applicant's agreement regarding the leasing of this property has been submitted to the department. *(Solid Waste Management Board; 329 IAC 10-13-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1814; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2757; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3793; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1806, eff Apr 1, 2004)*

**329 IAC 10-13-2 Issuance procedures; renewal permits**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20-8; IC 13-30-2; IC 36-9-30

Sec. 2. (a) After the commissioner concludes that the renewal application is complete, the following is required:

(1) The commissioner shall comply with the procedural requirements of IC 13-15-3, IC 13-15-5, and IC 13-15-6 for a renewal permit of a solid waste land disposal facility regulated under IC 13-19-3.

(2) The commissioner shall review the application to determine whether the solid waste land disposal facility or the operation is in compliance with the plans and specifications in its existing permit. The commissioner may request clarification or supplementation of information submitted in support of the renewal application. The commissioner shall evaluate the facility's compliance record under:

(A) the operational requirements of 329 IAC 10-20, 329 IAC 10-28, or 329 IAC 10-36 as appropriate; and

(B) any prior or existing permit conditions.

(b) Subject to the provisions of 329 IAC 10-11-1(c), after the provisions of subsection (a) have been accomplished and the commissioner determines that the solid waste land disposal facility is in compliance with the requirements of this article and the permit conditions, including any additions to or revisions of the conditions in the existing permit, the commissioner shall grant renewal of the permit. *(Solid Waste Management Board; 329 IAC 10-13-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1814; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2757; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3794)*

**329 IAC 10-13-3 Duration of permits**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-15-3-2; IC 13-15-7-1; IC 13-18; IC 36-9-30

Sec. 3. A permit including a renewal permit must be issued for a fixed term not to exceed five (5) years in accordance with IC 13-15-3-2. A permit may be modified or revoked prior to the expiration of the term for cause as provided in section 6 of this rule or in accordance with conditions set forth in the permit and IC 13-15-7-1. *(Solid Waste Management Board; 329 IAC 10-13-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1814; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2758)*

**329 IAC 10-13-4 Effect of permit issuance**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) The issuance of a permit does not:

(1) convey any property rights of any sort or any exclusive privileges to the permittee;

(2) authorize:

(A) any injury to any person or private property;

(B) invasion of other private rights; or

(C) any infringement of federal, state, or local laws or regulations; or

(3) preempt any duty to comply with other state or local requirements.

(b) The owner, operator, and permittee of a solid waste land disposal facility and the owner or owners of the land upon which a solid waste land disposal facility is located shall be liable for any environmental harm caused by the facility.

(c) The permittee shall construct and operate a solid waste land disposal facility in accordance with the permit. The owner, operator, and permittee are equally responsible for complying with the conditions of the permit, the regulations, and the statutes. *(Solid Waste Management Board; 329 IAC 10-13-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1814)*

**329 IAC 10-13-5 Transferability of permits; change of ownership interest**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3; IC 13-19-4-10

Affected: IC 13-14-8; IC 13-15-1-3; IC 13-15-7; IC 13-19-4; IC 36-9-30-35

Sec. 5. (a) A permit may be transferred to another person by the permittee, without the need for a new permit or modification or revocation of the existing permit being required, if the permittee notifies the commissioner of the proposed transfer at least sixty (60) days before the proposed date of transfer on forms provided by the commissioner.

(b) Along with the notification form, the permittee must provide the following:

(1) A disclosure statement meeting the requirements of IC 13-19-4-2(1) or IC 13-19-4-2(2) executed by the transferee and each person who is a responsible party with respect to the transferee, unless IC 13-19-4-2 does not apply under the provisions of IC 13-19-4-1(b).

(2) A written agreement containing a specific date of transfer of permit responsibility.

(3) Proof of financial responsibility of the transferee as provided in 329 IAC 10-39, if required by the commissioner.

(4) Proof that the transferee is, or will be, the owner of the real property on which the facility is located, or proof that the property is, or will be, leased to the transferee.

(c) A permit may not be transferred if the transferee has:

(1) been convicted under IC 13-30-6 *[IC 13-30-6 was repealed by P.L.137-2007, SECTION 37, effective July 1, 2007.]* or IC 36-9-30-35; or

(2) had a permit to operate under this article, or previous articles, 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, revoked by the commissioner under IC 13-15-7.

(d) The transfer will be effective on the specific date of transfer provided by the permittee unless the commissioner notifies the permittee and the transferee that the transfer will be denied under IC 13-19-4-5 through IC 13-19-4-7.

(e) Notwithstanding the transfer of a permit, a variance must not be transferred to another person without independent proof of undue hardship or burden by the transferee.

(f) Subject to IC 13-19-4-8(a), if there is a change of at least fifty percent (50%) ownership control of an entity, but less than a change of the entire ownership control of an entity, that holds a permit described in IC 13-15-1-3, then the entity must, not later than thirty (30) days after the change of ownership control is completed, submit to the department the disclosure statement required by IC 13-19-4-3(a) and IC 13-19-4-3(b).

(g) The requirement of subsection (f) applies to the transfer of a permit described in IC 13-19-4-1(b).

(h) Upon receipt of the disclosure statement required under subsection (f), the commissioner shall follow the procedures and requirements of IC 13-19-4-8(f) and if applicable, IC 13-19-4-8(g). *(Solid Waste Management Board; 329 IAC 10-13-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1815; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2045; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2758; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1806, eff Apr 1, 2004; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA)*

**329 IAC 10-13-6 Permit revocation and modification**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3

Affected: IC 4-21.5-3; IC 13-15-7-1; IC 13-15-7-3; IC 36-9-30

Sec. 6. (a) The commissioner may revoke or modify a permit issued under this article if cause exists under IC 13-15-7-1 and may request an updated application if necessary. When a permit is modified, only the conditions modified are reopened and subject to review under IC 13-15-7-3. If a permit is revoked, the entire permit is reopened and subject to revision and if the permit is reissued, it may be for a new term.

(b) If the solid waste land disposal facility is located in an area that is not suitable for the placement of waste as specified by this article, the department shall consider the nonsuitability issue as a sufficient basis for denying the modification or for revoking the permit unless the permittee demonstrates to the department that continued use of the solid waste land disposal facility will not pose a threat to human health or the environment.

(c) To request a change in the solid waste land disposal facility plans or operation, the permittee must request that the commissioner modify the permit before any permitted changes are made in the approved plans. The application must provide the rationale for such modification to the commissioner for review. If the commissioner determines that the requested modification is consistent with this article, the commissioner shall grant the modification. Only the conditions modified are reopened. The commissioner shall give notice to the permittee of the determination on the modification in accordance with IC 4-21.5-3.

(d) Other than for minor modifications, requests to modify a permit to increase the permitted acreage of the solid waste disposal area of a solid waste land disposal facility shall be processed in accordance with section 1 of this rule. *(Solid Waste Management Board; 329 IAC 10-13-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1815; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2758; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3794; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1806, eff Apr 1, 2004)*

## Rule 14. Solid Waste Land Disposal Facilities; Quarterly Reports and Weighing Scales

### 329 IAC 10-14-1 Quarterly reports

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 24-6; IC 36-9-30

Sec. 1. (a) A quarterly tonnage report of solid waste received at the solid waste land disposal facility must be submitted to the commissioner by the owner, operator, or permittee of that facility.

(b) The report required by subsection (a) must be submitted on or before the fifteenth day of the month immediately following the end of the calendar quarter being reported. If the submittal date falls on a Saturday, a Sunday, or a national or state legal holiday, the submittal date will be the next day that is not a Saturday, a Sunday, or a national or state legal holiday.

(c) The report required by subsection (a) must be submitted by the owner, operator, or permittee of the solid waste land disposal facility that is open to accept solid waste for disposal unless the owner, operator, or permittee of the solid waste land disposal facility has ceased accepting solid waste for a period of at least one (1) calendar quarter, and has sent written notification to the commissioner indicating the initiation of final closure under 329 IAC 10-22-4, 329 IAC 10-30-6, or 329 IAC 10-37-6 as appropriate.

(d) The solid waste hauler shall provide the owner, operator, or permittee of the solid waste land disposal facility with the origin of the solid waste delivered to the solid waste land disposal facility. The hauler shall estimate, by percent, the type and amount of solid waste originating in each county and state, or country if other than the United States, if the load contains solid waste from more than one (1) county, state, or country.

(e) The owner, operator, or permittee of the solid waste land disposal facility shall submit the quarterly tonnage report required by subsection (a) as follows:

(1) In the most current paper or electronic submittal format prescribed by the commissioner. The owner, operator, or permittee may obtain a quarterly tonnage report form from the department. The form:

(A) may be photocopied or electronically copied by the owner, operator, or permittee of the solid waste land disposal facility; and

(B) in its most current format, may be computer generated by the owner, operator, or permittee of the solid waste land disposal facility.

(2) The original of each paper report must be signed by the solid waste land disposal facility owner, operator, or permittee as certification of report accuracy.

(3) Each report must be accurate, legible, and complete.

(4) The report required by this subsection must include at least the following information:

(A) The weight in total tons of solid waste received at the solid waste land disposal facility for that calendar quarter compiled by waste type and origin.
(B) The county and state in which the solid waste originated. If the solid waste originated outside of the United States, the country must be designated. The origin must be provided to the solid waste land disposal facility by the solid waste hauler as described in subsection (d).
(C) The type, total weight in tons, and final destination of solid waste diverted from disposal for reuse or recycling after being received at the solid waste land disposal facility.
(D) Waste types, including the following:
(i) Municipal solid waste.
(ii) Construction/demolition waste.
(iii) Foundry waste.
(iv) Coal ash.
(v) Flue gas desulfurization wastes.
(vi) Other solid waste.

(f) If the owner, operator, or permittee of the solid waste land disposal facility ascertains that there is an error in any report previously submitted as required by subsection (a), a revised report reflecting the correct information must be submitted in the same format as the original submission. The revised report must:
(1) have "Amended" written or typed at the top of each page of the resubmitted report; and
(2) be submitted before or with the submission of the next quarterly tonnage report after ascertaining an error.
(g) Copies of reports required by this section must be:
(1) retained as specified under 329 IAC 10-1-4(b) for three (3) years after the submittal date of the report; and
(2) made available during normal operating hours for inspection and photocopying or electronic copying by a representative of the department.
(h) The solid waste land disposal facility owner, operator, or permittee shall maintain the documentation to substantiate reports required by this section. Such documentation must be:
(1) retained as specified under 329 IAC 10-1-4(b) for three (3) years after the submittal date of the report; and
(2) made available during normal operating hours for inspection and photocopying or electronic copying by a representative of the department.
(i) Failure to submit reports and copies as required by this section or maintain copies of reports and records as required by this section constitutes an operational violation of this article. *(Solid Waste Management Board; 329 IAC 10-14-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1815; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2759; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3795; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1807, eff Apr 1, 2004)*

**329 IAC 10-14-2 Weighing scales**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-19-3; IC 13-20-2; IC 24-6-3-5; IC 36-9-30

Sec. 2. (a) This section applies to either of the following:
(1) Solid waste land disposal facilities receiving a permit from the department after January 1, 1994, that are required to install weighing scales.
(2) Existing solid waste land disposal facilities required to install weighing scales under the following conditions:
(A) The solid waste land disposal facility is open to accept solid waste for disposal.
(B) Based on reporting results required by section 1(a) of this rule, the solid waste land disposal facility accepts in any calendar year an annual average of more than fifty (50) tons of solid waste per operating day.
(b) This section does not apply to any solid waste land disposal facility that receives solid waste from a person that:
(1) generates the solid waste; and
(2) disposes of the solid waste at a solid waste land disposal facility that is:
(A) owned by that person; and
(B) limited to use for the disposal of solid waste generated by that person.
(c) Solid waste land disposal facilities required to install weighing scales by subsection (a) must:

(1) install the weighing scales within twelve (12) months of determining the installation is required;
(2) notify the department in writing of the date the weighing scales became operable after installation;
(3) effectively maintain and operate these weighing scales in accordance with IC 24-6;
(4) submit to inspection of the weighing scales under IC 24-6-3-5; and
(5) weigh all vehicles bringing solid waste to the working face of the solid waste land disposal facility and report the total weighed quantity of solid waste in tons as required by section 1 of this rule.

(d) In the event that the weighing scales required in subsection (a) break down or are operating improperly:
(1) the solid waste land disposal facility owner, operator, or permittee may use the waste quantification methods in subsection (e) for the duration of the scale breakdown;
(2) the solid waste land disposal facility owner, operator, or permittee shall submit a written notification of the breakdown with each quarterly tonnage report required under section 1 of this rule for each affected quarter;
(3) the solid waste land disposal facility owner, operator, or permittee shall submit with the notification required by subdivision (2), the time frames for actions to be taken to repair the breakdown or inoperable weighing scales; and
(4) the solid waste land disposal facility owner, operator, or permittee shall notify the department in writing that the weighing scales are operable after any repair.

(e) A solid waste land disposal facility required to report under section 1(a) of this rule but not required to install and operate weighing scales or a solid waste land disposal facility at which the scales are operating improperly or are temporarily inoperable shall use the most applicable of the following conversion factors to determine the weight of municipal solid waste from the volume of municipal solid waste:
(1) Three and three-tenths (3.3) cubic yards of compacted solid waste equals one (1) ton of solid waste.
(2) Six (6) cubic yards of uncompacted solid waste equals one (1) ton of solid waste.
(3) One (1) cubic yard of baled solid waste equals one (1) ton of solid waste.

(f) Any solid waste land disposal facility accepting construction/demolition waste or pollution control waste, required to report under section 1(a) of this rule that is not required by subsection (a) to install weighing scales to weigh solid waste, shall use accepted engineering practices, production information, or other methods approved by the department to estimate the weight of construction/demolition waste and pollution control waste received at the solid waste land disposal facility.

(g) Failure to install and operate weighing scales and to notify the department as required by this section constitutes an operational violation under 329 IAC 10-1-2. *(Solid Waste Management Board; 329 IAC 10-14-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1817; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3796; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3966)*

## Rule 15. Municipal Solid Waste Landfills; Plans and Documentation to be Submitted with Permit Application

### 329 IAC 10-15-1 General requirements

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 25-17.6-1-6.5; IC 36-9-30

Sec. 1. (a) A permit application for a new MSWLF or a lateral expansion must be accompanied by the following plans and documentation:
(1) Plot plans as specified under section 2 of this rule.
(2) Cross-sectional drawings and details as specified under section 3 of this rule.
(3) A hydrogeologic site investigation report as specified under sections 4 and 5 of this rule.
(4) An operational plan of the proposed MSWLF as specified under section 6 of this rule.
(5) A CQA/CQC plan as specified under section 7 of this rule.
(6) Calculations and analyses pertaining to MSWLF design as specified under section 8 of this rule.
(7) An explosive gas management plan as specified under 329 IAC 10-20-17.
(8) A closure plan as specified under 329 IAC 10-22-2.
(9) A post-closure plan, as specified under 329 IAC 10-23-3.
(10) A quality assurance project plan as specified under 329 IAC 10-21-2(b)(13).
(11) A sampling and analysis plan as specified under 329 IAC 10-21-2.
(12) A general description for developing the statistical evaluation plan that is required by 329 IAC 10-21-6(c). The description

must include a time frame for submitting the statistical evaluation plan.

(13) If applicable, a baled waste management plan as specified under section 9 of this rule.

(14) A leak detection plan as specified under section 10 of this rule.

(15) A leachate collection contingency plan as specified under section 11 of this rule.

(16) A storm water pollution prevention plan as specified under section 12 of this rule.

(17) Other plans as may be required by the commissioner based on particular site or facility conditions.

(b) Plans and documentation that accompany a permit application for a new MSWLF or a lateral expansion must be certified as follows:

(1) The hydrogeologic site investigation report required in subsection (a)(3) must be certified by a licensed professional geologist or a qualified ground water scientist, either of whom shall have educational or professional experience in hydrogeology or ground water hydrology.

(2) With the exception of the hydrogeologic site investigation report and the sampling and analysis plan, all plans and documentation required in subsection (a) must be certified by a registered professional engineer.

(c) A full set of plans and documentation required by this section must accompany each of the five (5) copies of the permit application required in 329 IAC 10-11-2.1(c).

(d) All plans and documentation must be properly titled. *(Solid Waste Management Board; 329 IAC 10-15-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1817; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2760; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3797; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1808, eff Apr 1, 2004)*

**329 IAC 10-15-2 Plot plan requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Plot plans required by subsections (b) through (d) must:

(1) use a scale of at least one (1) inch per one hundred (100) feet for a MSWLF of less than eighty (80) acres;

(2) use a scale of at least one (1) inch per two hundred (200) feet, for a MSWLF of eighty (80) acres to and including one hundred fifty (150) acres;

(3) use a scale of at least one (1) inch per three hundred (300) feet for an MSWLF greater than one hundred fifty (150) acres;

(4) include a bar scale on each drawing;

(5) include elevations that correlate with United States Geological Survey (USGS) mean sea level data;

(6) include a north arrow; and

(7) include a map legend.

(b) A permit application for a new MSWLF or a lateral expansion must be accompanied by an existing features plot plan that includes the facility boundary, and the solid waste boundary and indicates the presence or absence of each of the following features within the facility boundary. The presence or absence of features listed in subdivisions (1) through (9) must also be indicated to three hundred (300) feet outside of the facility boundary:

(1) Location and elevations of all existing boreholes.

(2) Rock outcroppings.

(3) Surface water run-off directions.

(4) Fences.

(5) Utility easements and rights-of-way.

(6) Existing structures.

(7) Benchmark descriptions.

(8) Surface contours with intervals of no more than:

(A) two (2) feet if the MSWLF is less than eighty (80) acres; or

(B) five (5) feet if the MSWLF is equal to or greater than eighty (80) acres.

(9) Real property boundary.

(10) All existing and historical underground or aboveground storage tank locations.

(11) All existing and historical outdoor storage areas for fuels, processing equipment, and other containerized materials, such as drums and totes.

(c) The proposed final contour plot plan required by subsection (d)(1) must indicate surface contours of the MSWLF and three hundred (300) feet beyond the facility boundary. The contour intervals must be no more than:

(1) two (2) feet if the MSWLF is less than eighty (80) acres; or

(2) five (5) feet if the MSWLF is equal to or greater than eighty (80) acres.

(d) A permit application for a new MSWLF or a lateral expansion must be accompanied by plot plans showing the following:

(1) Proposed final contours, indicating the following features that would remain after closure:

(A) Any buildings.

(B) Proposed drainage.

(C) Proposed sedimentation and erosion control structures.

(D) Proposed vegetation, fencing, and visual screening.

(E) Proposed roadways providing access to and around the site that are necessary for post-closure care and monitoring.

(F) Proposed berms, flood protection dikes, and surface water diversion structures.

(G) Proposed explosive gas monitoring and management system.

(H) Proposed solid waste boundary.

(I) Proposed monitoring wells.

(2) Proposed leachate collection system, indicating the following:

(A) Proposed uppermost contour of the soil liner.

(B) Piping layout.

(C) Cleanout and riser locations.

(D) Sump contours or elevations if applicable.

(E) Lift station locations if applicable.

(F) Leachate storage areas if applicable.

(3) Initial facility development plan and details, indicating the following:

(A) Proposed benchmarks.

(B) Proposed buildings and on-site transfer.

(C) Proposed drainage, including permanent sedimentation and erosion control structures, including typical details for temporary erosion structures.

(D) Proposed explosive gas monitoring and management system.

(E) Proposed fencing and visual screening.

(F) Proposed on-site roads.

(G) Proposed uppermost contour of the soil liner.

(H) Borrow area for soil liner material and daily cover if applicable.

(I) Delineation of other construction activities within the real property boundary of the landfill.

(4) Operational plot plan indicating the sequence of cell development, and indicating the following:

(A) Additional proposed benchmarks, if applicable.

(B) Additional proposed buildings, if applicable.

(C) Additional drainage features and permanent erosion and sediment control features, including typical details for temporary erosion structures.

(D) Additional fencing and visual screening.

(E) Proposed on-site roads.

(F) Direction of fill progression.

(G) An outline of impervious surfaces, which includes pavement and buildings.

(H) All permanently designated plowed or snow storage locations.

(I) All loading and unloading areas for solid and liquid bulk materials.

(J) All proposed outdoor storage areas for fuels, processing equipment, and other containerized materials, such as drums and totes.

(K) Outdoor processing areas.

(L) Outdoor waste storage areas.

(5) Any other plot plan that the commissioner may require based on particular site or facility conditions.

*(Solid Waste Management Board; 329 IAC 10-15-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1818; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3797; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1809, eff Apr 1, 2004)*

**329 IAC 10-15-3 Cross-sectional drawing and detail requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 3. (a) A permit application for a new MSWLF or a lateral expansion must be accompanied by a minimum of two (2) intersecting cross-sectional drawings. The drawings must include the following:

(1) Elevations that correlate with USGS mean sea level data.

(2) Final construction plan with:

(A) horizontal and vertical solid waste boundaries;

(B) drainage structures;

(C) leachate collection system;

(D) explosive gas management system components;

(E) proposed depth of the excavation; and

(F) other significant features that may adversely affect the facility design.

(b) In addition to the two (2) cross-sectional drawings required in subsection (a), a permit application for a new MSWLF or a lateral expansion must be accompanied by a minimum of two (2) geological cross-sections. The two (2) geological cross-sections must intersect, and the locations of the sections indicated on the existing feature plan or the piezometric contour map. Each geologic cross-sectional drawing must have horizontal and vertical bar scales and depict the following:

(1) The types of soil materials or rock strata, as identified by boring logs, from the ground surface to the required boring depth.

(2) Present topography (mean sea level elevations).

(3) Uppermost aquifer and all significant zones of saturation.

(4) Any vertical components of ground water flow based on information contained in the hydrogeologic site investigation report for the uppermost aquifer and all significant zones of saturation.

(5) All boring locations along the transect used to prepare the cross section.

(6) Proposed horizontal solid waste boundary.

(7) The base of the liner system or if required any leak detection system and the top of the protective system.

(8) Direction of cross-sectional traverse.

(9) Proposed depth of excavation if it differs from that in subdivision (7).

(10) The original grade, if available.

(c) A permit application for a new MSWLF or a lateral expansion must be accompanied by detail drawings that are cross-sectional of the:

(1) liner system;

(2) geosynthetic anchor trenches if applicable;

(3) final cover system;

(4) drainage structures;

(5) permanent sedimentation and erosion control structures;

(6) leachate collection system, including:

(A) subgrade elevation;

(B) piping;

(C) cleanout location;

(D) drainage features and structures;

(E) sump, risers, and manholes; and

(F) lift station elevations if applicable;

(7) explosive gas monitoring and management system;

(8) on-site roads;

(9) monitoring well construction; and

(10) any other site specific construction details that may adversely affect the facility plan.

*(Solid Waste Management Board; 329 IAC 10-15-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1819; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2760; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3798)*

**329 IAC 10-15-4 Hydrogeologic site investigation report**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 4. (a) A permit application for a new MSWLF or a lateral expansion must be accompanied by a written hydrogeologic site investigation report that must describe the regional and site specific hydrogeology and must, at a minimum, include sufficient hydrogeologic information to allow the commissioner to do the following:

(1) Determine the suitability of the site for solid waste disposal.

(2) Identify and characterize:

(A) the hydrogeology of the uppermost aquifer system;

(B) all geologic strata that exist above the uppermost aquifer system; and

(C) the geologic strata defining the lower boundary of the uppermost aquifer.

(3) Characterize the site geology to allow for the evaluation of the proposed design of the proposed MSWLF unit and to ensure that it will be in compliance with the requirements of 329 IAC 10-16-9 and 329 IAC 10-17-2.

(4) Determine the hydrogeologic conditions and the relationship to the proposed MSWLF unit in order to predict pollutant movement in the event of releases from the proposed MSWLF unit.

(5) Determine the adequacy of the proposed monitoring well system to provide early detection by intercepting ground water contaminated by leachate from the proposed MSWLF unit.

(b) The hydrogeological site investigation report must include a description, based on publicly available information, of the regional hydrogeology of the proposed MSWLF unit. The report must include the following information pertaining to regional hydrogeology:

(1) Demonstration of how the regional hydrogeology relates to the following:

(A) The on-site hydrogeologic conditions.

(B) The location of nearby sensitive environments.

(2) Identification of the regional aquifer and aquifer of significance.

(3) Well logs of public and private water supply wells within one (1) mile of the proposed solid waste boundary as available through the division of water files of the department of natural resources or through other publicly accessible sources. If well logs from a dwelling or from an occupied building located within one-fourth (¼) mile of the proposed solid waste boundary are not publicly available, a summary of results from a survey conducted as required under 329 IAC 10-11-2.5(a)(17) must be submitted in substitution for those well logs.

(4) Average yield of water supply wells located within one (1) mile of the proposed solid waste boundary, as determined from well logs on file with the department of natural resources or from other publicly available information.

(5) Direction of ground water flow in the regional aquifer and aquifer of significance.

(6) Identification of recharge and discharge areas of the regional aquifer and aquifer of significance.

(7) Identification of any public water supply system wells within ten (10) miles of the proposed solid waste boundary.

(8) Determination of the regional aquifer and aquifer of significance as a confined aquifer or an unconfined aquifer.

(9) Identification of aquitard or aquitards and aquiclude or aquicludes.

(10) A discussion of regional geologic conditions that must include available and appropriate information to describe the following:

(A) Bedrock stratigraphy, represented on maps and columnar diagrams, constructed from field exposures and the geologic literature, describing:

(i) formation and member names;

(ii) geologic ages;

(iii) rock types;

(iv) thicknesses;

(v) the proposed MSWLF unit's mineralogic and geochemical compositions and variabilities;

(vi) rock fabrics;

(vii) porosities and bulk permeabilities, including karst development;

(viii) orientation, density, and spacing of joints; and

(ix) other pertinent features.

(B) Glacial geology, including a discussion of:
(i) the formation, stages, and distribution of glacial deposits; and
(ii) hydrologic characteristics of the surficial deposits, including kames, eskers, and outwash plains.
(11) Structural geology, including a description of local and regional structural features.
(12) Description of the regional geomorphology, surface water, and ground water hydrologic features, including the following:
(A) Surface water drainage patterns.
(B) Wetlands.
(C) The location of surface water bodies.
(D) Floodways.
(E) Floodplain.
(F) An analysis of any topographic features that may influence the ground water flow system.

(c) The hydrogeological site investigation report must include a description of the site-specific hydrogeology of the proposed MSWLF unit. The site-specific report must include results of field and laboratory investigations that are performed to do the following:
(1) Define physical site characteristics, including soils, unconsolidated and consolidated stratigraphy, and ground water.
(2) Describe and characterize the ground water quality of the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. This report must:
(A) include a description and the source of any ground water contamination located under the site; and
(B) report data gathered by sampling and analyzing the ground water at least one (1) time from the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system for, at a minimum, the constituents of Table 1A in 329 IAC 10-21-15(a) and Table 1B in 329 IAC 10-21-15(b).

(d) The description of the site-specific hydrogeology must be based on investigations that satisfy, at a minimum, the following requirements:
(1) Boreholes and piezometers must be of sufficient numbers to adequately define the soil, pertinent geologic strata, and ground water conditions at the site and must be in accordance with the following:
(A) There must be at least one (1) borehole and one (1) piezometer for every five (5) acres of solid waste disposal area, with a minimum of five (5) boreholes and five (5) piezometers at any site.
(B) The boreholes must be evenly distributed across the study area and located such that there is one (1) borehole and one (1) piezometer in each major topographic feature, excluding areas inaccessible to drilling equipment, but including the following:
(i) Ridges.
(ii) Knolls.
(iii) Depressions.
(iv) Drainage swales.
(C) Boreholes must be extended at least ten (10) feet below the confining unit defining the lower boundary of the uppermost aquifer or twenty (20) feet into the confining unit, whichever is less.
(D) Boreholes may be converted to piezometers to comply with the requirements of this subdivision.
(2) Additional boreholes and piezometers, not necessarily meeting the requirements in subdivision (1), may be required by the commissioner to delineate the boundaries of any other features pertinent to the proposed MSWLF unit's design.
(3) The screened interval of piezometers and monitoring wells must not exceed ten (10) feet in length.
(4) Diagrammatical drilling logs must be recorded for all boreholes and all piezometers, and each log must be of similar scale and include the following:
(A) Borehole identification number.
(B) Date of drilling.
(C) Method of drilling.
(D) Borehole diameter.
(E) Method of sampling.
(F) Drilling muds and fluids used.
(G) Penetration measurements, such as hammer blow counts, penetrometer measurements, or other acceptable penetration measurements.
(H) Sample recovery measured in tenths of a foot.

(I) Textural classification and descriptions for the entire depth of each borehole and each piezometer.
(J) Interval of continuous samples and soil test data.
(K) The depths to, and thickness of, any water bearing zones.
(L) Water level measurements with dates and times of measurements indicated.
(M) The surveyed elevation at the ground surface to the nearest plus or minus one-tenth (±0.1) foot, relative to the National Geodetic Vertical Datum (NGVD), at each borehole and each piezometer. The elevation of the referenced mark located on top of the casing of each ground water monitoring well and piezometer must be surveyed to the nearest plus or minus one-hundredth (±0.01) foot. The referenced mark must be used to measure static water levels.
(N) Horizontal position of each borehole and piezometer using the Universal Transverse Mercator (UTM) system or a site grid coordinate system that can easily be translated into the UTM system. The horizontal position must be surveyed to an accuracy of thirty (30) centimeters.
(O) Total borehole depth and elevation.

(5) Drilling logs of unconsolidated material must describe the following:
(A) Texture, using the United States Department of Agriculture (USDA) textural classification. Grain-size divisions shall be based on a modified form of the Wentworth grain-size scale defined under 329 IAC 10-2-206.3. A determination shall be made of the percentage and grades of coarse fragments greater than two (2) millimeters in size based on 329 IAC 10-2-206.3 in addition to the USDA textural classification.
(B) Lithological description.
(C) Color as referenced from soil color charts, such as Munsell soil charts.
(D) Reaction (effervescence) to dilute ten percent (10%) cold hydrochloric acid (HCL).
(E) Soil structure.
(F) Sedimentary features, such as the following:
(i) Bedding or lamination.
(ii) Cross-stratification.
(iii) Deformation in bedding.
(iv) Bedding surface structures.
(v) Fossils and biturbation.
(G) Consistence.
(H) Field moisture.
(I) Boundary or contact.
(J) Zones of secondary porosity, such as the following:
(i) Channels of various origins.
(ii) Fractures or soil structure units.
(iii) Bedding planes or laminations.
(iv) Pores (interstices).

(6) Drilling logs of consolidated material must describe the following:
(A) Lithology and sedimentology.
(B) Mineralogy.
(C) Degree of cementation.
(D) Color as referenced from soil color charts, such as the Munsell soil charts.
(E) Grain size.
(F) Any other physical characteristics of the rock, such as scent, staining, fracturing, and solution features.
(G) Percent recovery and rock quality designation.
(H) Other primary and secondary features.
(I) Drilling observations and appropriate details required for unconsolidated drilling logs.
(J) A clear and labelled photograph of all labelled cores must be taken and submitted with the drilling logs. The photograph labelling must include the following information:
(i) Date photograph was taken.
(ii) Sample interval.
(iii) Reference scale.
(iv) Reference color scale.

(v) Identification of borehole.

(7) The diagrammatical construction details of each piezometer must be recorded on the logs and include the following:

(A) Piezometer identification number and UTM coordinates.
(B) Elevation of the top of the piezometer casing.
(C) Height of piezometer casing above the ground.
(D) Elevation of the ground surface.
(E) Elevation and depth to the bottom of the borehole.
(F) Diameter of piezometer casing and borehole.
(G) Elevation and depth to the bottom and top of the piezometer screen.
(H) Length of piezometer casing.
(I) Composition of piezometer casing materials and piezometer screen material.
(J) Length of piezometer screen.
(K) Screen slot size.
(L) Type of joints or couplings, or both, between casing segments.
(M) Elevation and depth to the top and bottom of the gravel filter pack surrounding the piezometer screen.
(N) Length of the gravel filter pack.
(O) Elevation and depth of the bottom of the piezometer casing.
(P) Elevation and depth of the top and bottom of the seal above the gravel filter pack.
(Q) The grain size and composition of all filter pack materials and the fifty percent (50%) retained size of the formation material used to determine filter pack materials.
(R) Thickness of the seal above the gravel filter pack.
(S) Elevation and depth of the annular seal above the gravel filter pack seal.
(T) Thickness of the annular seal.
(U) Material used for the annular seal.
(V) Method of installation of the annular seal.
(W) The composition and design of the surface seal.

(8) Samples of unconsolidated and consolidated material must be taken on a continuous basis. For piezometer clusters, continuous samples must be collected from the surface to the base of the deepest piezometer. Other piezometers in the cluster must be sampled at all significant stratigraphic changes and at the screened interval. Samples of different significant stratum must not be combined into composites for textural classification or testing.

(9) United States Department of Agriculture (USDA) textural classification must be utilized for describing unconsolidated samples. Grain-size divisions shall be based on a modified form of the Wentworth grain-size scale defined under 329 IAC 10-2-206.3. A determination shall be made of the percentage and grades of coarse fragments greater than two (2) millimeters in size based on 329 IAC 10-2-206.3 in addition to the USDA textural classification. Rock cores or samples must be described and classified using accepted geologic classification systems and nomenclature. A clear description of the classification system used must be included with the logs.

(10) Complete grain size analysis, including sieve or hydrometer, or both, as appropriate to the soil type, must be performed on a representative sample from each significant stratum encountered in each borehole for unconsolidated samples.

(11) A minimum of three (3) laboratory hydraulic conductivity tests must be conducted for each significant stratum identified beneath the site when samples can be obtained with minimal disturbance. Representative samples must be taken from different boreholes and elevations within each significant stratum. Samples must not be recompacted, and disturbances to samples must be minimized. If samples cannot be obtained with minimal disturbance, the commissioner must be contacted so that a program can be developed so alternative tests can be used to obtain the hydraulic conductivity of the sample.

(12) Hydraulic conductivity of the uppermost aquifer and any significant zones of saturation that exist above the uppermost aquifer system must be determined. In situ hydraulic conductivity testing must be done in all piezometers and all monitoring wells. The testing method used must not introduce contaminants into the well. Hydraulic conductivities may be determined using pump tests, slug tests, packer tests, tracer studies, isotopic geochemistry, thermal detection, or other suitable methods as approved by the commissioner.

(13) Vertical hydraulic gradients of the uppermost aquifer and of any aquifers below the site that are hydraulically connected to the uppermost aquifer must be measured at a minimum of three (3) separate locations at the site. Additional nested piezometers or wells may be required by the commissioner to adequately determine vertical components.

(14) Cation exchange capacity and Atterberg limits tests must be performed on a representative sample from each significant stratum encountered in each borehole in which a piezometer or monitoring well is to be installed. These tests may be waived for a sample if it is demonstrated that the sample is not conducive to these tests.

(e) The commissioner may vary the minimum requirements described under subsection (d) where alternate testing methods provide comparable information.

(f) All testing and sampling procedures must be identified and all results identified with respect to the borehole and piezometer and depth.

(g) Borehole and piezometer samples collected must be retained in labeled containers or core boxes. All samples must be securely stored and accessible for seven (7) years after issuance of the permit. The location of the storage area must be designated.

(h) All boreholes, including boreholes that are not converted into piezometers or monitoring wells, and other holes that may cause or facilitate contamination of ground water must be permanently sealed in accordance with the following standards:

(1) If not sealed immediately, the borehole must be covered to prevent injury to people or animals.

(2) All boreholes and piezometers no longer intended for use must be sealed with neat cement, bentonite, or other materials approved by the commissioner to prevent the creation of a pathway for contaminants to migrate.

(3) An accurate record of the sealing materials and procedures must be submitted along with the drilling logs to the commissioner.

(i) Ground water monitoring wells installed, replaced, or converted from piezometers after the effective date of this article, must comply with the following:

(1) All ground water monitoring wells installed after the effective date of this article must comply with the requirements of 329 IAC 10-21-4.

(2) Any piezometers redesigned as monitoring wells after the effective date of this article must meet the requirements of 329 IAC 10-21-4.

(3) Except for ground water monitoring wells that are destroyed, or fail to function properly as described in 329 IAC 10-21-1(g), or that must be abandoned or replaced in accordance with 329 IAC 10-21-1(h), any monitoring well approved under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, may continue to be used for ground water monitoring.

(4) Replacement wells must meet the design requirements of 329 IAC 10-21-4, except for replacement wells under subdivision (5).

(5) Replacement wells constructed within fifteen (15) feet of the original well may have soil sampling and soil sample testing requirements waived if:

(A) the original well complies with 329 IAC 10-21-4; and

(B) the waiver is approved by the commissioner.

(j) Based on data collected from boreholes, piezometers, and ground water samples, the site-specific hydrogeologic investigation report must provide the following:

(1) Sufficient data to specify the location for ground water monitoring wells.

(2) Sufficient data to form the basis for contingency plans regarding ground water and surface water contamination.

(3) Sufficient data to support the engineering design of the landfill.

(4) Maps, cross sections, and other graphical representations.

(5) An analysis of potential impacts on ground water quality, surface water quality, and water users in the event of a release from the MSWLF, including projected paths and rates of movement of both water-soluble and low-solubility components of leachate.

(6) Sufficient information to characterize the site geology to allow for the evaluation of the proposed design's compliance with 329 IAC 10-16-9 and 329 IAC 10-17-2.

(7) Detailed descriptions of the following:

(A) Site geology.

(B) Surface water and ground water flow.

(C) The relationship of site-specific conditions to the regional geology.

(D) The potential impact the proposed MSWLF unit or may have on surface and ground water resources and other receptors, including future hydrogeologic conditions, that may occur with site development.

(E) Hydrogeologic conditions in sufficient detail to construct a comprehensive understanding of ground water flow.

(F) The consolidated and unconsolidated stratigraphic units from the ground surface down through the materials

comprising the confining unit defining the lower boundary of the uppermost aquifer system, including the following:

(i) Sedimentary composition, including, for unconsolidated formations:

(AA) textural classification;

(BB) grain size distribution (sieve and hydrometer curves);

(CC) hydraulic conductivity;

(DD) porosity;

(EE) effective porosity;

(FF) transmissivity and storativity; and

(GG) cation exchange capacity and Atterberg limits tests must be performed on a representative sample from each significant stratum encountered in each borehole in which a piezometer or monitoring well is to be installed. These tests may be waived for a sample if it is demonstrated that the sample is not conducive to these tests.

(ii) Thickness.

(iii) Lateral extent.

(G) The geomorphology at the proposed MSWLF unit.

(H) The structural geology under the proposed MSWLF unit.

(I) The uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system, including the following:

(i) The depth to, and lateral and vertical extent of, the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system.

(ii) Temporal fluctuations in ground water levels and the effects on ground water flow direction.

(iii) An interpretation of the ground water flow system, described in both narrative and map form, that includes the following:

(AA) Rate of flow.

(BB) Direction of flow.

(CC) Vertical and lateral components of flow.

(DD) Interconnections between and within the uppermost aquifer system and any significant zones of saturation above the uppermost aquifer system.

(EE) Ground water table maps or potentiometric surface maps, or both, of the proposed site, including ground water flow directions. Monthly water level measurements over a period of at least six (6) months must be submitted to the commissioner prior to operation of the proposed MSWLF or lateral expansion along with ground water table/potentiometric surface maps constructed from each measurement event.

(FF) Cross-sectional representations of equipotential lines and ground water flow direction that adequately represent the horizontal and vertical flow directions beneath the site. Where appropriate, this information may be illustrated on the geologic cross sections.

(iv) Identification and characterization of recharge and discharge areas within the boundaries of the proposed MSWLF unit, including any relationships of ground water with seeps, springs, streams, and other surface water features.

(v) Characterization of the vertical and horizontal hydraulic conductivity of the uppermost aquifer system and all strata within the zone of saturation above the uppermost aquifer system.

(vi) Other information necessary to completely describe the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer.

*(Solid Waste Management Board; 329 IAC 10-15-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1819; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2761; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3799; errata filed Dec 28, 2005, 12:46 p.m.: 29 IR 1561)*

**329 IAC 10-15-5 Description of proposed ground water monitoring well system**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 5. (a) The hydrogeologic site investigation report that accompanies permit applications for new MSWLFs and lateral

expansions must contain a description of the proposed ground water monitoring well system that, at a minimum, includes the following information:

(1) Monitoring point locations, design, and installation procedures. Installation procedures must comply with 329 IAC 10-21-4.

(2) A thorough evaluation of the suitability of any existing monitoring points proposed for inclusion in the ground water monitoring well system.

(3) An explanation of how the proposed ground water monitoring well system addresses the hydrogeologic conditions identified within the uppermost aquifer system and any significant zones of saturation that exist above the uppermost aquifer system.

(4) A description of how and where ground water monitoring wells will be installed at appropriate locations and depths, to yield ground water samples from the uppermost aquifer and any significant zones of saturation that exist above the uppermost aquifer system. Ground water samples must represent both the quality of background ground water that has not been affected by the proposed MSWLF unit and quality of ground water quality passing the monitoring boundary of the proposed MSWLF unit.

(5) A description of how background ground water monitoring wells will monitor the same hydrologic units as the downgradient ground water monitoring wells.

(6) If a single monitoring well cannot adequately intercept and monitor the vertical extent of a potential pathway of contaminant migration at a sampling location, a description of how a ground water monitoring well cluster will be installed.

(7) For the uppermost aquifer system, a description of how ground water monitoring well spacing will not exceed five hundred (500) feet along the monitoring boundary of the proposed MSWLF unit. In geologically complex environments as determined by the commissioner, closer monitoring well spacing may be required. Alternate spacing of ground water monitoring wells may be approved by the commissioner based on particular site or facility conditions. Monitoring well spacing must provide at least two (2) background ground water monitoring wells and four (4) downgradient monitoring wells or well clusters within the uppermost aquifer system and any significant zones of saturation that exist above the uppermost aquifer system. An alternate number of background wells may be approved by the commissioner based on particular site or facility conditions.

(b) The commissioner may consider an individual compliance ground water monitoring well system for intrawell statistical comparison methods if the permittee can demonstrate either of the following:

(1) The uppermost aquifer system, and any significant zones of saturation that exist above the uppermost aquifer system are discontinuous.

(2) Significant spatial variability exists within the aquifer.

*(Solid Waste Management Board; 329 IAC 10-15-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1823; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2765; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3804; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1810, eff Apr 1, 2004)*

**329 IAC 10-15-6 Operational plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 6. A permit application for a new MSWLF or a lateral expansion must be accompanied by an operational plan in the form of a narrative that describes the proposed MSWLF or lateral expansion. Each narrative must include information on the following:

(1) Anticipated quantity, types, and sources of solid waste to be deposited.

(2) Equipment to be used for placement and compaction of all solid waste, excavation of soil, movement of stockpiled soils, and application of cover soil.

(3) Procedures to control fugitive dust in accordance with the applicable fugitive dust rules in 326 IAC 6-4.

(4) Sanitary facilities.

(5) A description of the access control to be used.

(6) A description of the safety equipment to be used.

(7) The distances from the site to the nearest dwelling, factory, and offices.

(8) A description of the location, amount, and depth of excavation that will occur at the site.

(9) A description of the supervision that will occur at the site.

(10) A description of the base flood at the site and whether the site is in the floodway.

(11) Proposed hours of operation.

(12) The development and progression of the MSWLF or lateral expansion as illustrated in the plot plan required under section 2 of this rule.
(13) The quantities of available and necessary cover soil. If cover material is to be obtained from a location other than the site of the proposed MSWLF or lateral expansion, the material's source, quantity, type, and characteristics must be identified.
(14) Winter and inclement weather operating procedures, to include methods for obtaining and applying cover soil.
(15) A description of protective barriers, leachate, and methane control that includes the following:
(A) Source and type of material utilized.
(B) Method and specifications of construction.
(C) Testing for construction quality control (CQC) and reviews for construction quality assurance (CQA) that will be made part of the reference information contained in the construction contract documents.
(16) A description of the sign or signs proposed for the site, as required under 329 IAC 10-20-3.
(17) Procedures for the disposal of bulky solid waste such as refrigerators, stoves, fence wire, and other similar items.
(18) Procedures for controlling or handling windblown materials.
(19) Procedures to be used to prevent and extinguish fires.
(20) Details of salvage operations, if planned, indicating how the salvage operation will comply with 329 IAC 10-20-6.
(21) Facilities for personnel and equipment.
(22) Storage, treatment, and disposal methods for leachate.
(23) Run-on and run-off control system as specified in 329 IAC 10-20-11.
(24) Erosion and sedimentation control measures as specified in 329 IAC 10-20-12.

*(Solid Waste Management Board; 329 IAC 10-15-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1824; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2766; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3804)*

**329 IAC 10-15-7 CQA/CQC plan and requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 7. (a) The proposed MSWLF's or lateral expansion's CQA/CQC plan must address the following:
(1) The observations and tests that will be used before, during, and upon completion of construction to ensure that the construction materials will meet the design criteria and specification required in 329 IAC 10-17.
(2) The procedures to ensure that the post construction care requirements will be maintained prior to initial operation.
(3) A delineation of the responsibilities and authorities for CQA/CQC management, including the following:
(A) The responsibilities and authorities of the various personnel involved in preparing the permit application and designing and constructing the proposed MSWLF or lateral expansion so as to allow for effective lines of communication to facilitate proper and responsible decision making during the construction.
(B) A specific chain of command for the CQA/CQC inspectors.
(4) The preconstruction meeting to be held upon award of the construction contract as described under 329 IAC 10-17-18.
(5) A description of the required level of experience and training for the contractor, crew, and CQA/CQC inspectors for every major phase of construction in detail to demonstrate to the commissioner that the installation methods and procedures required in 329 IAC 10-17 will be properly implemented.
(6) A description of all field observation, tests, equipment, and calibration procedures for field testing equipment that will be used to ensure that the construction and installation meets or exceeds all design criteria as required in 329 IAC 10-17 and the approved construction plans.
(7) Descriptions of all sampling, protocols, sample size, and methods for determining sample location, and frequency of sampling.
(8) Laboratory procedures and the calibration of laboratory equipment that will be used for sample analysis, and the appropriate acceptance and rejection criteria pertaining to the laboratory results.
(9) The reporting requirements for CQA/CQC activities must be described in detail.
(b) Record keeping and reporting requirements for CQA/CQC include the following:
(1) The daily summary reports, inspection data sheets, problem identification and corrective measures reports, acceptance reports, and final documentation must be retained in MSWLF records.

(2) The information from daily progress meetings and problem/work deficiency meetings content documentation must be retained in MSWLF records.

(3) All documentation must be provided in the construction certification report, as specified in 329 IAC 10-19.

*(Solid Waste Management Board; 329 IAC 10-15-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1825; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2766; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3805)*

**329 IAC 10-15-8 Calculations and analyses pertaining to landfill design**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 8. (a) The applicant shall provide calculations and analyses pertaining to the design of the proposed MSWLF unit, if applicable, and if necessary as determined by the commissioner, to indicate that the proposed design complies with the design requirements of 329 IAC 10-17. Any required calculations must be accompanied by a discussion of methods, assumptions, and the references used. Calculations that may be required include the following:

(1) A transmissivity, in plane hydraulic conductivity, calculation or an assessment based on the maximum compressive load placed above the geosynthetic, using a minimum safety factor of ten (10), when a geosynthetic material is used for the drainage layer. In addition, the long term creep impact on the transmissivity of the geosynthetic must be evaluated using a minimum safety factor of five (5).

(2) A permitivity, cross-plane hydraulic conductivity, calculation using a minimum factor of safety of fifty (50), when a geosynthetic material is used for the drainage layer.

(3) A filter-retention calculation or assessment when a geosynthetic material is used for the drainage layer.

(4) A tensile stresses calculation to evaluate stresses generated during the construction and operation of the interior of the side slope of the proposed MSWLF unit. A minimum safety factor of five (5) on yield is required.

(5) A filter-clogging calculation to evaluate the influence of retained soil particles on the permitivity of a geotextile or geonet. Also, a gradient ratio test or a hydraulic conductivity ratio test, as appropriate, must be performed in accordance with test standards specified in 329 IAC 10-17-17.

(6) A localized subsidence calculation, if applicable, to evaluate the strains induced in the geomembrane used for the liner system and for final cover.

(7) A stability of final cover calculation to evaluate the likelihood and extent to which final cover components may slide with respect to each other. A minimum safety factor as outlined in Table 1 of this section is required.

(8) A geosynthetic anchor or pull-out anchorage calculation or assessment to evaluate the anchoring capacity and stresses in a geomembrane. A minimum safety factor of one and two-tenths (1.2) is required. An anchor must provide sufficient restraint to hold a geosynthetic liner in place, but should not be so rigid or strong that the geosynthetic liner will tear before the anchor yields.

(9) A settlement potential calculation to estimate the total and differential settlement of the foundation soil due to stresses imposed by the liner system, in-place waste, daily cover, intermediate cover, equipment usage, and final cover.

(10) A bearing capacity and stability calculation to estimate the load bearing capacity and slope stability of the foundation soil during construction. A minimum safety factor of two (2.0) is required for a static condition.

(11) The uplift pressure or hydrostatic pore water pressure must be evaluated based on site-specific conditions.

(12) A waste settlement analysis to assess the potential for the final cover system to stretch due to total and differential settlement of the solid waste. If there is a lack of documented settlement of the solid waste, a value of approximately seven percent (7%) to fifteen percent (15%) of the solid waste height may be used for this calculation.

(13) A wind uplift force calculation or an assessment to provide an indication that wind uplift will not damage the geomembrane during installation.

(14) A wheel loading calculation to indicate that the amount of wheel loading of construction equipment will not damage the liner system.

(15) A puncture of geomembrane calculation to indicate that the amount of down drag force induced by the leachate collection sumps and manhole with vertical standpipe settlement will not cause failure of the underlying liner system. A minimum safety factor of two (2.0) on tensile strength at yield is required.

(16) An erosion calculation to indicate that the erosion rate will not exceed five (5) tons per acre per year, as is required under

329 IAC 10-22-7(c)(3).

(17) Pipe calculations to assess the leachate collection piping for deflection, buckling, and crushing.

(18) If applicable, or if required under 329 IAC 10-16-5(b), an analysis of the effect of seismic activity on the structural components of the landfill.

(19) A peak flow calculation to identify surface water flow expected from a twenty-five (25) year storm.

(20) A calculation to identify the total run-off volume expected to result from a twenty-five (25) year, twenty-four (24) hour precipitation event.

(21) A chemical resistance evaluation to demonstrate that the leachate collection and removal system components are chemically resistant to the waste and the leachate expected to be generated.

(22) A clogging evaluation to demonstrate that the system as designed will be resistant to clogging throughout the active life and post-closure period of the MSWLF.

(23) A slope stability analysis that follows the requirements outlined in Table 1 of this subdivision. Any geosynthetic materials installed on landfill slopes must be designed to withstand the calculated tensile forces acting upon the geosynthetic materials. The design must consider the minimum friction angle of the geosynthetic with regard to any soil-geosynthetic or geosynthetic-geosynthetic interface.

TABLE 1
Minimum Values of Safety Factors for
Slope Stability Analyses for Liner and Final Cover Systems

| | Uncertainty of Strength Measurements | |
|---|---|---|
| Consequences of Slope Failure | Small[1] | Large[2] |
| No imminent danger to human life or major environmental impact if slope fails | 1.25<br>(1.2)* | 1.5<br>(1.3)* |
| Imminent danger to human life or major environmental impact if slope fails | 1.5<br>(1.3)* | 2.0 or greater<br>(1.7 or greater)* |

[1]The uncertainty of the strength measurements is smallest when the soil conditions are uniform and high quality strength test data provide a consistent, complete, and logical picture of the strength characteristics.

[2]The uncertainty of the strength measurements is greatest when the soil conditions are complex and when the available strength data do not provide a consistent, complete, and logical picture of strength characteristics.

*Numbers without parentheses apply to static conditions and those within parentheses apply to seismic conditions.

(24) Any additional calculation determined by the commissioner to be necessary to ascertain whether the proposed design complies with the requirements of this article.

(b) Test standards for MSWLF liner systems are listed in 329 IAC 10-17-17. *(Solid Waste Management Board; 329 IAC 10-15-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1825; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2767; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3806; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1810, eff Apr 1, 2004)*

**329 IAC 10-15-9 Baled waste management plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 9. A baled waste management plan, submitted as required under section 1(a)(13) of this rule must describe the following:

(1) How ventilation of the waste delivery vehicle will be addressed prior to the removal of the baled waste for disposal.

(2) Protective measures to be taken and equipment to be worn by the workers unloading the bales from the vehicle.

(3) Equipment to be utilized in unloading bales.

(4) Procedures for unloading and disposing of baled waste.

*(Solid Waste Management Board; 329 IAC 10-15-9; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2768; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939)*

**329 IAC 10-15-10 Leak detection plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 10. The owner, operator, or permittee must develop and implement a program to detect and assess liquids that have leaked through the liner system into the leak detection zone. The program must be based on a leak detection plan submitted for approval to the commissioner at the time of permit application in accordance with section 1(a)(14) of this rule. The leak detection plan must include the following information:

(1) The quantity of liquids, in gallons per acre per day, expected to be collected from the leak detection zone of the liner system throughout the active life, closure, and post-closure periods.

(2) The expected rate of change in liquid quantity collected from the leak detection zone of the liner system.

(3) The expected nature of the liquids with regard to:

(A) the chemical constituents;

(B) the range in concentration of constituents;

(C) the range in pH of the liquids; and

(D) any other information necessary to characterize the liquids, as determined by the commissioner.

(4) The frequency with which the owner, operator, or permittee will collect and analyze samples from the leak detection zone of the liner system throughout the active life, closure, and post-closure periods. Collection and analysis of samples from the leak detection zone must be done at least semiannually.

(5) A proposed action leakage rate. The proposed action leakage rate must not exceed the maximum design flow rate that the leak detection zone can transmit so that the fluid head does not exceed one (1) foot. The action leakage rate must include a minimum factor safety of two (2) to allow for:

(A) uncertainties in the design, construction, and operation of the liner system; and

(B) uncertainties in the likelihood, amounts, and sources of other liquids entering the leak detection zone.

*(Solid Waste Management Board; 329 IAC 10-15-10; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2768; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939)*

**329 IAC 10-15-11 Leachate contingency plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 11. The permit application for a new MSWLF or a lateral expansion must be accompanied by a leachate contingency plan. At a minimum, the following items must be addressed:

(1) A list and description of the procedures to be used to monitor the leachate level in the sump area, manhole, or vertical riser.

(2) A list and description of the procedures to be used for routine maintenance. The routine maintenance may be daily, weekly, quarterly, or annually, as applicable.

(3) A list and description of the expected potential cause of leachate level exceedance. Potential cause may include the following:

(A) Temporary shut down of pretreatment.

(B) Loss of authorization of discharge leachate to the treatment plant.

(C) Blockage in the leachate collection or leachate removal system.

(D) An inoperable sump pump.

(E) Heavy rainfall.

(F) Natural disasters.

(4) Describe the corrective measure that will be implemented when the leachate level is exceeded.

*(Solid Waste Management Board; 329 IAC 10-15-11; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3807)*

**329 IAC 10-15-12 Storm water pollution prevention plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 12. (a) This section applies to the requirements of implementing a storm water pollution prevention plan (SWP3) at an

MSWLF.

(b) The SWP3 must:

(1) identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the facility;

(2) describe implementation of practices and measures that will be used to reduce pollutants in storm water discharges from the facility; and

(3) assure compliance with this article.

(c) The SWP3 must, at a minimum, contain the following information:

(1) Identification, by title, of staff on the facility's storm water pollution prevention team and their responsibilities.

(2) A site description and map of the facility describing or showing a description of the planned construction and landfill operational activities.

(d) The SWP3 must include a written spill response program to include the following information:

(1) Location, description, and quantity of all response materials and equipment.

(2) Response procedures for facility personnel to respond to a release.

(3) Contact information for reporting spills, both for facility staff and external emergency response entities.

(4) All corrective actions that will be taken for spills found during inspections, testing, and maintenance must be documented and included in the SWP3.

(e) The SWP3 must include a narrative description of potential pollutant sources, including descriptions for any existing or historical areas, and any other areas thought to be a potential source of storm water exposure to pollutants. The narrative descriptions for the facility must include the following:

(1) Type and typical quantity of materials that are potential pollutant sources present at the facility.

(2) Methods of storage, including presence of any secondary containment measures.

(3) Any remedial actions undertaken at the facility to eliminate pollutant sources or exposure of storm water to those sources. If a corrective action plan has been developed, the type of remedial action and plan date shall be referenced.

(4) Any release or spill history, at the facility, dating back a period of three (3) years from the date of the pollution prevention plan for materials spilled outside of secondary containment structures and impervious surfaces in excess of the materials' reportable quantity or twenty-five (25) gallons, whichever is less, including the following:

(A) The date and type of material released or spilled.

(B) The estimated volume released or spilled.

(C) A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to storm water.

(5) The descriptions for the facility must include a risk identification analysis of chemicals or materials that are potential pollutant sources and stored or used within the facility. The analysis must include the following:

(A) Toxicity data of chemicals or materials used within the facility, referencing appropriate Material Safety Data Sheet information locations.

(B) The frequency and typical quantity of listed chemicals or materials being stored on site.

(C) Potential ways in which storm water discharges may be exposed to listed chemicals and materials.

(D) The likelihood of the listed chemicals and materials coming into contact with storm water.

(6) A narrative description of existing and planned management practices and measures to improve the quality of storm water run-off, impacted by activities at the facility, that leaves the facility boundary or enters waters of the state. Descriptions must be created for existing or historical areas and any other areas that could generate storm water discharges that have been exposed to facility activity and therefore be a potential source of storm water exposure to pollutants. The description must include the following:

(A) Any existing or planned structural and nonstructural control practices and measures.

(B) Any treatment the storm water receives prior to leaving the facility boundary or entering waters of the state.

(C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.

(7) A mapped or narrative description of any such management practice or measure must be added to the SWP3.

(f) The owner, operator, or permittee shall submit with the SWP3 the following:

(1) The results of monitoring required in 329 IAC 10-20-11(f) of this article. For new facilities and lateral expansions, the results of monitoring shall be submitted one (1) year after the issuance of the MSWLF permit.

(2) The monitoring data must include:

(A) completed field data sheets;

(B) chain-of-custody forms; and

(C) laboratory results.

If the monitoring data is not placed into the facility's SWP3, the on-site location for storage of the information must be referenced in the SWP3.

(3) If the evaluation of monitoring data, as required by 329 IAC 10-20-11(g)(2), indicates that the SWP3 has been ineffective in controlling pollutants in storm water discharges from the facility, the commissioner may require modifications to the SWP3. The source of the pollutant parameter must be investigated and either eliminated or reduced via a management practice or measure to the extent technologically practicable. Insufficient reductions may be used to identify facilities that would be more appropriately covered under an individual storm water NPDES permit.

(4) A mapped or narrative description of any management practice or measure pursuant to subdivision (3) must be included in the SWP3.

(g) The SWP3 must include a written preventative maintenance program in order to minimize storm water exposure to pollutants. The program must include the following:

(1) Implementation of good housekeeping practices to ensure the facility will be operated in a clean and orderly manner and that pollutants will not have the potential to be exposed to storm water via vehicular tracking or other means.

(2) Maintenance of storm water management measures, for example, catch basins or the cleaning of oil/water separators. All maintenance must be documented and contained in the SWP3.

(3) Inspection and testing results of facility equipment and systems, including spill response equipment as required by subsection (d), to ensure appropriate maintenance of such equipment and systems and to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface water.

*(Solid Waste Management Board; 329 IAC 10-15-12; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1812, eff Apr 1, 2004)*

## Rule 16. Municipal Solid Waste Landfills; Location Restrictions

### 329 IAC 10-16-1 Airport siting restrictions

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 1. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article must not locate a proposed MSWLF unit within ten thousand (10,000) feet of any airport runway end used by turbojet aircraft or within five thousand (5,000) feet of any airport runway end used by only piston-type aircraft unless the permit application includes a demonstration that the proposed MSWLF unit is designed and operated so as not to pose a bird hazard to aircraft.

(c) Permittees of MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, located within ten thousand (10,000) feet of any airport runway end used by turbojet aircraft or within five thousand (5,000) feet of any airport runway end used by only piston-type aircraft must complete the following:

(1) A demonstration that any MSWLF unit within the MSWLF is designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(2) Provide a copy of the demonstration to the commissioner.

(3) Provide a copy of the demonstration to the affected airport.

(d) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article or permittees of MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must complete the following if any proposed or existing MSWLF unit within the MSWLF is located within a five (5) mile radius of any airport runway end used by turbojet or piston-type aircraft:

(1) Notification to the affected airport and the Federal Aviation Administration (FAA) of the intent to site a solid waste land disposal facility.

(2) If a demonstration is required by this section, provide a copy of the demonstration to the affected airport.

(e) For all demonstrations, the commissioner may ask for additional information prior to approval or denial of the demonstration.

(f) A new MSWLF must not be permitted within six (6) miles of a public airport as specified under 49 U.S.C. Sec. 44718 unless the MSWLF permittee has been granted an exemption under 49 U.S.C. Sec. 44718. An MSWLF permittee that has been granted an exemption under 49 U.S.C. Sec. 44718 must comply with:

(1) subsection (b);

(2) subsection (d);

(3) both *[subsections]* (b) and (d), if applicable.

*(Solid Waste Management Board; 329 IAC 10-16-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1826; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2769; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3807; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1813, eff Apr 1, 2004)*

**329 IAC 10-16-2 Flood plain and floodway siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 2. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article or MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must not locate any MSWLF unit within the MSWLFs in either of the following:

(1) A one hundred (100) year flood plain, unless the applicant demonstrates that the MSWLF unit:

(A) will not restrict the flow of the one hundred (100) year flood;

(B) will not reduce the temporary water storage capacity of the flood plain;

(C) is constructed with a dike that:

(i) prevents washout of solid waste;

(ii) has a top elevation not less than three (3) feet above the base flood elevation; and

(iii) meets the requirements of subsection (c).

(2) A floodway:

(A) with drainage areas greater than one (1) square mile, without the approval of the department of natural resources; or

(B) with drainage areas less than or equal to one (1) square mile without provisions to prevent the washout of municipal solid waste.

(c) A dike constructed as a requirement of this section must be owned by the owner of the MSWLF or the owner must submit to the commissioner a signed written agreement with the owner of the dike that is required by this section, which will allow the MSWLF owner, operator, or permittee to monitor and maintain the dike during the life of the MSWLF and post-closure period. *(Solid Waste Management Board; 329 IAC 10-16-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1827; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2769; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3808)*

**329 IAC 10-16-3 Wetlands siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 3. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) new MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article, and new MSWLFs

permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must not:

(1) locate any MSWLF unit within the MSWLF in violation of Section 404 of the Clean Water Act (33 U.S.C. 1344 as amended February 4, 1987);

(2) cause or contribute to violations of the Section 401 water quality certification of the Clean Water Act (33 U.S.C. 1341 as amended December 27, 1977); and

(3) dredge and fill wetlands under the Clean Water Act (33 U.S.C. 1344 as amended February 4, 1987) without an appropriate permit.

*(Solid Waste Management Board; 329 IAC 10-16-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1827; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2770; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3808)*

**329 IAC 10-16-4 Fault area siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 4. (a) This section applies to permit applications under this article for new MSWLFs and lateral expansions.

(b) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article must not locate any MSWLF unit within the MSWLF within two hundred (200) feet of a fault that has had displacement in Holocene time as defined by 329 IAC 10-2-89. *(Solid Waste Management Board; 329 IAC 10-16-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1827; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2770; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3808)*

**329 IAC 10-16-5 Seismic impact zone siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 5. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) new MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) New MSWLFs and lateral expansions that are to be permitted under this article must not be located in a seismic impact zone unless the applicant submits a demonstration, approved by the commissioner, that the proposed design includes containment structures, liners, leachate collection systems, and surface water control systems that can resist the maximum horizontal acceleration in lithified earth material as defined in 329 IAC 10-2-107 for the site. The demonstration must be submitted with the permit application, in accordance with 329 IAC 10-15-8(a)(19).

(c) New MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must not be located in seismic impact zones unless the applicant submits a demonstration, approved by the commissioner, that any MSWLF unit within the MSWLF is constructed with containment structures, liners, leachate collection systems, and surface water control systems that can resist the maximum horizontal acceleration in lithified earth material as defined in 329 IAC 10-2-107 for the site. The demonstration must be submitted with the construction certification report that is required in the MSWLF's permit.

(d) For all demonstrations, the commissioner may ask for additional information prior to approval or denial of the demonstration. *(Solid Waste Management Board; 329 IAC 10-16-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1828; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2770; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3809)*

**329 IAC 10-16-6 Underground mine siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 6. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) New MSWLF units, or lateral expansions being permitted under this article to an MSWLF also permitted under this article, must not be located over underground mines.

(c) New MSWLF units within MSWLFs permitted under either this article, or 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must be constructed on a stable foundation. As used in this subsection, "stable foundation" means the following:

(1) The loads and loading rate of the foundation must not cause or contribute to the failure of the leachate collection system.

(2) The total and differential settlement of the foundation must not cause or contribute to the failure of the leachate collection system.

(3) The new MSWLF unit must be designed to achieve a factor of safety against bearing capacity failure of at least two (2.0) under static conditions and of at least one and five-tenths (1.5) under seismic conditions.

(4) The new MSWLF unit must be designed to achieve a factor of safety against slope failure in accordance with Table 1 in 329 IAC 10-15-8.

(5) Factors of safety must be calculated for both long term and short term conditions expected at the site.

(6) Earthquake induced liquefaction potential or blasting in the underground mine and the effect on the bearing capacity and integrity of the new MSWLF unit must be considered in the design.

(7) Other factors of safety that may be approved by the commissioner.

(d) Lateral expansions to an MSWLF, which was originally permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, that are to be permitted under this article must not be located over underground mines unless the integrity of both the original MSWLF unit and lateral expansion will not be damaged by subsidence by demonstrating the following:

(1) The mine is more than one hundred (100) feet below the earth's surface.

(2) The mine is currently in operation or is safely accessible to the department and the owner, operator, or permittee.

(3) The mine will not collapse or, if a collapse does occur, the MSWLF unit will not be damaged by subsidence.

(e) Applicants for lateral expansions applying for a permit under this article must not locate the proposed expansion MSWLF unit over long wall underground mines unless the integrity of the proposed expansion MSWLF unit will not be damaged by subsidence by demonstrating that the mine is totally collapsed prior to the permitting of the lateral expansion.

(f) Permittees of MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, containing MSWLF units located over underground mines, must demonstrate to the commissioner that engineering measures have been incorporated into the MSWLF unit's design to accommodate subsidence and ensure that the integrity of the structural components of the MSWLF units will not be disrupted.

(g) For all demonstrations, the commissioner may ask for additional information prior to approval or denial of the demonstration. *(Solid Waste Management Board; 329 IAC 10-16-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1828; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2771; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3809)*

**329 IAC 10-16-7 Unstable area siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 7. (a) This section applies to:

(1) permit applications under this article for new MSWLFs and lateral expansions; or

(2) MSWLFs permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996.

(b) Applicants for new MSWLFs and lateral expansions that are applying for a permit under this article and for new MSWLFs and lateral expansions permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must construct any MSWLF unit within the new MSWLFs or lateral expansions on a stable foundation. As used in this subsection, "stable foundation" means the following:

(1) The loads and loading rate of the foundation must not cause or contribute to the failure of the leachate collection system.

(2) The total and differential settlement of the foundation must not cause or contribute to the failure of the leachate collection system.

(3) The new MSWLF unit must be designed to achieve a factor of safety against bearing capacity failure of at least two (2.0) under static conditions and of at least one and five-tenths (1.5) under seismic conditions.

(4) The new MSWLF unit must be designed to achieve a factor of safety against slope failure in accordance with Table 1 in 329 IAC 10-15-8.

(5) Factors of safety must be calculated for both long term and short term conditions expected at the site.

(6) Earthquake induced liquefaction potential or blasting in the unstable area and the effect on the bearing capacity and integrity of the new MSWLF unit must be considered in the design.

(7) Other factors of safety that may be approved by the commissioner.

(c) Permittees of MSWLFs permitted and constructed under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must demonstrate to the commissioner that engineering measures have been incorporated into the design of any MSWLF unit located within the MSWLF to accommodate subsidence and to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted.

(d) For all demonstrations, the commissioner may ask for additional information prior to approval or denial of the demonstration. *(Solid Waste Management Board; 329 IAC 10-16-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1829; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2771; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3810)*

**329 IAC 10-16-8 Karst terrain siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 8. (a) This section applies to all proposed new or permitted MSWLFs.

(b) A new MSWLF unit must not be located in or over karst terrains.

(c) MSWLF units permitted and constructed under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must not be located in or over karst terrains without provisions to collect and contain all of the leachate generated by the MSWLF units and without a demonstration that the integrity of the MSWLF units will not be damaged by subsidence.

(d) For all demonstrations, the commissioner may ask for additional information prior to approval or denial of the demonstration. *(Solid Waste Management Board; 329 IAC 10-16-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1829; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2772; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3810; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1814, eff Apr 1, 2004)*

**329 IAC 10-16-9 Aquifer siting restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 9. (a) MSWLF units within new MSWLFs and lateral expansions permitted under this article and new MSWLF units permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, must meet the following design requirements:

(1) Units located over an aquifer of significance with a ten (10) foot separation barrier must be constructed to incorporate the design requirements of 329 IAC 10-17-2(a).

(2) Units located over an aquifer of significance without a ten (10) foot separation barrier must be constructed to incorporate the design requirements of 329 IAC 10-17-2(b).

(b) Permit applicants for lateral expansions or permittees of new MSWLFs applying under subsection (a)(1) to meet the design requirements of 329 IAC 10-17-2(a) shall provide evidence that demonstrates one (1) of the following:

(1) An aquifer of significance as defined under 329 IAC 10-2-13 does not exist underneath the proposed solid waste boundary of the new MSWLF or lateral expansion, or closer than ten (10) feet beyond the proposed solid waste boundary of the new MSWLF or lateral expansion.

(2) If an aquifer of significance does exist underneath the proposed solid waste boundary of the new MSWLF or lateral expansion, or closer than ten (10) feet beyond the proposed solid waste boundary of the new MSWLF or lateral expansion, a ten (10) foot barrier of nonaquifer material as defined under 329 IAC 10-2-120 exists underneath and extending ten (10) feet beyond the proposed solid waste boundary of the new MSWLF or lateral expansion.

(3) If an aquifer of significance does exist underneath the proposed solid waste boundary of the new MSWLF or lateral

expansion, or closer than ten (10) feet beyond the proposed solid waste boundary of the new MSWLF or lateral expansion, but a ten (10) foot barrier of nonaquifer material as defined under 329 IAC 10-2-120 does not exist underneath and extending ten (10) feet beyond the proposed solid waste boundary of the new MSWLF or lateral expansion the permit applicant intends on constructing a barrier of nonaquifer material as defined under 329 IAC 10-2-120 that:

(A) is ten (10) feet of constructed material, in situ material, or a combination thereof; and

(B) is underneath and extending ten (10) feet beyond the solid waste boundary of the lateral expansion or new MSWLF unit.

(c) A demonstration of a ten (10) foot barrier constructed in accordance with subsection (b)(2) or (b)(3) must be submitted prior to unit construction.

(d) For all demonstrations, the commissioner may request additional information prior to approval or denial of the demonstration. *(Solid Waste Management Board; 329 IAC 10-16-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1829; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2772; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3811)*

**329 IAC 10-16-10 Endangered species siting restrictions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 14-22-34; IC 36-9-30

Sec. 10. MSWLF units must not be sited in violation of IC 14-22-34. *(Solid Waste Management Board; 329 IAC 10-16-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1830; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046)*

**329 IAC 10-16-11 Setbacks**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 14-22-34; IC 36-9-30

Sec. 11. (a) The solid waste boundaries of new MSWLFs and lateral expansions for applicants that are applying for permits under this article must not be located within the specified distances of the following designated points in existence on the date of public notice for zoning approval for the permitted activity or the date the application is received by the commissioner if there is no local zoning authority within the political subdivision where the proposed facility will be located:

(1) Nine hundred (900) feet of a dwelling.

(2) One thousand (1,000) feet of a potable water supply well or drinking water spring unless either of the following occurs:

(A) The department approves a ground water time of travel analysis that shows that ground water cannot travel from the solid waste boundary to the potable water supply well or drinking water spring in less than five (5) years. If the analysis is approved, the solid waste boundary may be located at a distance no less than the distance ground water can travel from the solid waste boundary in five (5) years, but in no case shall the distance be less than six hundred (600) feet.

(B) The applicant offers to conduct a testing program for all potable water supply wells and drinking water springs within one thousand (1,000) feet of the solid waste boundary. In no case shall the solid waste boundary be within six hundred (600) feet of any potable water supply wells and drinking water springs. The applicant shall submit, with the permit application to the department, a copy of a certified letter offering testing to each owner of all such potable water supply wells and drinking water springs. When conducted, the testing program must include the following:

(i) Annual testing of such water supply wells and drinking water springs for each owner that accepts the offer.

(ii) Testing for the parameters in Table 1A in 329 IAC 10-21-15(a) and Table 1B in 329 IAC 10-21-15(b).

(iii) Submitting results of the annual testing to the department with the quarterly report that most closely coincides with the sampling events if the applicant has access to the test results.

(3) One hundred (100) feet of a wetland classified as a jurisdictional wetland or jurisdictional water of the United States by the United States Army Corps of Engineers under authority of the Clean Water Act, 33 U.S.C. 1344.

(4) Two thousand six hundred forty (2,640) feet from a public or nonpublic school.

(5) One thousand two hundred fifty (1,250) feet of a public or private hospital with more than twenty (20) beds.

(6) Two hundred (200) feet of a continuously flowing river.

(7) Two hundred (200) feet of a continuously flowing stream.

(8) Two hundred (200) feet of the real property boundary of the MSWLF.

(9) One thousand (1,000) feet of a drinking water supply reservoir that is being used as a drinking water supply for humans or is intended to be used as a drinking water supply for humans unless the department approves a ground water time of travel analysis that shows that ground water cannot travel from the solid waste boundary to the drinking water supply reservoir in less than five (5) years. If the analysis is approved, the solid waste boundary may be located at a distance no less than the distance ground water can travel from the solid waste boundary in five (5) years, but in no case shall the distance be less than six hundred (600) feet.

(10) Six hundred (600) feet of a factory.

(11) Six hundred (600) feet of an office.

(b) In addition to the setback distances provided in subsections (a) and (c), the solid waste boundaries of new MSWLFs and lateral expansions for applicants that are applying for a permit under this article must not be located within an area designated for protection by a five (5) year delineation by an Indiana Wellhead Protection Plan approved by the department. If there is no approved Indiana Wellhead Protection Plan, the solid waste boundaries of new MSWLFs and lateral expansions for applicants that are applying for a permit under this article must not be located within three thousand (3,000) feet of a community water supply well.

(c) In addition to the setback distances provided in subsection (a), the solid waste boundaries of new MSWLFs and lateral expansions for applicants that are applying for a permit under this article must not be located in violation of IC 14-22-34.

(d) This rule does not prohibit a legislative body within the political subdivision where the MSWLF or lateral expansion will be located or a local zoning authority, if applicable, from adopting a resolution or ordinance to extend a setback distance established in subsections (a) through (c).

(e) The provisions of this section do not supersede any setback provision in Indiana statute. *(Solid Waste Management Board; 329 IAC 10-16-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1830; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2773; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3811)*

**329 IAC 10-16-12 Reduction of setback distances**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 12. (a) The distance established in section 11(a)(1) of this rule applies unless:

(1) written consent to shorten the distance is obtained from the dwelling owner or the dwelling owner and the dwelling occupant if the dwelling owner and the dwelling occupant are different persons; or

(2) the legislative body within the political subdivision where the MSWLF or lateral expansion will be located or a local zoning authority, if applicable, adopts a resolution or ordinance reducing the distance, but in no case must the distance be less than six hundred (600) feet.

(b) The distances, or areas designated for protection by a five (5) year delineation by an Indiana Wellhead Protection Plan, established in section 11(a)(2), 11(a)(4), 11(a)(5), 11(a)(9), 11(a)(10), 11(a)(11), and 11(b) of this rule apply unless written consent to shorten the distance, or to locate within an area designated for protection under section 11(b) of this rule, is obtained from the person who owns or is responsible for the property or designated point.

(c) The distance established in section 11(a)(8) of this rule applies unless the adjoining property owner agrees to allow the distance to be reduced to less than two hundred (200) feet, but in no case less than one hundred (100) feet. Such an agreement is not effective to reduce the distance unless the adjoining property owner provides the following to the applicant:

(1) Written consent allowing the distance to be reduced.

(2) An agreement signed by the adjoining property owner that allows the applicant access to the adjoining property at any time in the future to monitor ground water or to implement other corrective action measures as approved by the commissioner.

(d) The distances established in section 11(a)(1), 11(a)(7), and 11(a)(8) of this rule apply unless a new MSWLF for which application is being made for a permit under this article, or a lateral expansion for which application is being made for a permit modification under this article:

(1) has received, by July 1, 1995, local zoning approval;

(2) has a solid waste boundary that is not located closer than:

(A) six hundred (600) feet of a dwelling;

(B) one hundred (100) feet of a continuously flowing stream; and

(C) one hundred (100) feet of the real property boundary of the facility; and

(3) has a plan approved by the local zoning authority submitted to the commissioner that is specific to the new MSWLF area or lateral expansion area in the application and, at a minimum, shows the solid waste boundary, final contour plan, setbacks, and primary facility entrance.

(e) When a distance established under section 11 of this rule has been reduced under subsection (a), (b), (c), or (d), all other setback distances established in this rule apply. *(Solid Waste Management Board; 329 IAC 10-16-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1831; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2774; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3812; errata filed May 1, 2003, 1:45 p.m.: 26 IR 3046)*

**329 IAC 10-16-13 Closure of existing municipal solid waste landfill units**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-20; IC 36-9-30

Sec. 13. Existing MSWLFs that cannot make the demonstrations specified in sections 1(c), 2(b), 6(f), 7(c), and 8(c) of this rule must close by October 9, 1996, in accordance with 329 IAC 10-22 and conduct post-closure activities in accordance with 329 IAC 10-23. *(Solid Waste Management Board; 329 IAC 10-16-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1831; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3813)*

## Rule 17. Municipal Solid Waste Landfill Liner System; Design, Construction, and CQA/CQC Requirements

**329 IAC 10-17-1 Applicability**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-20; IC 36-9-30

Sec. 1. On or after the effective date of this article, new MSWLFs and lateral expansions for which application is being made for a permit must comply with the design, construction, and CQA/CQC requirements of this rule. *(Solid Waste Management Board; 329 IAC 10-17-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1831; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3813)*

**329 IAC 10-17-2 Overview of liner designs and criteria for selection of design**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 2. (a) The following liner design is required for any section of a new MSWLF unit within an MSWLF or lateral expansion to be permitted under this article that will not be located over an aquifer of significance, as defined under 329 IAC 10-2-13, or will be located over an aquifer of significance, but there is a continuous layer of at least ten (10) feet of nonaquifer material, as defined under 329 IAC 10-2-120, separating the base of the proposed soil liner and the uppermost portion of the aquifer:

(1) At the base and side slopes, starting from the subgrade and extending upward, the liner must include the following components:

(A) A minimum of three (3) feet of compacted soil, having a hydraulic conductivity of $1 \times 10^{-7}$ centimeters per second or less.

(B) A geomembrane.

(C) A drainage layer.

(D) A protective cover.

(2) At all sump areas, at a minimum, the liner must extend ten (10) feet from the outermost edge of the designated sump boundary on all sides. Starting from the subgrade and extending upward, the liner must include the following components:

(A) A minimum of two (2) feet of compacted soil, having a hydraulic conductivity of $1 \times 10^{-6}$ centimeters per second or less.

(B) A leak detection zone. The leak detection zone must meet the applicable requirements in this section and sections 8, 9, and 13 through 16 of this rule for drainage layers.
(C) A minimum of three (3) feet of compacted soil having a hydraulic conductivity of $1 \times 10^{-7}$ centimeters per second or less.
(D) A geomembrane.
(E) A geosynthetic clay liner.
(F) A geomembrane.
(G) A drainage layer.
(H) A protective cover.

(b) The following liner design is required for any section of a new MSWLF unit or lateral expansion within an MSWLF to be permitted under this article that will be located over an aquifer of significance, as defined under 329 IAC 10-2-13, and there is not a continuous layer of at least ten (10) feet of nonaquifer material, as defined under 329 IAC 10-2-120, separating the base of the proposed soil liner and the uppermost portion of the aquifer:

(1) At the base and side slopes, starting from the subgrade and extending upward, the liner must include the following components:
(A) A minimum of two (2) feet of compacted soil, having a hydraulic conductivity of $1 \times 10^{-6}$ centimeters per second or less. This component must extend up the side slope of the proposed MSWLF unit to a height at least two (2) feet above the highest temporal fluctuation of the ground water table, as determined from the hydrogeologic site investigation required under 329 IAC 10-15-4.
(B) A drainage layer. This component must extend up the side slope of the proposed MSWLF unit to a height at least two (2) feet above the highest temporal fluctuation of the ground water table, but not closer than five (5) feet from the ground surface, as determined from the hydrogeologic site investigation required under 329 IAC 10-15-4.
(C) A minimum of three (3) feet of compacted soil having a hydraulic conductivity of $1 \times 10^{-7}$ centimeters per second or less.
(D) A geomembrane.
(E) A drainage layer.
(F) A protective cover.

(2) At all sump areas, at a minimum, the liner must extend ten (10) feet from the outermost edge of the designated sump boundary on all sides. Starting from the subgrade and extending upward, the liner must incorporate the design components described in subsection (a)(2).

(c) For the purposes of this rule, sump areas are considered to be those areas of the proposed MSWLF unit that are designed to collect and remove leachate where leachate is expected to accumulate to a depth of at least one (1) foot.

(d) The minimum distance for extension of liner design components related to sump areas may be increased at the discretion of the commissioner, depending on site-specific factors, with consideration of the highest temporal fluctuations of the ground water table at the site.

(e) The commissioner may make available to the applicant standardized municipal solid waste landfill designs that are not less stringent than the requirements of this rule. *(Solid Waste Management Board; 329 IAC 10-17-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1831; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2774; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3813; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1814, eff Apr 1, 2004)*

**329 IAC 10-17-3 Landfill subgrade; design, construction, and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 3. (a) The subgrade surface under the liner systems described in section 2 of this rule must:
(1) be constructed with on-site soils, or a select soil specified in the approved construction plan or otherwise approved by the commissioner;
(2) be constructed with material that is free of organic material, except that organic material naturally occurring in the soil;
(3) be prepared using procedures and equipment specified in:
(A) the approved construction plan; or
(B) otherwise approved by the commissioner;

(4) meet the stable foundation criteria as defined in 329 IAC 10-16-7(b); and
(5) meet any additional requirements necessary to obtain adequate design and construction, as specified in the construction plans or as determined by the commissioner.
(b) Before any material is placed over the subgrade, the project engineer shall ensure the following:
(1) The subgrade was tested for density and moisture content as specified in the approved construction plans.
(2) The exposed surface was inspected to:
(A) evaluate the suitability of the subgrade;
(B) ensure that the surface is properly compacted, smooth, and uniform; and
(C) ensure that elevations are consistent with the approved construction plans.
(3) Any additional requirements necessary to obtain an adequate subgrade, as specified in the construction plans or as determined by the commissioner, are met.

*(Solid Waste Management Board; 329 IAC 10-17-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1832; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2775)*

**329 IAC 10-17-4 Soil component of the liner; design requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 4. The soil components of the liner systems described in section 2 of this rule must meet the following requirements:
(1) Be constructed on a slope of no less than two percent (2%) toward the leachate collection pipes.
(2) Meet the specified thickness and hydraulic conductivity requirements of section 2 of this rule, as appropriate to the location of the proposed MSWLF unit.
(3) Be composed of lifts, each having a maximum thickness that:
(A) is specified in the approved construction plan or is otherwise approved by the commissioner; and
(B) in no case exceeds nine (9) inches after compaction.
(4) Have a design that adequately addresses the following factors:
(A) Protection from damage due to uplift from hydrostatic forces.
(B) Prevention of damage due to freeze/thaw and wet/dry cycles.
(C) Any additional factors that are necessary to obtain an adequate soil component as specified in the construction plans or as determined by the commissioner.

*(Solid Waste Management Board; 329 IAC 10-17-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1833; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2776; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3814)*

**329 IAC 10-17-5 Soil component of the liner; construction and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-20-2; IC 36-9-30

Sec. 5. (a) Before soil liner construction, prior to soil compaction, the soil liner material must be tested at a frequency described in Table 1 of this subsection. During construction, after the soil material has been compacted, the soil liner material must be tested as described in Table 2 of this subsection.

TABLE 1
Soil Liner Material: Minimum Testing Frequencies Prior to Liner Construction

| Item Tested | Minimum Frequency |
|---|---|
| Grain size | Every 5,000 cubic yards or soil material change |
| Moisture | Every 5,000 cubic yards or soil material change |
| Atterberg limits (liquid limit and plasticity index) | Every 5,000 cubic yards or soil material change |
| Moisture-density curve | Every 5,000 cubic yards or soil material change |
| Lab hydraulic conductivity (remolded samples) | Every 10,000 cubic yards |

TABLE 2
Soil Liner Material: Minimum Testing Frequencies During Liner Construction

| Item Tested | Minimum Frequency |
|---|---|
| Density (nuclear or sand cone) | 5 tests per acre per lift, evenly distributed |
| Moisture content | 5 tests per acre per lift, evenly distributed |
| Undisturbed hydraulic conductivity | 1 test per acre per lift |
| Dry density (undisturbed sample) | 1 test per acre per lift |
| Moisture content (undisturbed sample) | 1 test per acre per lift |
| Atterberg limits (liquid limit and plasticity index) | 1 test per acre per lift |
| Grain size (to the 2 micron particle size) | 1 test per acre per lift |
| Moisture-density curve | Every 5,000 cubic yards and all changes in material |

(b) To ensure proper soil compaction, the following factors must be controlled:

(1) The moisture content of the soil must be maintained within the range identified in the moisture-density curve and hydraulic conductivity relation that is developed for the proposed MSWLF unit, both prior to and during compaction of the soil lift, to ensure the remolded lift does not exceed allowable hydraulic conductivity.

(2) The density after compaction must be within the range identified in the moisture-density curve and hydraulic conductivity relation that is developed for the proposed MSWLF unit, to ensure that the remolded lift does not exceed allowable hydraulic conductivity.

(3) Lift thickness.

(4) Compactive energy/kneading action to ensure effective destruction of soil clods.

(5) Placement operations to ensure elimination of lift interfaces.

(6) Any additional factors necessary to obtain adequate soil compaction results as specified in the construction plan or as determined by the commissioner.

(c) Unless a waiver pursuant to subsection (e) is granted by the commissioner, test pads must be constructed and tested prior to construction of the full-scale compacted soil liner. Test pads must be constructed each time:

(1) the dry unit weight of the soil changes by at least five (5) pounds per cubic foot, based on a moisture density curve established by a standard or modified proctor test;

(2) construction equipment is changed; or

(3) construction practices are changed.

(d) The test pads required in subsection (c) must be used to verify that the specifications outlined in the approved construction plan, including density, moisture content, and hydraulic conductivity specifications, can be achieved. Tests must conform with the test standards established in section 17 of this rule. In addition, the following test methods pertaining to in situ hydraulic conductivity are acceptable:

(1) Sealed double-ring infiltrometer (SDRI).

(2) Boutwell borehole test, with a minimum of five (5) tests required.

(3) Shelby tube (carved block) test using a twelve (12) inch diameter tube, with a minimum of three (3) tests required.

(4) Other equivalent test methods approved by the commissioner.

(e) The requirements outlined in subsection (c) may be waived by the commissioner, provided the owner, operator, or permittee demonstrates, to the satisfaction of the commissioner, the following:

(1) The soil to be used in the soil component of the liner:

(A) is of a unified soil classification of ML, CL, MH, CH, or OH;

(B) contains a minimum of fifty percent (50%), by weight, of material that can pass through the number 200 sieve;

(C) consists of a minimum of twenty-five percent (25%), by weight, of clay content, which is defined for the purposes of this subsection to mean soil particles that are less than or equal to five-thousandths (0.005) millimeter in diameter;

(D) has a liquid limit (LL) of at least twenty-five (25); and

(E) has a plasticity index (PI) of at least ten (10).

(2) Adequate compactive effort will be applied during soil liner construction. The following compaction curve data, obtained by plotting dry unit weight versus molding water content, must be submitted to the commissioner in order to demonstrate that adequate compactive effort will be applied:

(A) At least five (5) compaction curves must be submitted, provided the soil does not vary in dry unit weight by more than five (5) pounds per cubic foot.

(B) At least three (3) additional compaction curves must be submitted every time the soil varies in dry unit weight by more than five (5) pounds per cubic foot.

*(Solid Waste Management Board; 329 IAC 10-17-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1833; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3814)*

**329 IAC 10-17-6 Geomembrane component of the liner; design requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. The geomembrane components of the liner systems described in section 2 of this rule must:

(1) consist of a minimum thickness of thirty (30) mils if the geomembrane is a flexible membrane liner, or a minimum thickness of sixty (60) mils if the geomembrane is high density polyethylene (HDPE);

(2) be placed above and in direct contact with the soil liner, which has a slope of not less than two percent (2%) toward the leachate collection pipes;

(3) have the minimum number of field seams necessary in corners and irregularly shaped locations;

(4) have horizontal seams placed no closer to the toe of the slope on the inside of the cell than the distance specified in the approved construction plans; and

(5) meet any additional design specifications necessary to obtain an adequate geomembrane liner as specified in the approved construction plan or as determined by the commissioner.

*(Solid Waste Management Board; 329 IAC 10-17-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1834)*

**329 IAC 10-17-7 Geomembrane component of the liner; construction and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 7. (a) Before geomembrane field construction, the project engineer shall review documentation of quality control testing as follows:

(1) In a review of the testing of raw materials used to manufacture the geomembrane, the project engineer shall do the following:

(A) Ensure that the quality control testing meets the specifications of the approved construction plan.

(B) Review copies of the origin and identification of the raw materials.

(C) Review copies of quality control certificates issued by the producers of the raw materials. The certificates must be accompanied by results of the following tests unless a particular test requirement is waived by the commissioner based on particular site or facility conditions:

(i) Density test.

(ii) Melt flow index test.

(iii) Any other test deemed necessary by the commissioner to verify raw material quality.

(2) In a review of the testing documentation of the geomembrane rolls that are fabricated into geomembrane, the project engineer shall do the following:

(A) Check the manufacturer's certified quality control documentation to verify that the geomembrane was continuously inspected during the manufacturing process for the following:

(i) Lack of uniformity.

(ii) Damage.

(iii) Imperfections.

(iv) Holes.

(v) Cracks.

(vi) Thin spots.

(vii) Foreign materials.

(B) Ensure that any imperfections discovered during inspection were repaired and then reinspected, either at the

manufacturing facility or on-site at the MSWLF.

(C) Review the results of manufacturer's quality control tests for conformance with project specifications. These tests must include, at a minimum, the following:

(i) Stress crack resistance test.

(ii) Tensile strength test.

(iii) Tear and puncture resistance test.

(iv) Oxidative induction time (OIT) at:

(AA) standard OIT; or

(BB) high pressure OIT.

(v) Ultraviolet resistance at high pressure OIT.

(vi) Any other test deemed necessary by the commissioner to verify quality.

(3) The project engineer shall ensure that manufacturer quality control testing of the raw materials and of the finished geomembrane product was conducted:

(A) as required in the approved construction plans; or

(B) as otherwise required by the commissioner based on particular site or facility conditions.

(b) During geomembrane field construction, the project engineer shall ensure the following:

(1) The geomembrane is installed on supporting soil that is reasonably free of the following:

(A) Stones.

(B) Organic material, except that organic material naturally occurring in the soil.

(C) Irregularities.

(D) Protrusions.

(E) Loose soil or soft spots.

(F) Standing water.

(G) Any abrupt change in grade that could damage the geomembrane.

(2) All aspects of geomembrane installation are carried out in accordance with the following:

(A) The approved construction plan.

(B) The manufacturer's recommendations.

(C) The design standards described under section 6 of this rule.

(D) Any additional requirements necessary to obtain adequate geomembrane liner construction and installation, as specified in the construction plans or as determined by the commissioner to assure the quality of the geomembrane liner.

(3) The anchor trench is excavated to the length and width prescribed in the approved construction plans.

(4) Field seaming is conducted as follows:

(A) To meet the requirements for design of the geomembrane component of the liner as described under section 6 of this rule.

(B) In a manner that leaves seams free of the following:

(i) Dust.

(ii) Dirt.

(iii) Moisture.

(iv) Debris.

(v) Foreign material of any kind.

(C) Using an appropriate method consistent with:

(i) the approved construction plan; or

(ii) a method otherwise approved by the commissioner based on equivalent environmental protection.

(D) At a time when the following conditions exist, unless otherwise approved by the commissioner based on particular site or facility conditions, or project engineer, or otherwise recommended by the manufacturer:

(i) Air temperature is at least thirty-two (32) degrees Fahrenheit but does not exceed one hundred twenty (120) degrees Fahrenheit.

(ii) Sheet temperature is at least thirty-two (32) degrees Fahrenheit but does not exceed one hundred fifty-eight (158) degrees Fahrenheit.

(iii) Wind gusts are not in excess of twenty (20) miles per hour.

(5) Quality assurance and quality control testing conducted in the field conforms with requirements of the approved

construction plan and includes the following:

(A) A sample is taken from each lot number of geomembrane material that arrives on site and is tested in the following manner for the purpose of fingerprinting the material:

(i) Thickness of the sample must be measured at a rate of five (5) measurements per roll of geomembrane, at locations evenly distributed throughout the roll.

(ii) The following tests must be conducted at a rate of either once per lot or once per fifty thousand (50,000) square feet of geomembrane:

(AA) Tensile characteristics test for strength and elongation at yield and at break.

(BB) Carbon black content test.

(CC) Carbon black dispersion test, if applicable.

(DD) Any additional tests that are necessary as determined by the commissioner to demonstrate the integrity of the geomembrane.

(B) Visual inspections of the geomembrane material, followed by appropriate repairs and reinspections, are made for:

(i) lack of uniformity;

(ii) damage;

(iii) imperfections;

(iv) tears;

(v) punctures;

(vi) blisters; and

(vii) excessive folding.

(C) Test seams for shear strength and peel strength are made as follows:

(i) At the start of each work period for each seaming crew.

(ii) After every four (4) hours of continuous seaming.

(iii) Every time seaming equipment is changed.

(iv) When significant changes in geomembrane temperature, as determined by the project engineer or by manufacturer recommendation, are observed.

(v) As required in the approved construction plan.

(vi) As may be required by the commissioner.

(D) Nondestructive seam testing proceeds as follows:

(i) Testing is performed on all seams over their full length using a test method:

(AA) in accordance with the approved construction plans;

(BB) in accordance with section 17 of this rule; or

(CC) otherwise acceptable to the commissioner as an equivalent test method.

(ii) Testing is monitored by the project engineer, and seaming and patching operations are inspected for uniformity and completeness.

(iii) Results of testing are recorded by the project engineer in records that include the following information:

(AA) The location of the seam test.

(BB) The test unit number.

(CC) The name of the person conducting the test.

(DD) The results of all tests.

(EE) Any other information that may be necessary to judge the adequacy of the seaming and patching procedures.

(E) Geomembrane seams that cannot be nondestructively tested are overlain with geomembrane material of identical type.

(F) Destructive seam testing is performed at the site, or at an independent laboratory, according to the approved construction plans, and meets the following requirements:

(i) Testing is performed:

(AA) on a minimum of one (1) test per five hundred (500) feet of seam length if the seam is welded with a fusion weld; and

(BB) on a minimum of one (1) test per four hundred (400) feet of seam length if the seam is welded with an extrusion weld; and

(CC) on a minimum of one (1) test for each seaming machine; or
(DD) as otherwise required by the commissioner based on a testing frequency that will result in equivalent environmental protection.
(ii) Destructive seam testing includes:
(AA) a shear strength test; and
(BB) a peel strength test.
(iii) If a seam location fails destructive testing:
(AA) the seam is reconstructed over a minimum of ten (10) feet in each direction from the site of the failed test;
(BB) additional samples are taken for testing; and
(CC) reconstruction and retesting is repeated, as necessary, until at least eighty percent (80%) of the samples at the test location pass the destructive seam test.

*(Solid Waste Management Board; 329 IAC 10-17-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1834; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2776; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3815; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1815, eff Apr 1, 2004)*

**329 IAC 10-17-8 Drainage layer component and leachate collection pipes; design requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 8. (a) The drainage layer components of the liner systems described in section 2 of this rule must meet the following requirements:

(1) Be configured to allow for installation of a leachate collection pipe system that meets the design requirements of subsection (b).
(2) Have a design that adequately addresses prevention of clogging of the drainage system.
(3) Be capable of limiting, throughout the active life, closure, and post-closure period of the MSWLF, the level of leachate above the liner system to a maximum of one (1) foot under conditions expected to be present after the final cover has been placed.
(4) Consist of either of the following types of drainage material:
(A) Soil that:
(i) has a minimum thickness of twelve (12) inches and a minimum hydraulic conductivity of $1 \times 10^{-2}$ centimeters per second; and
(ii) is free of organic material except that organic material naturally occurring in the soil.
(B) Geosynthetic material that:
(i) is demonstrated to be chemically compatible with the waste and with the leachate generated by the waste;
(ii) has transmissivity that will not be impeded by the maximum compressive load of materials placed above the drainage layer; and
(iii) has a minimum transmissivity of $3 \times 10^{-5}$ meters$^2$ per second, using the appropriate safety factors and considering the long term creep impact, as specified under 329 IAC 10-15-8(a)(1).

(b) The leachate collection pipes within the drainage layer must meet the following requirements:
(1) Pipes must have a minimum diameter of six (6) inches and a minimum slope of one percent (1%) toward the leachate storage areas or the conveying line.
(2) Pipes must be hydraulically designed to effectively remove leachate and provide conveyance of leachate to an appropriately designed storage or treatment facility throughout the active life, closure, and post-closure periods of the MSWLF.
(3) The chemical properties of the pipes must not be adversely affected by the waste or the leachate generated by the waste.
(4) Pipes must have adequate structural strength, as demonstrated by calculations prescribed in 329 IAC 10-15-8(a)(18), to support the maximum static and dynamic loads and stresses imposed by:
(A) the drainage layer;
(B) the protective cover;
(C) the waste;
(D) the final cover component; and

(E) any equipment used in the construction or operation of the MSWLF.

(5) The length of the leachate collection pipes must not exceed the capabilities of available clean-out devices or procedures.

(c) The drainage layer design must meet any additional requirements necessary to obtain an adequate drainage layer as specified by the construction plans or as determined by the commissioner. *(Solid Waste Management Board; 329 IAC 10-17-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1836; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2778; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3817)*

**329 IAC 10-17-9 Drainage layer component of the liner; construction and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-20-2; IC 36-9-30

Sec. 9. (a) If the drainage layer material is to consist of soil or soil like materials, the project engineer shall ensure the following:

(1) A grain size analysis and hydraulic conductivity test is completed during the installation for soil drainage layer materials at frequencies described in Table 1 of this subsection.

(2) The quality control and quality assurance testing of the soil drainage material meets the requirements of the approved construction plans.

(3) The soil drainage layer is constructed and graded in accordance with the approved construction plans.

(4) Carbonate content testing must be performed prior to and during the installation of a drainage layer, if the drainage material is limestone ($CaCO_3$) or dolomite/dolostone (Ca-Mg $(CO_3)_2$) or from a source likely to contain a high percentage of carbonate materials. The test must be performed:

(A) at a pH of less than seven (7); and

(B) at every three thousand (3,000) cubic yards.

The test results must show a carbonate content no greater than fifteen percent (15%). Higher carbonate content may be allowed in drainage layer materials if a demonstration is submitted showing that the hydraulic conductivity of the drainage layer will not be decreased below the minimum of $10^{-1}$ centimeters per second because of carbonate mineral precipitation.

TABLE 1
Soil Drainage Layer Materials:
Minimum Testing Frequencies

| Item Tested | Minimum Frequency |
|---|---|
| Grain size (to the No. 200 sieve) | 1 test per 1,500 cubic yards (2,400 per ton) |
| Hydraulic conductivity test | 1 test per 3,000 cubic yards (4,800 per ton) or minimum of 3 tests |

(b) If the drainage layer material is to consist of a geosynthetic material, the project engineer shall ensure the following:

(1) The geosynthetic drainage layer material is chemically compatible with the waste to be deposited and with the leachate that will be generated.

(2) Effective liquid removal will be maintained by the drainage layer throughout the active life, closure and post-closure period of the MSWLF.

(3) The geosynthetic drainage layer is constructed and installed in accordance with the approved construction plans.

(4) The quality control and quality assurance testing of the geosynthetic drainage material meets the requirements of the approved construction plans.

(5) Results of the following tests, or equivalent tests where applicable to a specific product, and the following criteria are adequately addressed:

(A) If the geosynthetic material is a geotextile:

(i) grab elongation test;

(ii) grab tensile strength test;

(iii) puncture resistance test;

(iv) trapezoidal tear test;

(v) ultraviolet (five hundred (500) hours) resistance test;

(vi) abrasion or tumble test;

(vii) permitivity test;

(viii) apparent opening size (AOS) test;
(ix) long term flow (clogging) test;
(x) gradient ratio (clogging) test;
(xi) the nature of the fibers (i.e., continuous filament or stable fibers);
(xii) the chemical compatibility of the geotextile;
(xiii) the polymer composition;
(xiv) the structure of the geotextile (i.e., woven or nonwoven);
(xv) thermal degradation and oxidation in extreme acidic conditions;
(xvi) pH resistance of the geotextile;
(xvii) creep;
(xviii) resistance to extreme temperature;
(xix) resistance to bacteria;
(xx) resistance to burial deterioration; and
(xxi) other tests or information that may become necessary, as determined by the commissioner, to demonstrate the integrity of the drainage layer component.

(B) If the geosynthetic material is a geonet:
(i) tensile strength test;
(ii) hydraulic transmissivity test;
(iii) specific gravity test;
(iv) melt flow index test;
(v) carbon black content test;
(vi) abrasion or tumble test;
(vii) creep;
(viii) thickness;
(ix) chemical compatibility;
(x) resistance to extreme temperature;
(xi) resistance to bacteria;
(xii) resistance to burial deterioration; and
(xiii) other tests or information that may become necessary, as determined by the commissioner, to demonstrate the integrity of the geosynthetic material.

*(Solid Waste Management Board; 329 IAC 10-17-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1837; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3818; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1817, eff Apr 1, 2004)*

**329 IAC 10-17-10 Geosynthetic clay component of the liner; design, construction, and CQA/CQC requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. (a) The geosynthetic clay liner (GCL) must meet current industry design standards and any additional design standards necessary to obtain an adequate GCL, as specified in the construction plans or as determined by the commissioner.

(b) The project engineer shall ensure that adequate quality control and quality assurance procedures have been followed throughout all of the following operations:

(1) Refining of raw materials, based on the manufacturer's documentation, and manufacturing of geosynthetic clay liner.
(2) Storage, handling, and shipment of the geosynthetic clay liner.
(3) Installation of the geosynthetic clay liner, including:
(A) proper placement, joining, and repair procedures; and
(B) proper backfilling or covering procedures.

*(Solid Waste Management Board; 329 IAC 10-17-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1837)*

**329 IAC 10-17-11 Protective cover component of the liner; design requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 11. (a) Unless the alternative design described in subsection (b) is used, a protective cover must be placed directly over the uppermost drainage layer of the liner system and must comply with the following requirements:

(1) Consist of one (1) of the following:

(A) A soil material of sufficient quantity to bring the final depth of the combined drainage layer and protective cover to thirty (30) inches.

(B) Eighteen (18) inches of bottom ash or foundry sand if the drainage layer consists of a soil material.

(C) Thirty (30) inches of bottom ash or foundry sand if the drainage layer consists of a geosynthetic material.

(2) Satisfy the following standards:

(A) Meet the Unified Soil Classification System of SC, SM, SP, SW, GC, GM, GP, or GW.

(B) Contain less than fifty percent (50%) (by weight) material that can pass through the number 200 sieve.

(C) Be free of any organic material except that organic material naturally occurring in the soil.

(D) If placed over a drainage layer that consists of any soil materials or soil-like materials specified in subdivision (1), meet the following criteria or an equivalent criteria:

$$\frac{D_{15} \text{ of drainage layer}}{D_{85} \text{ of protective cover}} \leq 5$$

Where: $D_{15}$ = the grain diameter in millimeters at which 15% (by weight) of the grains are finer.
$D_{85}$ = the grain diameter in millimeters at which 85% (by weight) of the grains are finer.

(b) An alternative design to the option described in subsection (a) uses a puncture-resistant geotextile that meets the following requirements:

(1) The geotextile must be placed directly over the geomembrane.

(2) The geotextile must have a minimum weight of sixteen (16) ounces per square yard.

(3) The geotextile must be covered with twelve (12) inches of clean gravel that:

(A) is classified as GW or GP by the Unified Soil Classification System; and

(B) has no more than five percent (5%) (by weight) of grains passing the number 200 sieve.

*(Solid Waste Management Board; 329 IAC 10-17-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1838; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2779)*

**329 IAC 10-17-12 Protective cover component of the liner; construction and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 12. (a) The protective cover must be installed in a single lift with no compaction. Quality control and quality assurance testing on the protective cover must include the following tests conducted at the indicated frequencies during installation of the protective cover:

(1) Grain size distribution to the number 200 sieve must be performed for every one thousand five hundred (1,500) cubic yards of protective cover placed on the liner system.

(2) Any additional tests as specified in the construction plans or as determined by the commissioner to assure quality control and quality assurance.

(b) If the geotextile described in section 11(b) of this rule is used as an alternative to the protective cover, the project engineer shall ensure the following:

(1) Proper quality control and quality assurance testing is performed on the geotextile, and adequate results are obtained for the following tests, where applicable, or equivalent tests, performed in accordance with section 17 of this rule:

(A) Grab elongation test.

(B) Grab tensile strength test.
(C) Puncture resistance test.
(D) Trapezoidal tear test.
(E) Ultraviolet (five hundred (500) hours) resistance test.
(F) Abrasion or tumble test.
(G) Other tests that may become necessary as determined by the commissioner to demonstrate the integrity of the geotextile.

(2) The following criteria are addressed when determining the quality of the geotextile:
(A) The nature of the fibers (i.e., continuous filament or stable fibers).
(B) The chemical compatibility of the geotextile.
(C) The polymer composition.
(D) The structure of the geotextile (i.e., woven or nonwoven).
(E) Thermal degradation and oxidation in extreme acidic conditions.
(F) pH resistance of the geotextile.
(G) Creep.
(H) Resistance to extreme temperatures.
(I) Resistance to bacteria.
(J) Resistance to burial deterioration.
(K) Other criteria that may become necessary as determined by the commissioner to determine the quality of the geotextile.

*(Solid Waste Management Board; 329 IAC 10-17-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1838; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3819; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1818, eff Apr 1, 2004)*

**329 IAC 10-17-13 Optional drainage layer filter; design requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-18; IC 13-20-2; IC 36-9-30

Sec. 13. A filter fabric may be incorporated into the drainage layer design to prevent fine soil particles of the protective soil cover from migrating into the drainage medium. The design of the filter must allow gases and water to freely enter the drainage medium and must provide the following:

(1) Adequate permeability, such that $k_f \geq 10k_s$, where:
(A) $k_f$ = the geotextile filter permeability; and
(B) $k_s$ = the overlying protective cover soil permeability.

(2) Soil particle retention that meets the following criteria, or an equivalent criteria:
(A) $O_{95}$ of the geotextile < (2) $d_{85}$ of the protective cover.
(B) $O_{95}$ of the geotextile > (2) $d_{15}$ of the protective cover, where:
(i) $O_{95}$ = the apparent opening size of the geotextile at which ninety-five percent (95%) of the soil particles will be retained;
(ii) $d_{85}$ = the protective cover soil particle size at which eighty-five percent (85%) of the particles are finer; and
(iii) $d_{15}$ = the protective cover soil particle size at which fifteen percent (15%) of the particles are finer.

(3) Adequate construction survivability, with construction survivability assessed using accepted industry testing standards, which take into account:
(A) the severity of installation, with consideration of the type of material placed adjacent to the geotextile;
(B) the construction installation technique; and
(C) the minimum strength properties prescribed by applicable industry guidelines with consideration of the severity of the installation.

(4) Adequate chemical and physical resistance to:
(A) the expected waste;
(B) the overlying materials; and
(C) the leachate expected to be generated at the MSWLF.

(5) Any additional requirements necessary to obtain an adequate filter as specified in the construction plans or as determined by the commissioner.

*(Solid Waste Management Board; 329 IAC 10-17-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1839; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3819)*

**329 IAC 10-17-14 Optional drainage layer filter; construction and quality assurance/quality control requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 14. (a) The project engineer shall ensure that proper quality control and quality assurance testing, where applicable, is performed on the filter materials and that adequate results are obtained for the following tests, or equivalent tests, performed in accordance with section 17 of this rule:

(1) Grab elongation test.
(2) Grab tensile strength test.
(3) Puncture resistance test.
(4) Trapezoidal tear test.
(5) Ultraviolet five hundred (500) hours resistance test.
(6) Abrasion or tumble test.
(7) Permitivity test.
(8) AOS test.
(9) Long term flow (clogging) test.
(10) Gradient ratio or hydraulic conductivity ratio (clogging) test.
(11) Any additional tests required by the commissioner.

(b) The project engineer shall also ensure that the following criteria are addressed when determining the quality of the filter materials:

(1) The nature of the fibers (i.e., continuous filament or stable fibers).
(2) The chemical compatibility of the geotextile.
(3) The polymer composition.
(4) The structure of the geotextile (i.e., woven or nonwoven).
(5) Thermal degradation and oxidation in extreme acidic conditions.
(6) pH resistance of the geotextile.
(7) Creep.
(8) Resistance to extreme temperatures.
(9) Resistance to bacteria.
(10) Resistance to burial deterioration.
(11) Other criteria, as determined by the commissioner.

*(Solid Waste Management Board; 329 IAC 10-17-14; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1839; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2779)*

**329 IAC 10-17-15 Alternative liner designs, construction technologies, and CQA/CQC plans**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 15. (a) The commissioner shall approve alternative liner designs or construction technologies if they are demonstrated, to the satisfaction of the commissioner, to provide at least equivalent protection to public health and the environment as the following:

(1) Subgrade design and construction, as specified under section 3 of this rule.
(2) Soil liner design and construction, as specified under sections 4 and 5 of this rule.
(3) Geomembrane liner design and construction, as specified under sections 6 and 7 of this rule.
(4) Drainage layer or leachate collection pipe design and construction, as specified under sections 8 and 9 of this rule.

(5) Geosynthetic clay liner design and construction, as specified under section 10 of this rule.
(6) Protective cover design and construction, as specified under sections 11 and 12 of this rule.
(7) Optional drainage layer filter design and construction, as specified under sections 13 and 14 of this rule.
(b) The commissioner shall approve alternative CQA/CQC plans if they are demonstrated, to the satisfaction of the commissioner to provide at least equivalent protection to public health and the environment, as the following:
(1) Subgrade CQA/CQC requirements, as specified under section 3 of this rule.
(2) Soil liner CQA/CQC requirements, as specified under section 5 of this rule.
(3) Geomembrane CQA/CQC requirements, as specified under section 7 of this rule.
(4) Drainage layer or leachate collection pipe CQA/CQC requirements, as specified under section 9 of this rule.
(5) Geosynthetic clay liner CQA/CQC requirements, as specified under section 10 of this rule.
(6) Protective cover CQA/CQC requirements, as specified under section 12 of this rule.
(7) Optional drainage layer filter CQA/CQC requirements as specified under section 14 of this rule.
*(Solid Waste Management Board; 329 IAC 10-17-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1839)*

**329 IAC 10-17-16 Municipal solid waste landfill liner system; post construction care requirements**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 16. The project engineer shall ensure that proper post construction care is provided to protect the landfill design components from damage after construction is completed. Post construction care requirements include the following:
(1) Upon completion of soil liner construction:
(A) the surface must be rolled smooth to seal the surface and to allow precipitation to run off freely;
(B) the completed liner must be surveyed to confirm that the liner's thickness, slope, and other design factors are as required in the approved construction plan; and
(C) the soil liner must be covered in a timely manner to prevent desiccation or damage due to extreme temperatures.
(2) Upon completion of geomembrane seaming:
(A) timely cover; or
(B) temporary weighing using sandbags, or other suitable weights, to prevent damage from:
(i) wind uplift or other weather related damage; or
(ii) construction activities taking place on top of the installed geomembrane.
(3) Upon completion of drainage layer construction, steps must be taken to prevent damage to the drainage layer from fines related to wind borne or water borne sedimentation.
(4) Upon completion of the drainage layer filter installation, if the optional filter is installed, steps must be taken to prevent damage from fines related to wind borne or water borne sedimentation.
(5) Any additional requirements necessary to obtain adequate post construction care of the liner system, as specified in the construction plan or as determined by the commissioner.
*(Solid Waste Management Board; 329 IAC 10-17-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1840)*

**329 IAC 10-17-17 Municipal solid waste landfill liner system; test standards**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 17. All testing required under this rule must be performed in accordance with:
(1) the American Society for Testing and Materials (ASTM), 1995 Annual Book of ASTM Standards, Section 4 Construction, Volume 04.08 Soil and Rock (I): D 420-D 4914;
(2) the Geosynthetic Research Institute (GRI), Geosynthetic Design Guidance for Hazardous Waste Landfill Cells and Surface Impoundments, Designing with Geosynthetics, Third Edition;
(3) the Corps of Engineers (COE), Construction Control for Earth and Rock-Fill Dams, January 17, 1977, Soil Mechanics Design Settlement Analysis, January 1953; or

(4) other current industry standards if acceptable to the commissioner.

*(Solid Waste Management Board; 329 IAC 10-17-17; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1840; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2780)*

**329 IAC 10-17-18 CQA/CQC preconstruction meeting**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 18. For the purposes of ensuring coordination of all aspects of CQA/CQC, a preconstruction meeting must be held prior to construction in any area not approved to accept solid waste. The preconstruction meeting must involve all relevant persons involved with implementing the CQA/CQC plan, such as the MSWLF owner or operator, the design engineer, CQA/CQC personnel, and the primary construction contractor. The preconstruction meeting may be used to accomplish the following:

(1) Provide each involved entity with all relevant CQA/CQC documents and supporting information addressing the site-specific CQA/CQC plan and its role relevant to the construction plans.
(2) Review the responsibilities, authorities, and lines of communication for each of the involved entities.
(3) Review the established procedures for observation and testing, including sampling strategies identified in the CQA/CQC plan.
(4) Review the established acceptance and rejection criteria as specified in the CQA/CQC plan.
(5) Review the approved specifications, with methods and means for decision making and resolution of problems pertaining to data.
(6) Review methods for documenting and reporting all inspection data.
(7) Discuss procedures for the storage and protection of MSWLF construction material on-site.
(8) Organize for relevant persons a site walk-around to review the project site layout, construction material and equipment storage locations.
(9) Discuss the CQA/CQC plan and other relevant issues and concerns.
(10) Discuss storm water management practices and sedimentation control appropriate for the construction work or as outlined in the construction specifications and plans.

*(Solid Waste Management Board; 329 IAC 10-17-18; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1840; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3820; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1819, eff Apr 1, 2004)*

## Rule 18. Municipal Solid Waste Landfills; Vertical Expansions

**329 IAC 10-18-1 Vertical expansions for municipal solid waste landfills**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 1. (a) Applicants for a vertical expansion modification must include the following with the application:

(1) An environmental assessment of the proposed expansion area that addresses the following:
  (A) The geology and ground water hydrology of the existing MSWLF site and adjacent areas.
  (B) The most recent results from ground water monitoring, conducted in accordance with the requirements of the MSWLF's permit, using statistical methods required under the MSWLF's permit.
  (C) Identification of adjacent land uses.
(2) Plot plans that are certified by a registered professional engineer and that:
  (A) use a scale of at least one (1) inch per one hundred (100) feet for a MSWLF of less than eighty (80) acres;
  (B) use a scale of at least one (1) inch per two hundred (200) feet for a MSWLF of eighty (80) acres or more;
  (C) include a bar scale on each drawing;
  (D) include elevations that correlate with United States Geological Survey (USGS) mean sea level data;
  (E) include existing and newly proposed surface elevations within three hundred (300) feet of the facility boundaries;
  (F) indicate the solid waste boundaries and the proposed final contours of the site using:

(i) intervals of no more than two (2) feet if the MSWLF is less than eighty (80) acres; and
(ii) intervals of no more than five (5) feet if the MSWLF is equal to or greater than eighty (80) acres; and
(G) indicate the MSWLF elevations over the six (6) months preceding the application submittal.
(3) Design information that addresses the following:
(A) A slope stability analysis for the proposed final slope.
(B) Total and differential settlement calculations of the MSWLF unit foundation incorporating new loadings.
(C) A foundation bearing capacity analysis if applicable.
(D) Surface water control in compliance with 329 IAC 10-15-8(a)(20) and 329 IAC 10-15-8(a)(21).
(E) Sedimentation and erosion control in compliance with 329 IAC 10-15-8(a)(17).
(4) Operational information that includes the following:
(A) A description of the type of operation.
(B) The number of acres currently permitted.
(C) The total number of acres filled at the time of application submittal.
(D) The quantity of waste received at the MSWLF in either cubic yards per day or tons per day.
(E) The type of waste received at the site.
(F) The additional volume of waste proposed for disposal at this MSWLF.
(5) Two (2) geologic cross sections, one (1) north-south and one (1) east-west, showing approved contours, proposed contours, and depth of waste placement.
(6) Documented evidence that the existing MSWLF unit to be vertically expanded has been constructed with, at a minimum, either of the following:
(A) Design features, including:
(i) a barrier layer that:
(AA) consists of at least ten (10) feet of material having a hydraulic conductivity of not more than $1 \times 10^{-6}$ centimeter per second, where the uppermost three (3) feet of this material has been recompacted to achieve an equivalent hydraulic conductivity of not more than $1 \times 10^{-7}$ centimeters per second; and
(BB) is directly beneath the waste; and
(ii) a leachate collection system approved by the commissioner as required by 329 IAC 2-10-3(1), which was repealed in 1996.
(B) An alternative design that is demonstrated, to the satisfaction of the commissioner, to be equivalent to the design standard in clause (A), such as:
(i) a vertical barrier wall with a leachate extraction system such that an inward gradient of the ground water flow across the wall is created; or
(ii) a design permitted under 329 IAC 2, which was repealed in 1996, that is demonstrated to be at least as stringent as the design standard described in 40 CFR 258.40.
(7) An operational plan for the proposed vertical expansion area, in accordance with the requirements of 329 IAC 10-15-6.
(8) The names and addresses of all owners or last taxpayers of record of property of adjoining land that is within one-half (½) mile of the solid waste boundary.
(b) Applicants for a vertical expansion modification must comply with the following requirements in the application:
(1) Provide a description of the final cover that meets the requirements of 329 IAC 10-22-6 or 329 IAC 10-22-7, whichever is applicable.
(2) Meet the closure and post-closure requirements of 329 IAC 10-22 and 329 IAC 10-23.
(3) Meet all of the landfill gas control requirements of 329 IAC 10-20-17.
(4) Meet all of the financial assurance requirements of 329 IAC 10-39.
(c) For the purpose of piggybacking, vertical expansion modification applications may be submitted for an alternative design under subsection (d)(1) or (d)(2) for MSWLF units that do not meet the requirements of subsection (a)(6).
(d) The piggyback design consists of adjoining an existing MSWLF unit with an adjacent new MSWLF unit to gain airspace created between two (2) units. The following are requirements for an existing MSWLF unit:
(1) For an existing MSWLF unit that does not have a leachate collection system as described under 329 IAC 2-10-3(1), which was repealed in 1996, and that has not applied for a vertical expansion over the existing MSWLF unit that would exceed the maximum approved elevation of the existing MSWLF unit, the following is required:
(A) The existing MSWLF unit sideslopes that adjoin the new composite liner MSWLF unit must be constructed in the

following manner with liner components starting from the top of the existing solid waste placement and extending upward:

(i) Twelve (12) inches of structural fill as described under 329 IAC 10-22-6(b).

(ii) Twenty-four (24) inches of compacted soil as described under 329 IAC 10-17-4 with a hydraulic conductivity of $1 \times 10^{-7}$ centimeter per second or less.

(iii) Twelve (12) inches of drainage layer as described under 329 IAC 10-17-8 with a hydraulic conductivity of $1 \times 10^{-2}$ centimeter per second or greater.

(iv) Six (6) inches of protective cover as described under 329 IAC 10-17-11.

(v) The commissioner may approve alternative liner designs or construction technologies under 329 IAC 10-17-15.

(B) Clean fill material as excluded under 329 IAC 10-3-1(1), restricted waste site Type IV waste as described under 329 IAC 10-9-4, or construction/demolition waste may be used to fill and smooth the contours between the MSWLF units.

(2) For an existing MSWLF unit that does not have a leachate collection system as described under 329 IAC 2-10-3(1), which was repealed in 1996, and a vertical expansion is proposed over the sideslopes of the existing MSWLF unit, the newly constructed composite liner MSWLF unit may adjoin only those sideslopes of the existing MSWLF unit that equal or exceed fifteen percent (15%). The existing MSWLF unit sideslopes that equal or exceed fifteen percent (15%) must be constructed in the following manner with liner components starting from the top of the existing solid waste placement and extending upward:

(A) Twelve (12) inches of methane gas venting layer as described under 329 IAC 10-22-6(b) with a hydraulic conductivity of $1 \times 10^{-3}$ centimeter per second or greater.

(B) Twenty-four (24) inches of barrier layer consisting of the following:

(i) The lower six (6) inches consisting of structural fill as described under 329 IAC 10-22-6(b).

(ii) The upper eighteen (18) inches consisting of compacted soil as described under 329 IAC 10-17-4 with a hydraulic conductivity of $1 \times 10^{-7}$ centimeter per second or less.

(C) Geomembrane as described under 329 IAC 10-17-6.

(D) Twelve (12) inches of drainage layer as described under 329 IAC 10-17-8 with a hydraulic conductivity of $1 \times 10^{-2}$ centimeter per second or greater.

(E) Eighteen (18) inches of protective cover as described under 329 IAC 10-17-11.

(F) The commissioner may approve alternative liner designs or construction technologies under 329 IAC 10-17-15.

In addition to this subdivision, the design must provide a perimeter leachate seep collection pipe located at the toe of the existing MSWLF unit where the existing MSWLF unit adjoins the new composite liner MSWLF unit.

(3) An existing MSWLF unit that has documented evidence of either design as described under subsection (a)(6)(A) through (a)(6)(B) may propose a piggyback design in accordance with this rule.

(4) Each piggyback design as described in subdivisions (1) and (2) and this subdivision must comply with the following:

(A) The final cover described under 329 IAC 10-22-6(b) must extend over the existing MSWLF unit piggyback.

(B) The design must include a surface water drainage system for the altered contours where the final cover systems of the adjoining MSWLF units intersect.

(C) The design must include erosion control measures for the altered contours where the final cover systems of the adjoining MSWLF units intersect.

(D) The design must include an analysis of the existing MSWLF unit subgrade bearing capacity to support the additional solid waste placement within the piggyback.

(E) The design must include an analysis of settlement in the existing MSWLF unit subgrade to prevent damage to the piggyback liner or the piggyback leachate collection system as defined under 329 IAC 2-10-3(1), which was repealed in 1996.

(F) The design must include an analysis of the existing MSWLF unit side slope stability to support the additional solid waste placement within the piggyback.

(G) The design must include a slope stability analysis of the piggyback liner and final cover at the interface of each component.

(H) The design must include an analysis of settlement of solid waste placement in the existing MSWLF unit to prevent damage to the piggyback liner or the piggyback leachate collection system as defined under 329 IAC 2-10-3(1), which was repealed in 1996.

(I) The design must include a methane gas management system beneath the piggyback liner system.

(e) The commissioner may deny an application for a vertical expansion for a MSWLF that is implementing or has initiated a corrective action program under 329 IAC 10-21-13.

(f) If, as a result of this article, there is an increase in the approved final closure elevations of an MSWLF unit to maintain minimum slope as required by 329 IAC 10-22, then the increase in the approved final closure elevations will not be considered a vertical expansion. The revised final closure elevations must be approved by the commissioner and must comply with the applicable provisions of 329 IAC 10-22. *(Solid Waste Management Board; 329 IAC 10-18-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1841; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2780; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3820)*

## Rule 19. Municipal Solid Waste Landfills; Preoperational Requirements and Operational Approval

### 329 IAC 10-19-1 Preoperational requirements and operational approval

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 1. (a) A new MSWLF or lateral expansion that is permitted under this article must not accept solid waste before the owner, operator, or permittee submits to the commissioner a certification of completion. The certification of completion is a written statement by the owner, operator, or permittee that certifies the following:

(1) A construction certification report (CCR) has been prepared by a registered professional engineer and has been submitted to the commissioner. In the CCR, the registered professional engineer shall certify that the construction of the liner system components proceeded in accordance with the approved construction plans. The CCR must also include the following items:

(A) The following information for all components of the liner system:

(i) Documentation provided by the manufacturer that describes quality control and quality assurance tests conducted on raw materials and products used in the construction of the liner system component, including a description of methods for sample selection and the frequency with which tests were conducted.

(ii) Certification that the CQA/CQC tests were conducted in accordance with the approved construction plan.

(iii) A summary of the results of all testing, including documentation of any failed test results.

(iv) A description of corrective measures taken in response to failed tests.

(v) A description of all retesting conducted and the results of those tests.

(vi) A description of the previous relevant work experience and qualifications of the field crew foreman in charge of liner installation.

(B) The following information for the soil component of the liner system:

(i) All measures taken to prevent or remedy soil liner damage from either desiccation or freezing, both during and after construction.

(ii) The results of all testing required in Table 1 and Table 2 of 329 IAC 10-17-5(a), including:

(AA) description of steps taken to correct any improperly constructed soil material; and

(BB) test frequencies.

(iii) Certification that construction quality control testing indicated the soil liner material met the applicable hydraulic conductivity requirements.

(C) The following information for the geomembrane component of the liner system:

(i) Certification that the test seams were made:

(AA) at the start of work for each seaming crew;

(BB) after every four (4) hours of continuous seaming;

(CC) every time seam equipment is changed;

(DD) when significant changes in geomembrane temperature are observed; and

(EE) as additionally required in the approved construction plans.

(ii) Certification that field seams were nondestructively tested using a method in accordance with construction plans and specifications.

(iii) Certification that all seams that could not be nondestructively tested were overlain with geomembrane material of the same type.

(iv) Certification that a registered professional engineer monitored all nondestructive testing, informed the installer of any required repairs, and inspected the seaming and patching operation for uniformity and completeness.

(v) Records of:

(AA) the locations where samples were taken;

(BB) the name of the person conducting the tests; and

(CC) the results of all tests.

(D) If an optional drainage layer filter is used in the liner system design, an assessment of the geotextile filter that includes the following information:

(i) Polymer property density.

(ii) Polymer type.

(iii) Ultraviolet stability.

(iv) Mechanical properties.

(v) Tensile strength.

(vi) Permitivity.

(vii) Apparent opening size.

(viii) Puncture strength.

(E) Test results documenting the following:

(i) The chemical compatibility of the geomembrane and leachate collection pipes with waste and leachate. Relevant compatibility test results may be obtained from the manufacturer. If deemed necessary by the commissioner, additional compatibility testing may be required.

(ii) Adequate transmissivity upon the maximum compressive load for any geosynthetic material used in a drainage layer.

(2) Certifications by a registered professional engineer or a licensed professional geologist, whichever is appropriate, have been submitted to the commissioner to certify the following:

(A) Initial site development and construction, including all permanent storm water control measures, has been completed in accordance with the plot plans specified under 329 IAC 10-15-2 and in accordance with any preoperational conditions imposed as conditions in the facility permit.

(B) Identifiable boundary markers have been established that delineate the approved facility boundaries and the solid waste boundary.

(C) Permanent on-site benchmarks have been established with latitude and longitude and Universal Transverse Mercator coordinates, where available, and with vertical (mean sea level elevation) and horizontal control, such that no portion of the constructed solid waste disposal area is further than one thousand (1,000) feet from a benchmark, unless a greater distance is:

(i) necessary to avoid placement of benchmarks on filled areas; and

(ii) approved by the commissioner.

(D) The installation of all required ground water monitoring wells and piezometers and any required road leading to a monitoring well or piezometer has been completed.

(3) The following items have been submitted to the commissioner:

(A) A plot plan indicating location, mean sea level elevations, and identification of all ground water monitoring wells and piezometers.

(B) A copy of all ground water monitoring well and piezometer logs, including diagrammatical drilling logs and diagrammatical design and construction logs.

(C) From each ground water monitoring well in the monitoring system, the results of the first of the four (4) required water level measurements and four (4) independent ground water sampling analyses for the constituents in 329 IAC 10-21-15(a) (Table 1A). Piezometers must be included to collect static water level measurements if part of the ground water monitoring system. The remaining water level measurements and sampling analyses must be submitted no later than six (6) months after the initial receipt of waste at the MSWLF unit.

(D) A ground water potentiometric surface map or a flow map, as described under 329 IAC 10-21-1(p).

(E) All financial responsibility documents have been executed and delivered to the department in the form and amount specified.

(4) All applicable post construction care procedures were followed.

(b) Upon satisfying all the requirements of subsection (a), a new MSWLF or lateral expansion permitted under this article may begin accepting waste in accordance with this article and with any additional permit conditions, unless the commissioner denies operational approval within twenty-one (21) days of receipt of the certification of completion. *(Solid Waste Management Board; 329 IAC 10-19-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1843; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2782; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3822; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1819, eff Apr 1, 2004)*

## Rule 20. Municipal Solid Waste Landfills; Operational Requirements

### 329 IAC 10-20-1 Access control

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-18; IC 13-20-2; IC 36-9-30

Sec. 1. (a) MSWLFs must be accessible by means of established roadways only.

(b) Solid waste must be deposited at the MSWLF only when operating personnel are on duty. Collection containers may be placed outside the MSWLF entrance so that solid waste may be deposited after hours.

(c) The owner, operator, or permittee of all MSWLFs shall control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using effective artificial barriers or effective natural barriers, or both, as appropriate to protect human health and the environment. *(Solid Waste Management Board; 329 IAC 10-20-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1845; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3823; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

### 329 IAC 10-20-2 On-site roads

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 2. (a) On-site roads that provide access to disposal areas must be passable to vehicles using these areas. The owner, operator, or permittee shall maintain a minimum lane width of:

(1) ten (10) feet for one-way directional traffic; or

(2) twenty-two (22) feet for two-way directional traffic.

(b) The owner, operator, or permittee shall construct and maintain on-site roads in such a way as to minimize the tracking of mud or soil material from the MSWLF onto access roads and to provide and maintain equipment to remove any such mud or soil material that is tracked onto the access roads. Mud or soil material tracked onto access roads must either be collected and returned on-site or removed.

(c) The use of water to control dust or remove mud or soil material from an on-site road surface or an access road must not result in the discharge of sediment directly to surface water. Dust must be controlled by effective means so that it does not constitute or contribute to a nuisance, a health hazard, or a safety hazard.

(d) The owner, operator, or permittee shall provide adequate space on-site for hauling vehicles waiting to unload waste or recyclables at the MSWLF to prevent parking or congestion on off-site roads. *(Solid Waste Management Board; 329 IAC 10-20-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1845; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2783; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3824; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

### 329 IAC 10-20-3 Signs

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 3. (a) For all MSWLFs, prior to construction activities, a sign of at least sixteen (16) square feet must be erected at each MSWLF entrance. The sign must identify the following:

(1) The MSWLF's name.

(2) The operating schedule.
(3) The type of solid waste land disposal facility.
(4) The MSWLF permit number.
(5) The name and phone number of a designated emergency contact person to be contacted in case of an emergency.
(6) The location of the construction plan if the site does not have an on-site location to store the plan.
(b) For purposes of subsection (a)(5), the designated emergency contact person shall be the following:
(1) Authorized to respond to a reported emergency or be capable of contacting a person authorized to respond to a reported emergency.
(2) One (1) of the following:
(A) An employee or contractor of the facility operator.
(B) An answering service who can contact facility emergency personnel.
(C) For a municipally owned facility, a local emergency entity and telephone number may be used.
(c) Traffic signs or other devices, as needed, must be provided to promote an orderly traffic pattern to and from the discharge area. *(Solid Waste Management Board; 329 IAC 10-20-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1845; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2784; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3824; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1821, eff Apr 1, 2004)*

**329 IAC 10-20-4 Sanitation**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 15-2.1-16; IC 36-9-30

Sec. 4. (a) The owner, operator, or permittee of all MSWLFs shall prevent or control on-site populations of disease vectors to prevent a nuisance and to use techniques appropriate for the protection of human health and the environment.
(b) Cattle, hogs, poultry, or other livestock are prohibited from any filled area that has not received final cover and vegetation.
(c) Dust must be controlled by effective means so that it does not constitute or contribute to a nuisance, a health hazard, or a safety hazard.
(d) Solid waste must be confined to an area that can be effectively maintained, operated, and controlled. Fences or other effective barriers must be utilized to control windblown materials and litter so that they do not constitute or contribute to a nuisance.
(e) Windblown materials and litter within the facility boundaries must be collected and buried daily. Debris blown off the facility boundaries must be cleaned up immediately.
(f) Disposal of dead animals must be accomplished in accordance with IC 15-2.1-16.
(g) Collection containers must be maintained and operated in the following manner:
(1) Collection containers placed outside the MSWLF entrance for the collection of solid waste after hours must be emptied and the solid waste properly disposed of at a frequency that will minimize odors and control disease vectors, but in any event, no less than once in every twenty-four (24) hours for MSWLFs open twenty-four (24) hours a day, or at the end of each working day for those MSWLFs not open twenty-four (24) hours a day. Areas around the containers must be maintained in a sanitary and litter-free condition.
(2) Collection containers placed within the MSWLF for the collection of solid waste must be emptied and the solid waste properly disposed of at a frequency that will minimize odors and control disease vectors, but in no event, less than once in every twenty-four (24) hours for MSWLFs open twenty-four (24) hours a day, or at the end of each working day for those MSWLFs not open twenty-four (24) hours a day. Areas around the containers must be maintained in a sanitary and litter-free condition.
(3) Collection containers placed at the MSWLF for the collection of recyclables must be emptied at a frequency that will minimize odors and control disease vectors. Areas around the container must be maintained in a sanitary and litter-free condition. Containers for the collection of recyclables that may become windblown must be equipped with a cover.
(h) The owner, operator, or permittee of all MSWLFs shall not cause or allow the storage, containment, processing, or disposal of solid waste in a manner that creates a threat to human health or the environment, including the creation of air or water pollution. *(Solid Waste Management Board; 329 IAC 10-20-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1845; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3824; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-5 Scavenging (Repealed)**

Sec. 5. *(Repealed by Solid Waste Management Board; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3875)*

**329 IAC 10-20-6 Salvaging**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 6. (a) Salvaging on-site at a MSWLF must be done only under the supervision of the owner, operator, or permittee and must not interfere with the MSWLF operations.

(b) Salvaged or recycled materials must be stored in buildings or transportable containers while awaiting removal from the MSWLF. Recyclable materials that are baled in a manner that protects the contents from the weather while awaiting removal from the MSWLF are also acceptable. Salvaged and recycled material must be stored in a manner that does not create litter, fire, or nuisance. Alternative methods of storing salvaged materials must have prior approval from the commissioner. Approval may be granted at the request of the owner, operator, or permittee if the owner, operator, or permittee can demonstrate to the commissioner that the alternative method will provide a comparable level of environmental protection.

(c) Scavenging is prohibited. *(Solid Waste Management Board; 329 IAC 10-20-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1846; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2784; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3825; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-7 Safety requirements**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 7. (a) Safety devices must be provided on all rolling equipment, including the following:
(1) Roll over protection must be on all rolling equipment that:
(A) is used for the construction of the site;
(B) is used for soil stabilization;
(C) is used for maintenance;
(D) is used for vegetative maintenance on filled areas;
(E) comes directly in contact with solid waste; or
(F) comes directly in contact with the operations involved in covering the solid waste.
(2) Fire extinguishers that are checked and safety tagged annually.
(b) A first aid kit must be available at the MSWLF.
(c) A telephone must be provided at the MSWLF.
(d) Personnel must be provided with the following:
(1) Adequately heated and lighted shelters.
(2) Potable drinking water supply.
(3) Sanitary restrooms.
*(Solid Waste Management Board; 329 IAC 10-20-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1846; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2784; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3825; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-8 Records and reports**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 24-6; IC 36-9-30

Sec. 8. (a) The owner, operator, or permittee of a MSWLF shall record and retain at the MSWLF, in an operating record or

in an alternative location approved by the commissioner, all MSWLF records, reports, and plans required by this article, including the following:

(1) An up-to-date copy of the plans and specifications approved by the commissioner in granting the permit.

(2) A copy of the current permit approved by the commissioner, including any modifications submitted to the commissioner and the response of the commissioner.

(3) A plot plan that must be updated quarterly. The owner, operator, or permittee shall maintain a log indicating dates of quarterly updates. The plot plan must describe the following:

(A) Areas of excavation.

(B) Areas of current filling.

(C) Areas under intermediate cover.

(D) Filled areas lacking final cover.

(E) Finished areas with final cover; contoured and seeded.

(4) Copies of department operating inspection reports during the preceding twelve (12) months.

(5) An inspection log as required by section 28(c) of this rule.

(6) A contour map resulting from the annual survey required under section 24(c) of this rule.

(7) Documentation used to determine compliance with section 14.1(b)(1) of this rule during the preceding twelve (12) months.

(8) Any location restriction demonstration required under 329 IAC 10-16.

(9) Inspection records, training procedures, and notification procedures required by section 23 of this rule.

(10) Gas monitoring results from monitoring and any remediation plans required by section 17 of this rule.

(11) Any gas condensate testing results and amounts generated recorded on a weekly basis.

(12) Any leachate testing results and weekly leachate pumping quantities.

(13) Any MSWLF design documentation for placement of leachate or gas condensate in a MSWLF as required under section 27(a)(2) of this rule.

(14) Any demonstration, certification, finding, monitoring, testing, or analytical data required by 329 IAC 10-1-4(a) and (c) *[329 IAC 10-1-4(a) and 329 IAC 10-1-4(c)]*, or 329 IAC 10-21.

(15) Closure and post-closure care plans and any monitoring, testing, or analytical data as required by 329 IAC 10-22 and 329 IAC 10-23.

(16) Any cost estimates and financial assurance documentation required by 329 IAC 10-39.

(17) Under 329 IAC 11-15-4(b), the owner, operator, or permittee of the MSWLF to which the municipal waste is transported shall retain each manifest for one (1) year and send one (1) copy of each manifest to the commissioner within three (3) months after receiving the manifest. The manifests must be retained on-site at the MSWLF and must be made available to the commissioner's staff upon request.

(18) The storm water pollution prevention plan and monitoring records for storm water compliance.

(b) All information contained in the operating record and self-inspections must be furnished upon request to any representative of the commissioner.

(c) All reports submitted to the commissioner must be unbound or bound in a three-hole notebook and preferably copied on both sides of the pages.

(d) The commissioner may set alternative schedules for record keeping and notification requirements except for 329 IAC 10-16-1(d) and 329 IAC 10-21-13. *(Solid Waste Management Board; 329 IAC 10-20-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1846; filed Jan 9, 1998, 9:00 a.m.: 21 IR 1727, eff one hundred eighty (180) days after filing with the secretary of state; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2785, eff Jul 10, 1998; errata filed Apr 8, 1998, 2:20 p.m.: 21 IR 2990; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3826; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1821, eff Apr 1, 2004)*

**329 IAC 10-20-9 Open burning**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 9. Open burning of solid waste is prohibited at all MSWLFs. *(Solid Waste Management Board; 329 IAC 10-20-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1847; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3826; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-10 Waste deposit and compaction**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. (a) The first layer of waste placed in the MSWLF unit must be:
(1) placed directly above the protective cover of the liner system;
(2) free of large debris that may puncture or tear the liner; and
(3) a minimum of four (4) feet in depth.
(b) All waste other than the first layer of waste shall be spread and compacted:
(1) at a working face that has a maximum slope of 3:1 (run over rise); and
(2) in layers not exceeding two (2) feet in thickness.
(c) Compaction must be completed as follows:
(1) Occur on a sloped working face.
(2) Be accomplished with repeated passes of landfill compactor equipment or equivalent equipment. Use of tracked vehicles for compaction shall be limited to temporary replacement of regular compaction equipment while it is under maintenance or repair.

*(Solid Waste Management Board; 329 IAC 10-20-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1847; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3827; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-11 Diversion of surface water, run-on and run-off control systems, and monitoring**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 11. (a) The owner, operator, or permittee of MSWLFs shall design, construct, and maintain the following:
(1) A run-on control system to prevent flow onto the active portion of the MSWLF during the peak discharge from a twenty-five (25) year storm.
(2) A run-off control system from the active portion of the MSWLF to collect and control at least the water volume resulting from a twenty-five (25) year, twenty-four (24) hour precipitation event.
(b) The owner, operator, or permittee of MSWLFs shall not deposit solid waste in standing or ponded water.
(c) Storm water run-off leaving an MSWLF must be discharged in a manner that does not cause or contribute to erosion or sedimentation or a violation of rules of the water pollution control board at 327 IAC 2-1-6(a).
(d) Appropriate measures shall be planned and installed as part of an erosion and sediment control system.
(e) All storm water quality measures and erosion and sediment control measures must be implemented in accordance with the approved storm water pollution prevention plan and the requirements of this article.
(f) Monitoring requirements shall be as follows:
(1) Each storm water sedimentation basin or series of basins, composed of storm water run-off and any other permitted discharge, shall be monitored as follows:

| Parameter | Units | Sample Type | Frequency |
|---|---|---|---|
| Total Iron | mg/l | grab | Semiannual |
| Ammonia (as N) | mg/l | grab | Semiannual |
| $BOD_5$ (biochemical oxygen demand) | mg/l | grab | Semiannual |
| TSS (Total suspended solids) | mg/l | grab | Semiannual |
| pH (measured in field) | s.u. | grab | Semiannual |
| Total Phenolics | mg/l | grab | Semiannual |

(2) Each storm water sedimentation basin or series of basins subject to subdivision (1) shall be monitored for any other pollutant which is reasonably expected to be present in the storm water sedimentation basin or series of basins, as well as for any other pollutant as requested by the commissioner.
(3) During the first twelve (12) months after April 1, 2004, an owner, operator, or permittee shall sample and analyze the storm water sedimentation basin or series of basins identified in the pollution prevention plan. The monitoring data taken from this

first year event shall be used by the owner, operator, or permittee as an aid in developing and implementing the SWP3. Subsequent semiannual sampling data shall be used to verify the effectiveness of the SWP3 and will aid the owner, operator, or permittee with revising the SWP3 and with the implementation of additional best management practices, as necessary. For new facilities and lateral expansions, the results of monitoring shall be submitted one (1) year after the issuance of the MSWLF permit.

(4) The pH measurement must be taken at the time the grab sample is collected and by using a portable pH meter that has been properly calibrated to the manufacturer's specifications and that provides results displayed in numeric units. A color comparison analysis for pH is not acceptable.

(5) Samples must be collected according to a semiannual schedule. There shall be a minimum of three (3) months between reported sampling events.

(6) Samples must be taken at a point representative of the outflow from the storm water sedimentation basin or series of basins, but prior to entry into surface waters of the state or a municipal separate storm sewer conveyance.

(g) Reporting requirements shall be as follows:

(1) For each measurement or sample taken under this rule, the owner, operator, or permittee of the facility shall record and submit the following information to the commissioner:

(A) The exact place, date, and time of sampling.

(B) The detection limit for each chemical constituent.

(C) The individual who performed the sampling or measurements.

(D) The dates the analyses were performed.

(E) The individual who performed the analyses.

(F) The analytical techniques or methods used.

(G) The results of all required analyses and measurements.

(H) A complete copy of the laboratory report, including chain-of-custody.

(2) The commissioner will evaluate the storm water monitoring results and compare the results with landfill-specific benchmark monitoring cut-off concentrations and numeric limitations as described in NPDES Storm Water Multi-Sector General Permit for Industrial Activities, Federal Register, Vol. 65, No. 210, October 30, 2000. If the storm water monitoring results indicate that the SWP3 has been ineffective in controlling pollutants in storm water discharges from the facility, then the commissioner may require modifications to the SWP3.

(3) All records and information resulting from the monitoring activities, including all records of analyses performed and calibration and maintenance of instrumentation, must be retained for a minimum of three (3) years.

(4) An owner, operator, or permittee shall submit sampling data results to the commissioner within sixty (60) days of obtaining the storm water samples in a sampling event.

(5) An owner, operator, or permittee of an MSWLF that has a discharge which enters a municipal separate storm sewer shall also submit a copy of the sampling data results to the operator of the municipal system upon request.

(6) If an owner, operator, or permittee monitors a pollutant more frequently than required by this rule, using analytical methods referenced in this rule, the results of such monitoring must be reported as additional information. Such increased frequency must also be indicated.

*(Solid Waste Management Board; 329 IAC 10-20-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1848; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3827; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1822, eff Apr 1, 2004)*

**329 IAC 10-20-12 Erosion and sedimentation control measures; general requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 12. (a) Erosion and sedimentation control measures must be instituted to minimize the off-site migration of any sediment. All run-off from disturbed acreage must pass through a sedimentation basin or an approved alternative sediment control practice. The commissioner may require additional erosion and sediment control measures based on site-specific conditions.

(b) A storm water or sedimentation basin or series of basins permitted and constructed under this article must be constructed in accordance with the following:

(1) Be designed to handle, simultaneously, the run-off resulting from the ten (10) year, twenty-four (24) hour precipitation

event and the sediment storage volume required by subdivision (3).

(2) An appropriate combination of principal and emergency spillways shall be provided to discharge safely the run-off from a twenty-five (25) year, twenty-four (24) hour precipitation event with a minimum of two (2) feet of freeboard.

(3) Provide a minimum of three (3) years of sediment storage volume. The following requirements apply:

(A) Sediment must be removed from sedimentation basins when the volume of sediment accumulates to fifty percent (50%) or more of the designed sediment storage volume.

(B) A sediment storage volume of less than three (3) years may be approved by the commissioner if an annual approved maintenance program will be performed.

(4) Provide a detention time of at least twenty-four (24) hours for the ten (10) year, twenty-four (24) hour precipitation event. A detention time of less than twenty-four (24) hours may be approved by the commissioner if the following is demonstrated by the owner, operator, or permittee:

(A) The discharge will not result in the release of a significant quantity of sediment from the MSWLF.

(B) Will not violate any local, state, or federal laws pertaining to discharges.

(5) The principal spillway must be located at a height above the maximum elevation of the designed sediment storage volume required by subdivision (3).

(6) Discharge in compliance with all applicable state and federal laws.

(7) The length-to-width ratio of the flow path shall be 2:1 or greater from the inflow to the outflow. Baffles may be used within the basin to achieve this ratio.

(c) If deemed necessary by the commissioner, additional erosion and sediment control practices may be required in the drainage areas of permanent basins for the purposes of increasing the life of the basin and increasing the overall efficiency of removing sediment from run-off.

(d) Alternatives to the requirements in subsections (b) through (c) may be approved by the commissioner. Factors that will be considered include the following:

(1) The amount of water collected from disturbed areas and undisturbed areas.

(2) Use of erosion control measures on disturbed areas.

(3) Sedimentation control measures utilized in the drainageways.

(e) The commissioner may require the submittal of the following information for any storm water/sedimentation pond or basin to verify it is designed and constructed properly:

(1) Basin plan view.

(2) Typical cross section.

(3) All the inlet and outlet elevations.

(4) Assumptions used to size the basin.

(5) Calculations used.

(6) Justifications.

(f) A storm water pollution prevention plan must be prepared in accordance with 329 IAC 10-15-12. The plan must be updated whenever there is a change at the MSWLF that would significantly affect the storm water discharges authorized under the MSWLF's permit. The plan must be kept on site and must be available to the commissioner at the time of an on-site inspection.

(g) A written nonstorm water assessment including the following shall be kept in the facility record:

(1) A certification statement that storm water discharges entering waters of the state have been evaluated for presence of contaminants and nonstorm water contributions. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.

(2) A statement that the facility does not allow detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to enter any storm drainage system or receiving water.

(3) A statement that all interior maintenance areas floor drains that have the potential for maintenance fluids or other materials to enter storm sewers are connected to a sanitary sewer or other appropriate collection system, and that all maintenance fluids or other materials are properly disposed in accordance with all applicable local, state, and federal laws.

*(Solid Waste Management Board; 329 IAC 10-20-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1848; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2786; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3827; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1823, eff Apr 1, 2004)*

**329 IAC 10-20-13 Cover; general provisions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 13. (a) Except as provided in subsection (c), daily cover for MSWLFs must be earthen material or an alternative daily cover as allowed under section 14.1 of this rule. Intermediate cover for MSWLFs must be earthen material or other suitable material approved by the commissioner to provide an adequate level of environmental protection. Final cover must be as specified in 329 IAC 10-22-6 or 329 IAC 10-22-7, whichever is applicable.

(b) Cover must be applied and maintained at MSWLFs in accordance with the applicable requirements of this rule and 329 IAC 10-22. Other provisions for cover may be approved by the commissioner if it can be demonstrated that an alternate cover or site design will provide an adequate level of environmental protection.

(c) Daily and intermediate cover for MSWLFs without a:

(1) leachate collection system; and

(2) composite liner;

must be soil of Unified Soil Classification ML, CL, MH, CH, or OH, or other suitable material approved by the commissioner to provide an adequate level of environmental protection. Final cover must be as specified in 329 IAC 10-22-6 or 329 IAC 10-22-7, whichever is applicable. *(Solid Waste Management Board; 329 IAC 10-20-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1849; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3828; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1824, eff Apr 1, 2004)*

**329 IAC 10-20-14 Daily and intermediate cover requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 14. (a) The owner, operator, or permittee of MSWLFs shall limit the size of the working face to an area that can be covered daily.

(b) Except as provided in subsection (c), the owner, operator, or permittee of all MSWLFs shall apply and compact no less than six (6) inches of soil over all disposed solid waste at the end of each operating day, regardless of weather conditions, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(c) Alternative daily cover must be applied in accordance with section 14.1 of this rule.

(d) The owner, operator, or permittee of MSWLFs that are open continuously shall apply daily cover at least once in every twenty-four (24) hour period as specified in the permit.

(e) A supply of daily cover must be readily available so that the requirements in this section can be met.

(f) The owner, operator, or permittee shall apply and compact intermediate cover of not less than one (1) foot over any point in the fill that has not received solid waste for ninety (90) days or more.

(g) Intermediate cover must be graded to promote surface water drainage and prevent ponding of water.

(h) For any MSWLF areas with intermediate cover, additional erosion and sediment control measures must be implemented within fifteen (15) days after placement of the intermediate cover.

(i) The erosion and sedimentation control measures in subsection (h) may include the following:

(1) Establishment of vegetation.

(2) Covering with alternative synthetic cover or liner.

(3) Other applicable erosion and sedimentation control measures.

(j) Daily and intermediate covers that create an impermeable barrier to the vertical flow of leachate must be altered to allow for leachate flow to the leachate collection system prior to the placement of solid waste on top of the cover. *(Solid Waste Management Board; 329 IAC 10-20-14; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1849; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2787; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3828; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-14.1 Alternative daily cover**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-11-2-215.1; IC 13-19-3; IC 13-20; IC 36-9-30

Sec. 14.1. (a) The owner, operator, or permittee of an MSWLF unit that is constructed with a leachate collection system and composite liner in accordance with 329 IAC 10-17 may apply a material as alternative daily cover only in accordance with this section and any requirements in the facility permit. The following materials must not be applied as alternative daily cover:

(1) A solid waste that contains a toxicity characteristic contaminant listed in 40 CFR 261.24, Table 1, revised as of July 1, 2002, at a level equal to or greater than seventy-five percent (75%) of the regulatory level for that contaminant, determined in accordance with 329 IAC 3.1.

(2) Putrescible waste.

(3) Infectious waste.

(4) Baghouse dust.

(5) Biosolid that does not meet Class A criteria described in the rules of the water pollution control board at 327 IAC 6.1-4-13(c).

(6) Material containing PCB that is not listed in subsection (c) or (e).

(b) Unless permitted otherwise under subsection (e), all material used as alternative daily cover must meet the following performance standards:

(1) The material must meet all requirements of this article for disposal in a municipal solid waste landfill.

(2) Use of the material must not result in:

(A) blowing litter;

(B) blowing dust; or

(C) disease vectors.

(3) The material must not contribute to:

(A) fire;

(B) odor; or

(C) scavenging.

(4) The material must not:

(A) be composed of more than twenty percent (20%) particles smaller than six hundred (600) microns; or

(B) have a bulk density less than one (1) gram per cubic centimeter.

(5) The material must not be soluble in water.

(6) A dry material must not exhibit a pH of:

(A) less than or equal to five (5); or

(B) greater than or equal to ten (10);

when tested in accordance with Method 9045C, "Soil and Waste pH", described in U.S. Environmental Protection Agency Publication SW-846.

(7) When applied as alternative daily cover in accordance with this section, the material must not present a threat to human health or the environment as follows:

(A) The material must not exceed an exposure limit listed in any of the following:

(i) 29 CFR 1910, Subpart Z, revised as of July 1, 2003.

(ii) 29 CFR 1926.55, revised as of July 1, 2003.

(iii) 29 CFR 1926.62, revised as of July 1, 2003.

29 CFR 1910 and 29 CFR 1926 are available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238.

(B) The material must not be ignitable under conditions that exist at the working face of the landfill.

(8) Waste must not be visible after application of the material as alternative daily cover.

(c) The owner, operator, or permittee of the municipal solid waste landfill shall apply for an insignificant facility modification in accordance with 329 IAC 10-3-3(b) to apply any of the following materials as alternative daily cover:

(1) Altered tires.

(2) Wood chips.

(3) Compost.
(4) Foundry sand.
(5) Geotextile.
(6) Plastic tarpaulin.
(7) Material excluded from regulation by 329 IAC 10-3-1(1).
(8) Dewatered publicly owned treatment works sludge.
(9) Dewatered paper sludge.
(10) Petroleum contaminated soil.
(11) Soil contaminated with vegetable oil.
(12) Material containing PCB allowed under 40 CFR 761.62(d), revised as of July 1, 1999*.
(13) Material containing less than fifty (50) parts per million PCB that:
(A) results from a source that contained less than fifty (50) parts per million PCB;
(B) would otherwise meet the definition of PCB bulk product waste in 40 CFR 761.3, revised as of July 1, 1999*; and
(C) is listed in 40 CFR 761.62(b)(1), revised as of July 1, 1999*.
(14) Other material containing less than or equal to ten (10) parts per million PCB not as a result of dilution.
*40 CFR 761 is available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, (202) 783-3238.

(d) The owner, operator, or permittee of the municipal solid waste landfill shall apply for an insignificant facility modification in accordance with 329 IAC 10-3-3(c) to apply a material that:
(1) is not listed in subsection (c); and
(2) meets the performance standards in subsection (b) when delivered to the working face of the landfill.

(e) The owner, operator, or permittee of the municipal solid waste landfill shall apply for a minor modification in accordance with 329 IAC 10-11-6 to apply any of the following materials as alternative daily cover:
(1) A material that:
(A) is not listed in subsection (c); and
(B) does not meet the performance standards in subsection (b) when delivered to the working face of the landfill but can be made to meet the performance standards using additional management practices at the landfill.
The application for a minor modification must describe the management practices that will be used to make the material meet the performance standards in subsection (b).
(2) Material that:
(A) contains less than fifty (50) parts per million PCB;
(B) results from a source that contains less than fifty (50) parts per million PCB; and
(C) is not listed in subsection (c).

(f) The owner, operator, or permittee of a municipal solid waste cell or unit that applies alternative daily cover shall comply with all of the following requirements:
(1) Prior to the initial use of any material as alternative daily cover, the owner, operator, or permittee shall notify the Agriculture and Solid Waste Compliance Section, Office of Land Quality, at least five (5) working days before the initial use of any material as alternative daily cover.
(2) Alternative daily cover must only be applied:
(A) on areas that will have additional solid waste deposited within the next seven (7) working days; or
(B) as approved by the commissioner.
(3) Alternative daily cover that is exposed for longer than seven (7) working days must be covered with soil:
(A) as required by section 13(a) of this rule; or
(B) as approved by the commissioner.
(4) Alternative daily cover must be placed on the working face by the end of each day of operation.
(5) Alternative daily cover, except geotextile or plastic tarpaulin, must be applied:
(A) at a minimum thickness of six (6) inches; or
(B) as approved by the commissioner.
(6) Any solid waste that is not covered by alternative daily cover must be covered in accordance with section 13(a) of this rule.
(7) Alternative daily cover, except geotextile or plastic tarpaulin, must:

(A) not be reapplied as daily cover; or
(B) be applied as approved by the commissioner.

(8) The owner, operator, or permittee shall retain the following information in the operating record for a period of one (1) year:
(A) The source of the alternative daily cover material.
(B) Documentation used to determine compliance with subsection (a)(1).
(C) Documentation that the alternative daily cover material complies with the performance standards under subsection (b), if applicable.

(9) Material used as alternative daily cover must be stockpiled in accordance with:
(A) the provisions of this article regarding storm water pollution prevention; and
(B) section 15 of this rule.

(10) A supply of daily cover material that meets the requirements of section 13 of this rule must be readily available if the material used as alternative daily cover does not meet the requirements of this section.

(g) The commissioner may modify or revoke an approval under subsections (c) through (e) for application of any material that does not meet the requirements of this section. *(Solid Waste Management Board; 329 IAC 10-20-14.1; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3829; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3967; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608)*

**329 IAC 10-20-15 Cover storage sites and borrow pits requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 15. (a) This section applies to cover storage sites and borrow pits located within real property boundaries of the MSWLF.

(b) The owner, operator, or permittee shall grade cover storage sites and borrow pits to:
(1) minimize erosion;
(2) minimize sedimentation off of the property boundaries;
(3) promote surface water drainage;
(4) minimize the ponding of water, unless ponding in a borrow pit is done for sedimentation purposes or planned construction of a lake; and
(5) minimize blowing soil.

(c) Vegetation must be cleared only as necessary.

(d) Roads at the cover storage sites and borrow pits must be constructed and maintained in such a way as to minimize the tracking of mud or soil material from the site onto access roads. The owner, operator, or permittee shall provide and maintain equipment to remove any such mud or soil material that is tracked onto access roads. Mud or soil material tracked onto access roads must either be collected and returned on-site or removed.

(e) The use of water to control dust or remove mud or soil material from an on-site road surface or an access road must not result in the discharge of sediment directly to surface water. Dust must be controlled by effective means so that it does not constitute or contribute to a nuisance, a health hazard, or a safety hazard.

(f) Topsoil must be removed in a separate layer prior to preparation of an area for disposal or other surface disturbances. If the topsoil is not promptly redistributed as cover, it must be stockpiled and temporarily vegetated as soon as weather conditions permit or otherwise protected from:
(1) wind and water erosion;
(2) unnecessary compaction; and
(3) contaminants;
that lessen the capability of materials to support vegetation when redistributed on the site.

(g) When the owner, operator, or permittee is finished with a cover storage site or borrow pits, the slope must not be greater than thirty-three percent (33%). *(Solid Waste Management Board; 329 IAC 10-20-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1849; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2787; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3830; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-16 Grading and soil stabilization for intermediate cover and final cover**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3
Affected: IC 13-30-2; IC 36-9-30

Sec. 16. (a) Cover materials applied as required by section 14(f) of this rule for intermediate cover and 329 IAC 10-22 for final cover must be continuously maintained, including application and compaction of additional cover as needed to maintain required depth.

(b) All MSWLFs must be graded to promote surface water drainage and to prevent the ponding of water on previously filled areas.

(c) Vegetation must be cleared only as necessary.

(d) Final cover must be vegetated as follows:

(1) A grass or a diverse, effective, and permanent vegetative cover of the same seasonal variety that supports the approved post-closure land use must be established and maintained continuously on any portion of the MSWLF that has received final cover under 329 IAC 10-22, except where other provisions for land use have been approved by the commissioner.

(2) No trees, woody shrubs, or deep rooted plants may be planted or allowed to grow on the vegetated final cover unless approved by the commissioner based on a demonstration that the roots will not penetrate the final cover cap.

(e) Anchored mulch or erosion control blankets or both must be applied on all permanent seeding applications to control erosion, promote germination of seeds, and increase the moisture retention of the soil.

(f) During those times of the year when adequate vegetation to control erosion cannot be established, anchored mulch, or a suitable alternative, must be applied to achieve an effective erosion control layer.

(g) Vegetation or anchored mulch or both must be maintained and reapplied as necessary to sustain an effective erosion control layer.

(h) Rills and gullies deeper than nine (9) inches that have formed in areas with intermediate or final cover must be filled, graded, reseeded, and mulched or otherwise stabilized.

(i) Vegetation on closed portions of the MSWLF must be mowed as necessary. *(Solid Waste Management Board; 329 IAC 10-20-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1850; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3831; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-17 Explosive gases**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 17. (a) The owner, operator, or permittee of all MSWLFs shall ensure that:

(1) the concentration of methane gas generated by the MSWLF does not exceed twenty-five percent (25%) of the lower explosive limit for methane in MSWLF structures, excluding gas control, leachate collection manholes, or recovery system components; and

(2) the concentration of methane gas does not exceed the lower explosive limit for methane at the facility boundary.

(b) The owner, operator, or permittee of all MSWLFs shall:

(1) implement a routine methane monitoring program approved by the commissioner to ensure that the standards of subsection (a) are met; or

(2) implement a routine methane monitoring program as proposed to the commissioner:

(A) if a routine methane monitoring program has not been approved by the commissioner; and

(B) until a routine methane monitoring program approved by the commissioner is implemented under subdivision (1).

(c) The type and frequency of monitoring must be determined based on the following:

(1) Soil conditions.

(2) The hydrogeologic conditions surrounding the MSWLF.

(3) The hydraulic conditions surrounding the MSWLF.

(4) The location of MSWLF structures and property boundaries.

The minimum frequency of monitoring must be quarterly.

(d) If methane gas levels exceeding the limits specified in subsection (a) are detected, the owner, operator, or permittee shall complete the following:

(1) Immediately take all necessary steps to ensure protection of human health.

(2) Notify the commissioner within twenty-four (24) hours or the next business day if the detection occurs over a weekend or holiday.

(3) Within seven (7) days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health.

(4) Within sixty (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the commissioner that the plan has been implemented. The plan must describe the nature and extent of the problem and the proposed remedy.

(e) The commissioner may establish alternative schedules for compliance with subsection (d)(3) and (d)(4). *(Solid Waste Management Board; 329 IAC 10-20-17; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1850; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2788; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3831; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-18 Surface leachate control**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20-2; IC 36-9-30

Sec. 18. (a) Any surface movement of leachate outside of the solid waste boundary, which is not being immediately and effectively managed, controlled, and contained, is prohibited, except as specified in the MSWLF permit.

(b) Any leachate on the surface of the MSWLF must be immediately managed or controlled.

(c) Leachate is prohibited from entering any surface water drainage systems. *(Solid Waste Management Board; 329 IAC 10-20-18; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1851; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3832; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-19 Liner leak detection program**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 19. (a) The owner, operator, or permittee must implement a program as specified in 329 IAC 10-15-1(14) and in accordance with 329 IAC 10-15-10 to detect and assess liquids that have leaked through the liner system into the leak detection zone.

(b) If the flow rate into the leak detection zone exceeds the action leakage rate for any sump, the owner, operator, or permittee must:

(1) notify the commissioner in writing of the exceedance within seven (7) days of the determination;

(2) obtain and analyze samples from the leak detection zone and arrange for analyses of the samples in accordance with the leak detection plan as specified in 329 IAC 10-15-10(3);

(3) submit a written assessment to the commissioner within fourteen (14) days of the determination that includes:

(A) the magnitude of the leakage;

(B) the likely source of the liquids;

(C) the possible location, size, and cause of the leak; and

(D) short term response measures that have been taken and that are planned;

(4) determine any additional short term or longer term response measures that will be taken; and

(5) within sixty (60) days of the notification that the action leakage rate was exceeded, submit to the commissioner:

(A) the results of the chemical analyses of the samples specified in subdivision (2); and

(B) an assessment of the potential for additional leakage and the potential for release of the liquids into the environment.

(c) Records of liquid quantities and liquid characteristics monitored by the leak detection program must be:

(1) maintained through the active life, closure, and post-closure periods; and

(2) made available to the commissioner upon request.

*(Solid Waste Management Board; 329 IAC 10-20-19; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1851; filed Mar 19, 1998, 11:07 a.m.:*

*21 IR 2788; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3832; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-20 Leachate collection, removal, and disposal**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 20. (a) The owner, operator, or permittee of an MSWLF shall have a leachate contingency plan. At a minimum, the plan must address all the requirements listed in 329 IAC 10-15-11.

(b) The owner, operator, or permittee shall:

(1) operate the leachate collection or leachate removal system in compliance with the design standards and plans specified in 329 IAC 10-15 and 329 IAC 10-17-8 through 329 IAC 10-17-9;

(2) monitor and maintain the leachate collection or leachate removal system as required in the leachate contingency plan under 329 IAC 10-15-11(1) through 329 IAC 10-15-11(2) or subsection (a); and

(3) implement the leachate contingency plan required under 329 IAC 10-15-11(4) or subsection (a), if the leachate collection or leachate removal system is not operational or leachate levels are exceeded.

(c) Any discharge or disposal of collected leachate must be accomplished in accordance with all applicable local, state, and federal laws.

(d) The leachate contingency plans required by 329 IAC 10-15-11 and subsection (a) must be retained in the operating record on-site at the MSWLF as required by section 8(a) of this rule and be made available to representatives of the department upon request. *(Solid Waste Management Board; 329 IAC 10-20-20; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1852; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3832; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1824, eff Apr 1, 2004)*

**329 IAC 10-20-21 Leachate recycling**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 21. (a) Provided prior approval from the commissioner is obtained, leachate generated by an MSWLF may be recycled into portions of an MSWLF unit that is designed with either of the following:

(1) A composite liner and a leachate collection system that meet the requirements of 329 IAC 10-17.

(2) An alternative design that is permitted under either:

(A) 329 IAC 10-17-15; or

(B) 329 IAC 2, which was repealed in 1996, provided the design is demonstrated to be at least as stringent as the design standards described in 40 CFR 258.40.

(b) To obtain approval, the owner, operator, or permittee of the MSWLF unit receiving the recycled leachate must submit to the department the following:

(1) A demonstration that the depth of leachate on the composite liner will not exceed one (1) foot.

(2) A narrative description of the current status of ground water monitoring under 329 IAC 10-21.

(3) A demonstration that there is no indication of liner failure as determined by monitoring of the leak detection system, described in section 19 of this rule, if a leak detection system is required.

(4) A demonstration that the proposed method of recycling shall not be responsible for odors, contamination of run-off, or damage to vegetation.

(c) Leachate recycling must not create odors, contamination of run-off, or damage to vegetation. *(Solid Waste Management Board; 329 IAC 10-20-21; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1852; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2789; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3833; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-22 Ground water monitoring wells (Repealed)**

Sec. 22. *(Repealed by Solid Waste Management Board; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3875)*

**329 IAC 10-20-23 Control program for regulated hazardous waste, PCB waste, and unauthorized solid waste**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 23. (a) The owner, operator, or permittee of an MSWLF shall implement a program at the MSWLF for detecting and preventing the disposal of regulated hazardous waste as determined by 40 CFR 261.3 or 329 IAC 3.1, polychlorinated biphenyls (PCB) waste as defined in 40 CFR 761, and unauthorized solid waste. This program must include, at a minimum, the following:

(1) Random inspections of incoming loads unless the owner, operator, or permittee takes other steps to ensure that incoming loads do not contain regulated hazardous waste, PCB waste, or unauthorized solid waste. A random inspection program must include the following:

(A) An inspection conducted by an individual, or individuals, trained to identify regulated hazardous waste, PCB waste, or unauthorized solid waste that would not be acceptable for disposal at the MSWLF.

(B) Loads must be inspected prior to actual disposal of the waste at the working face to provide the owner, operator, or permittee the opportunity to refuse to accept the waste.

(C) Loads must be inspected in a manner that does not present a threat to human health and the environment.

(D) The frequency must result in screening at least two percent (2%) of all waste loads.

(E) The commissioner may require additional inspections or steps be taken to adequately control the receipt of regulated hazardous waste, PCB waste, and unauthorized solid waste.

(F) This program may be modified to increase the frequency based on results of the initial program.

(2) If an alternative program to random inspections is going to be utilized then a description of the alternative program must be maintained on site and provided to the commissioner upon request. At a minimum an alternative program must provide an equivalent level of detection or protection as the random inspections describe in subdivision (1). The alternative program may be reviewed and modified by the commissioner to assure equivalency.

(3) Records of any inspections.

(4) Training of MSWLF personnel to identify or recognize the visual indications of regulated hazardous waste, PCB waste, or unauthorized solid waste.

(5) Written notification must be mailed within forty-eight (48) hours, or two (2) working days, to the commissioner if a regulated hazardous waste, or PCB waste is discovered at the MSWLF.

(b) If the owner, operator, or permittee of a MSWLF detects regulated hazardous waste, PCB waste, or unauthorized solid waste, the owner, operator, or permittee shall remove and segregate the waste immediately. The waste shall be handled as follows:

(1) Any regulated hazardous waste, PCB waste, or unauthorized solid waste that is detected by the owner, operator, or permittee must be managed in accordance with applicable Indiana and federal regulations.

(2) Any regulated hazardous waste, PCB waste, or unauthorized solid waste that is segregated must be adequately secured and contained to prevent leakage or a threat to human health and the environment.

(3) The owner, operator, or permittee shall cause the waste to be removed as soon as practicable, but not to exceed ninety (90) days after discovery, by a person authorized by applicable state and federal regulations to transport such waste to a MSWLF approved by applicable state and federal regulations to receive it for treatment, storage, disposal, transfer, processing, recycling, or composting.

(4) The owner, operator, or permittee shall maintain a record on site identifying the date of discovery of the waste, the identity of the waste, including source, if known, and a description of how the waste was managed.

*(Solid Waste Management Board; 329 IAC 10-20-23; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1852; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3833; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-24 Survey requirements**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 24. (a) The owner, operator, or permittee of an MSWLF shall maintain the series of identifiable boundary markers required under 329 IAC 10-19-1(a)(2)(B) to delineate the approved solid waste land disposal facility boundary and approved solid waste

boundaries for the life of the MSWLF.

(b) The owner, operator, or permittee shall maintain the on-site benchmarks required under 329 IAC 10-19-1(a)(2)(c) so that no portion of the proposed solid waste disposal area is further than one thousand (1,000) feet from a benchmark unless a greater distance is:

(1) necessary to avoid the placement of benchmarks on filled areas; and

(2) approved by the commissioner.

(c) The owner, operator, or permittee shall conduct an annual survey between December 1 and March 31 of each year for the purpose of establishing a contour map that indicates existing contours of the MSWLF and the existing limits of solid waste disposed at the MSWLF. The contour map must be done at the same scale as the final contour map required under 329 IAC 10-15-2. The contour map must:

(1) indicate the day the survey was conducted; and

(2) be submitted to the department by June 15 in a paper copy form.

(d) The owner, operator, or permittee of a currently permitted MSWLF shall submit a present contour map and a proposed final contour map on paper copy form as required by 329 IAC 10-15-2(b). In addition to the paper copy forms, a copy may also be submitted electronically. No subsequent annual submissions of the final contour map will be necessary unless there is a change to the approved final contours. *(Solid Waste Management Board; 329 IAC 10-20-24; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1853; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2789; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3834; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1825, eff Apr 1, 2004; filed Jul 10, 2007, 2:26 p.m.: 20070808-IR-329050167FRA)*

**329 IAC 10-20-25 Air criteria**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 25. The owner, operator, or permittee of an MSWLF shall do the following:

(1) Ensure that the MSWLF does not violate any applicable requirements developed under Indiana's state implementation plan (SIP) approved or promulgated by the United States Environmental Protection Agency administrator under Section 110 of the Clean Air Act, 42 U.S.C. 7401 et seq., as amended November 15, 1990.

(2) Comply with the new source performance standards and emission guidelines at 326 IAC 12-1-1(b)(1) (40 CFR Part 60 Subpart WWW), as applicable.

(3) Not cause or allow the storage, containment, processing, or disposal of solid waste in a manner that creates a threat to human health or the environment, including the creation of a fire hazard or air pollution.

*(Solid Waste Management Board; 329 IAC 10-20-25; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1853; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3834; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA)*

**329 IAC 10-20-26 Surface water requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 26. (a) The owner, operator, or permittee of an MSWLF shall not cause a discharge of pollutants into waters of the state, including wetlands, that violates any requirements of rules of the water pollution control board at 327 IAC and the Clean Water Act, including the National Pollutant Discharge Elimination System requirements, under Section 402 of the Clean Water Act, 33 U.S.C. 1342, as amended October 31, 1992.

(b) The owner, operator, or permittee of an MSWLF shall not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area wide or statewide water quality management plan that has been approved under Section 208, 33 U.S.C. 1288, as amended February 4, 1987, or Section 319, 33 U.S.C. 1329, as added February 4, 1987, of the Clean Water Act.

(c) Proper storage and handling of materials, such as fuels or hazardous wastes, and spill prevention and cleanup measures shall be implemented to minimize the potential for pollutants to contaminate surface or ground water or degrade soil quality.

(d) Storage piles of sand and salt or other commercial or industrial material must be managed in a manner to reduce the

potential for polluted storm water run-off and in accordance with the SWP3. *(Solid Waste Management Board; 329 IAC 10-20-26; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1853; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3835; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1825, eff Apr 1, 2004)*

**329 IAC 10-20-27 Liquids restrictions**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 27. (a) Bulk or noncontainerized liquid waste must not be placed in a MSWLF unless either of the following is established:

(1) The liquid is an incidental liquid or rainwater normally associated with routine solid waste disposal.

(2) The waste is leachate or gas condensate derived from the MSWLF and the MSWLF unit receiving such waste, whether it is a new or existing MSWLF or lateral expansion, is designed with a composite liner and leachate collection system. The owner, operator, or permittee shall place the demonstration specified in section 21 of this rule in the operating record and notify the commissioner that it has been placed in the operating record.

(b) Containers holding liquid waste must not be placed in a MSWLF unless:

(1) free liquids are in containers equal to or less than five (5) gallons in size in consumer packaging not to exceed one (1) cubic yard total volume per disposal; or

(2) food products that contain free liquids are in containers or packaging equal to or less than five (5) gallons in size.

(c) Other liquids may be placed in the MSWLF, as authorized by the commissioner, where it has been determined that the disposal of the liquids will not create a threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-20-27; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1854; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2790; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3835; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-28 Self-inspections**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 28. (a) The owner, operator, or permittee of an MSWLF shall monitor and inspect the MSWLF a minimum of at least twice each month for malfunctions, deteriorations, operator errors, discharges, and leachate outcroppings that may cause a release of pollutants to the environment or a threat to human health. Inspections shall include erosion and sedimentation control measures.

(b) The owner, operator, or permittee shall promptly correct any deterioration or malfunction of equipment or structures or any other problems revealed by the inspections to comply with the MSWLF's permit and this article and to ensure that no environmental or human health hazard develops. Where a hazard is imminent or has already occurred, remedial action must be taken immediately to correct or repair the hazard.

(c) The owner, operator, or permittee shall record inspections on an inspection form provided by the department or at a minimum, on a form that includes the following:

(1) The date and time of the inspection.

(2) The name of the inspector.

(3) A description of the inspection, including an identification of the specific equipment and structures inspected.

(4) The observations recorded.

(5) The date and nature of any remedial actions implemented or repairs made as a result of the inspection.

These records must be retained at the MSWLF for at least three (3) years from the date of inspection. *(Solid Waste Management Board; 329 IAC 10-20-28; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1854; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3835; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1825, eff Apr 1, 2004)*

**329 IAC 10-20-29 Additional owner, operator, or permittee responsibility for special waste disposal (Repealed)**

Sec. 29. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3979)*

**329 IAC 10-20-30 Manifest requirements for waste received from transfer stations**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20-4; IC 13-20-6; IC 36-9-30

Sec. 30. (a) As used in this section, "manifest", "municipal waste", "operator", and "waste transfer activities" have the meanings set forth in 329 IAC 11-15-1.

(b) Prior to accepting a shipment of municipal waste from a transfer station located inside or outside of Indiana, a MSWLF must receive a copy of the manifest and must review the manifest to determine whether the items listed under 329 IAC 11-15-3 are included on the manifest.

(c) A MSWLF must not knowingly accept a shipment of municipal waste from a transfer station located inside or outside of Indiana if:

(1) the municipal waste is not accompanied by a manifest that contains the information required under 329 IAC 11-15-3; or

(2) the MSWLF has received notice from the department that the commissioner has issued an order under IC 13-20-6-3 *[IC 13-20-6-3 was repealed by P.L.154-2005, SECTION 17, effective July 1, 2005.]* or IC 13-20-6-4 that suspends the waste transfer activities within Indiana of the transfer station or operator listed on the manifest accompanying the shipment of municipal waste.

(d) Subsection (c)(2) does not apply unless the department has sent a notice by certified mail, return receipt requested, to the MSWLF indicating that the commissioner has suspended the waste transfer activities of the transfer station or operator listed on the manifest. The notice must contain the following:

(1) The name of the operator or transfer station subject to the commissioner's order to suspend waste transfer activities.

(2) The date on which the waste transfer activities are suspended under the commissioner's order.

(3) The acknowledgment number issued to the operator under IC 13-20-6-5(2) *[IC 13-20-6-5 was repealed by P.L.154-2005, SECTION 17, effective July 1, 2005.]* if applicable.

(4) The location of the transfer station if the order applies to a transfer station.

(e) Subsection (c)(2) does not apply after the department has notified a suspended transfer station or operator that waste transfer activities in Indiana may resume. The notice to the formerly suspended transfer station or operator must contain the date on which waste transfer activities may resume. A copy of this notice must be sent by the department, by certified mail, return receipt requested, to each MSWLF that was sent the applicable notice under subsection (d). *(Solid Waste Management Board; 329 IAC 10-20-30; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1855; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2790; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3836; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-31 Requirements for receipt of baled waste**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 31. A MSWLF that receives baled waste for disposal must do the following:

(1) Remove bales mechanically from the vehicle to minimize human contact with the baled waste.

(2) Operate in accordance with an approved baled waste management plan as specified in 329 IAC 10-15-9.

(3) Existing MSWLFs that intend to accept baled waste must operate in accordance with a baled waste management plan, submitted as a minor modification under 329 IAC 10-11-6, that includes the requirements of 329 IAC 10-15-9.

*(Solid Waste Management Board; 329 IAC 10-20-31; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1855; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2790; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3836; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

**329 IAC 10-20-32 Incidental disposal of small amounts of whole waste tires**

Authority: IC 13-14-8; IC 13-15-2; IC 13-19-3; IC 13-20-14-1
Affected: IC 13-20-14-1

Sec. 32. (a) IC 13-20-14-1 prohibits the disposal of whole waste tires in a municipal solid waste landfill, except as provided for in this section. The incidental disposal of small amounts of whole waste tires at a municipal solid waste landfill is allowed if the owner, operator, or permittee of that municipal solid waste landfill complies with one (1) of the following options:

(1) The numeric standard described in subsection (b).

(2) A procedure that meets the criteria in subsection (c).

(b) The numeric standard for incidental disposal of whole waste tires is no more than one (1) visible whole waste tire for each two hundred fifty (250) tons of municipal solid waste, or no more than two (2) tires per day for a municipal solid waste landfill that receives less than two hundred fifty (250) tons of waste per day.

(c) In lieu of complying with the numeric standard in subsection (b), an owner, operator, or permittee of a municipal solid waste landfill must develop and follow a written procedure. This procedure must:

(1) be kept at the municipal solid waste landfill with the operating record, or at an alternate location approved by the commissioner under section 8 of this rule;

(2) be designed to minimize the disposal of whole waste tires by ensuring that those tires that do not meet the definition of incidental disposal at 329 IAC 10-2-91.1 are removed from the municipal solid waste;

(3) designate by position and describe the duties of the person who is responsible for minimizing disposal of whole waste tires;

(4) provide clear instructions to municipal solid waste landfill employees who handle waste tires and haulers for handling whole waste tires;

(5) contain a system for identifying haulers who deliver whole waste tires to the municipal solid waste landfill and for notifying those haulers that the disposal of whole waste tires is prohibited;

(6) provide for proper storage and disposal or recycling of tires removed from municipal solid waste; and

(7) document reduction in the numbers of whole waste tires incidentally disposed of in that municipal solid waste landfill.

(d) Regardless of whether a numeric standard under subsection (b) or a procedure under subsection (c) is used, the owner, operator, or permittee shall not dispose of whole waste tires within ten (10) feet of:

(1) the methane gas venting layer of the final cover system under 329 IAC 10-22-6; or

(2) the bottom of the final cover under 329 IAC 10-22-7.

*(Solid Waste Management Board; 329 IAC 10-20-32; filed Aug 25, 1997, 9:40 a.m.: 21 IR 75; errata filed Nov 6, 1997, 3:30 p.m.: 21 IR 1349; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535)*

## Rule 21. Municipal Solid Waste Landfills; Ground Water Monitoring Programs and Corrective Action Program Requirements

### 329 IAC 10-21-1 General ground water monitoring requirements

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 1. (a) The owner, operator, or permittee of MSWLFs shall comply with the ground water monitoring requirements of this rule according to the following schedule:

(1) Existing MSWLF units and lateral expansions less than or equal to two (2) miles from a drinking water surface or subsurface intake must be in compliance with the applicable ground water monitoring requirements specified in this rule by April 13, 1996.

(2) Existing MSWLF units and lateral expansions greater than two (2) miles from a drinking water surface or subsurface intake must be in compliance with the applicable ground water monitoring requirements specified in this rule by October 9, 1996.

(3) New MSWLF units must be in compliance with the applicable ground water monitoring requirements specified in this rule before waste can be placed in the unit.

(b) Alternative methods, procedures, or equipment to those prescribed in this rule may be used provided the selected alternative yields results or measurements that are equivalent in accuracy and reliability and the use of the alternative is approved by the commissioner.

(c) The number, spacing, and location of ground water monitoring wells and piezometers for an existing MSWLF must comply with the MSWLF's permit. The number, spacing, and location of ground water monitoring wells and piezometers for new MSWLFs must meet the requirements of 329 IAC 10-15-5.

(d) All ground water monitoring wells and piezometers must be affixed with permanent identification that uniquely identifies each monitoring well at the MSWLF. The owner, operator, or permittee shall:

(1) number;

(2) label; and

(3) maintain labels;

on all monitoring wells and piezometers.

(e) Ground water monitoring wells and piezometers must be accessible and visible at all times. Access to monitoring wells through on-site roads must be available, regardless of weather conditions. Access to monitoring wells for four (4) wheel drive vehicles must be provided to ensure vehicle access throughout any season of the year. Vegetation must be controlled on the on-site roads and around the monitoring wells and piezometers. Access to all monitoring wells and piezometers approved by the commissioner must be restricted to operating personnel, department personnel, and persons contracted by the owner, operator, or permittee to collect samples.

(f) Ground water monitoring wells, piezometers, and equipment must be properly maintained to ensure representative ground water samples. The owner, operator, or permittee must practice proper maintenance procedures, including the following:

(1) Keep the ground water monitoring wells securely capped and locked when not in use. The owner, operator, or permittee shall maintain all the caps and locks.

(2) Make repairs as necessary to correct any wear, decay, severe corrosion, or physical damage that is observed on or in the ground water monitoring well, piezometer, or dedicated equipment to maintain integrity, and submit to the commissioner documentation that the necessary repairs have been made.

(3) Maintain proper drainage around each ground water monitoring well head and piezometer. Repairs as necessary must be made to the concrete apron of the monitoring well to prevent water infiltration or ponding.

(4) Control vegetation height around each of the wells.

(5) Redevelop a ground water monitoring well that has accumulated a silt volume that may compromise the quality of the sample. The monitoring well must be redeveloped prior to the next sampling event. One (1) of the following procedures must be used to determine the need to redevelop the monitoring well:

(A) Any regularly scheduled total depth measurement that indicates more than twenty percent (20%) of the screen length has been filled with silt. Any schedule of soundings less often than semiannually must be approved by the commissioner and based on geohydrological characteristics of the aquifer or known rate of down-hole siltation.

(B) Semiannual field tests that indicate an order-of-magnitude rise in turbidity or total solids for sampling points using dedicated submersed equipment.

(C) Any other equivalent procedure that has been approved by the commissioner.

(g) If a ground water monitoring well or a piezometer is destroyed or otherwise fails to properly function, the owner, operator, or permittee must comply with the following requirements:

(1) The owner, operator, or permittee shall provide the commissioner with a written report within ten (10) days of discovering that the ground water monitoring well or piezometer is destroyed or not properly functioning. The report must include the following information:

(A) The date of discovery that a ground water monitoring well or piezometer is destroyed or is not properly functioning.

(B) The probable cause of ground water monitoring well or piezometer destruction, damage, or malfunction.

(C) A proposed repair or replacement plan, in accordance with the following and with section 4 of this rule, that is subject to the commissioner's approval:

(i) If the ground water monitoring well or piezometer is repaired, the following requirements must be fulfilled:

(AA) The owner, operator, or permittee shall submit to the commissioner a description of the repair methods.

(BB) The owner, operator, or permittee shall submit to the commissioner the revised design and construction diagram.

(ii) If the ground water monitoring well or piezometer is replaced, the following requirements must be fulfilled:

(AA) The original ground water monitoring well or piezometer must be properly abandoned in accordance with subsection (i).

(BB) A description of installation methods for the replacement of all pertinent ground water monitoring wells or piezometers, a monitoring well and piezometer design and construction diagram, and the borehole drilling log must be submitted to the commissioner.

(CC) Replacement ground water monitoring wells or piezometers must meet the design requirements of section 4 of this rule

(DD) Replacement ground water monitoring wells or piezometers constructed within fifteen (15) feet of the original monitoring well or piezometer may have earthen material sampling and earthen material sample testing requirements waived by the commissioner if the original ground water monitoring well or piezometer earthen material sampling and earthen material sample testing complies with section 4 of this rule.

(2) Within thirty (30) days after receiving the commissioner's approval of the plan submitted under subdivision (1)(C), the ground water monitoring well or piezometer must be repaired or replaced in accordance with the approved plan.

(3) If discovery of a ground water monitoring well or piezometer failure coincides with the time of a scheduled sampling event, the failed monitoring well or piezometer must be sampled immediately after it has been repaired or replaced.

(h) The owner, operator, or permittee shall abandon and replace a ground water monitoring well if:

(1) the ground water monitoring well has a permeable or semipermeable annular sealant; or

(2) any of the following details of the ground water monitoring well construction are not available:

(A) Screened interval.

(B) Annular sealant material.

(C) Borehole and casing diameters.

(D) Casing and screen material.

(E) Ground elevation and the reference mark elevation.

(F) Outside casing diameter and depth.

(G) Filter pack material.

(i) The owner, operator, or permittee shall notify the commissioner in writing and obtain written approval to decommission or abandon any ground water monitoring well or piezometer. Abandonment procedures must comply with the following:

(1) Abandonment procedures must be:

(A) in compliance with rules of the natural resources commission at 312 IAC 13-10-2; or

(B) an alternative procedure approved by the commissioner that provides equivalent environmental protection.

(2) Methods of abandonment must ensure that slurry does not bridge or become obstructed and that the borehole is completely sealed.

(3) Attempts must be made to remove the entire casing from the ground water monitoring well or piezometer to be abandoned if there is evidence that the integrity of the annulus between the borehole and monitoring well or piezometer casing has been compromised.

(4) Accurate records of the location of the ground water monitoring well or piezometer and the abandonment procedures must be maintained in the operating records.

(j) All ground water monitoring wells that have been approved by the commissioner must be used to obtain ground water to be analyzed for the purpose of this rule.

(k) The commissioner may require additional ground water monitoring wells and piezometers during the active life, closure, or post-closure care period of the MSWLF if:

(1) ground water flow data indicate that ground water flow directions are other than anticipated in the ground water monitoring system design;

(2) further evaluation of the hydrogeology of the MSWLF determines that additional ground water monitoring wells or piezometers are needed; or

(3) additional ground water monitoring wells and piezometers are necessary to achieve compliance with ground water monitoring standards under 329 IAC 10-15-5.

(l) The ground water monitoring boundary must be located:

(1) within the real property boundary; and

(2) within fifty (50) feet of the solid waste boundary that has been approved by the commissioner for final closure, except where fifty (50) feet is not possible because of physical obstacles or geology. If the owner, operator, or permittee chooses to use intrawell comparison procedures to evaluate the ground water data, the monitoring boundary shall be considered to be at the location of each ground water monitoring well designated for the detection monitoring program.

(m) The number of independent ground water samples collected to establish background ground water quality data must be consistent with the appropriate statistical procedures in accordance with section 6 of this rule.

(n) Background ground water quality may be established at ground water monitoring wells that are not located hydraulically upgradient from the MSWLF solid waste boundary if, as determined by the commissioner:

(1) hydrogeologic conditions do not allow the owner, operator, or permittee to determine which ground water monitoring wells are hydraulically upgradient; or

(2) sampling at other ground water monitoring wells will provide an indication of background water quality that is as representative or more representative than that provided by the upgradient monitoring wells.

(o) If contamination is detected in any ground water monitoring well used to establish background ground water quality, the contamination must be investigated, within the MSWLF's facility boundary, to the extent necessary to determine that the MSWLF is not the cause of contamination. If an investigation reveals that the contamination is caused by one (1) or more MSWLF units within the MSWLF, the owner, operator, or permittee must:

(1) further assess and investigate the contamination, as specified under section 10 of this rule; and

(2) use any ground water monitoring well in which the contamination is detected as a downgradient monitoring well in all ground water monitoring programs.

(p) Each time ground water samples are collected from ground water monitoring wells at the monitoring boundary, the owner, operator, or permittee shall prepare and submit to the commissioner ground water potentiometric-surface maps, or flow maps, of the aquifer being monitored at the site. Except for subdivisions (5), (11), and (12), which may be presented in tabular form accompanying the maps, each map must indicate the following:

(1) A clear identification of the contour interval for the potentiometric-surface or water table surface of each aquifer being monitored at the MSWLF.

(2) The ground water monitoring wells and piezometers:

(A) considered to be upgradient and background;

(B) considered to be downgradient; and

(C) for which there has been no determination due to the hydrogeologic complexities.

(3) Each ground water monitoring well's identification and location.

(4) Each piezometer's identification and location.

(5) The static water elevations at each ground water monitoring well, referenced to mean sea level and measured to the nearest one-hundredth (0.01) foot.

(6) Real property boundaries, facility boundaries, and the solid waste boundaries.

(7) The identification of each aquifer through either its title or its elevation.

(8) The MSWLF's name and county.

(9) The map scale and a north arrow.

(10) Ground water flow arrows.

(11) The date and time of the measurements for each of the ground water monitoring wells and piezometers.

(12) The elevation of the ground surface and the top of the casing at each ground water monitoring well and piezometer. The elevation of the referenced mark located on top of the casing of each ground water monitoring well and piezometer must be surveyed to the nearest plus or minus one-hundredth (± 0.01) foot. The referenced mark must be used to measure static water levels.

(13) The following information, upon request by the commissioner:

(A) An updated site surface topography and surface water drainage patterns as described under 329 IAC 10-15-4(b)(12) if the potentiometric surface being evaluated is influenced by surface topography.

(B) All water wells and surface water bodies used as a drinking water source within one-fourth (¼) mile of the solid waste boundary.

(C) Any other information the commissioner determines to be necessary, including ground water flow gradient and velocity, to evaluate the map information.

(14) Unless the commissioner deems necessary based on hydrogeological conditions, data for potentiometric surface maps of the entire site are not required to be collected if one (1) or more of the following exist:

(A) When very few ground water monitoring wells are required to be sampled to establish background for the constituents listed in Table 1A under section 15(a) of this rule.

(B) When very few ground water monitoring wells need to be sampled to verify a preliminary exceedance.

(C) When very few ground water monitoring wells are required to be sampled under section 10(b)(1) or 10(e) of this rule.

(D) When very few ground water monitoring wells need to be sampled to establish background under section 10(b)(4) of this rule.

(q) Ground water must be monitored as required in sections 7, 10, and 13 of this rule. The sampling frequency must be as specified under:

(1) section 7 of this rule for detection monitoring;

(2) section 10 of this rule for assessment monitoring; and

(3) section 13 of this rule for corrective action.

(r) Ground water samples collected from ground water monitoring wells at the monitoring boundary for static water elevations must always be:

(1) Obtained from each ground water monitoring well and each piezometer required to be sampled for the applicable ground water monitoring program.

(2) Measured to the nearest one-hundredth (0.01) foot, and referenced to mean sea level.

(3) Obtained as close in time as practical from each ground water monitoring well or piezometer prior to purging and sampling. If such a purging and collection sequence is expected to affect the accuracy of the static water elevation measurements in any other ground water monitoring well or piezometer in the ground water monitoring system, then water elevation measurements must be obtained from all ground water monitoring wells and piezometers prior to purging and sampling any ground water monitoring well.

(s) The owner, operator, or permittee shall submit the following information to the commissioner within sixty (60) days of obtaining the ground water samples in a sampling event unless a verification sampling program, as described in section 8 of this rule, is implemented:

(1) All static water elevations measured to the nearest one-hundredth (0.01) foot.

(2) Ground water potentiometric-surface maps, or flow maps, as specified in subsection (p).

(3) Two (2) unbound laboratory certified reports, including one (1) original copy, that include the following information unless otherwise specified by the commissioner:

(A) The detection limit for each chemical constituent.

(B) The date samples were collected.

(C) The date samples were received by the laboratory.

(D) The date samples were analyzed by the laboratory.

(E) The date the laboratory report was prepared.

(F) The method of analysis used for each constituent.

(G) The sample identification number for each sample.

(H) The results of all sample analyses.

(4) Field report sheets as described under section 2(b)(12) of this rule for each ground water monitoring well sampled and the field chain of custody form for each sample as described under section 2(b)(14) of this rule.

(5) A report correlating sample identification numbers with the corresponding ground water monitoring well identification number and blank identification numbers.

(6) An explanation of how the ground water monitoring well sampling sequence as described under section 2(a)(6) of this rule was established for the sampling event.

(7) Two (2) copies of the statistical evaluation reports as described under section 6(e) of this rule.

(8) When requested by the commissioner, the following information:

(A) The results of all laboratory quality control sample analyses, including:

(i) blanks;

(ii) spikes;

(iii) duplicates; and

(iv) standards.

(B) Raw data.

(C) Laboratory bench sheets.

(D) Laboratory work sheets.

(E) Chromatograms.

(F) Instrument printouts.

(G) Instrument calibration records.

(t) Detection monitoring must be conducted throughout the active life, closure, and post-closure periods of the MSWLF. *(Solid Waste Management Board; 329 IAC 10-21-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1855; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2791; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3836; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1826, eff Apr 1, 2004)*

**329 IAC 10-21-2 Sampling and analysis plan and program**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 2. (a) The owner, operator, or permittee shall carry out a ground water sampling and analysis program that is specified in an approved sampling and analysis plan, and that complies with the requirements of this rule. The sampling and analysis plan must address all items included in this section, where applicable, and it must satisfy the following requirements:

(1) For all new MSWLFs permitted under this article, the sampling and analysis plan must be approved by the commissioner before the first sampling event occurs.

(2) Existing MSWLFs that have not previously submitted an approved sampling and analysis plan that includes all applicable requirements of this section, must have a plan approved by the commissioner by one (1) of the following times, whichever occurs first:

(A) At the time of the next permit renewal application.

(B) At closure.

(C) At a time determined by the commissioner based on information supplied by the MSWLF.

(3) Existing MSWLFs that have, by April 13, 1996, submitted to the commissioner an approved sampling and analysis plan that does not include all applicable requirements of this rule, must submit a revised plan, if deemed necessary by the commissioner, by one (1) of the following times, whichever occurs first:

(A) At the time of the next permit renewal application.

(B) At closure.

(C) At a time determined by the commissioner based on information supplied by the MSWLF.

(4) Changes or additions to a previously approved sampling and analysis plan must be approved by the commissioner before the changes or additions are implemented.

(5) The approved sampling and analysis plan must be retained at or near the MSWLF in the operating record or at an alternative location approved by the commissioner.

(6) The sampling and analysis plan must include the following:

(A) A description of the following:

(i) The method that will be used to determine the sequence of sampling of ground water monitoring wells. The sequence determination must:

(AA) compare ground water monitoring wells that are not contaminated to those that are contaminated or to those that have the potential to be contaminated; and

(BB) follow the criteria described under subsection (b)(8).

(ii) The method of evacuation, including:

(AA) a description of the equipment and procedures to be used;

(BB) the method for calculating one (1) well volume at each well; and

(CC) the method for measuring the volume of water evacuated.

(iii) The equipment and procedures to be used in sample collection during detection, assessment, and corrective action ground water monitoring programs, including, but not limited to:

(AA) the sizes, number, and material of containers to be used for collection of samples; and

(BB) the manufacturer, make, and model number of field meters for pH, Eh (oxidation-reduction potential), and specific conductance.

(iv) Copies of the owner's manual for each type of meter used in the sampling procedures.

(B) The qualifications and minimum training that the owner, operator, or permittee will require of the ground water sampler or sampling crew.

(b) The sampling and analysis program and procedures must comply with the following:

(1) The sampling crew shall:

(A) wear latex gloves, vinyl gloves, or gloves made out of alternative material that has been approved by the commissioner whenever the samplers' hands are in proximity of:

(i) sample water;

(ii) open sample containers;

(iii) sampling equipment; or

(iv) the open monitoring well; and

(B) avoid contact between gloves and samples.

(2) Each time ground water samples are collected from ground water monitoring wells at the monitoring boundary static water elevations must be:

(A) obtained from each ground water monitoring well where a sample has been collected;

(B) measured to the nearest one-hundredth (0.01) foot, and referenced to mean sea level; and

(C) obtained as close in time as practical from each ground water monitoring well or piezometer prior to purging and sampling.

If such a purging and collection sequence is expected to affect the accuracy of the static water elevation measurements in any other ground water monitoring well or piezometer in the ground water monitoring system, then water elevation measurements must be obtained from all ground water monitoring wells and piezometers prior to purging and sampling any ground water monitoring well.

(3) Samples that are to be analyzed for dissolved metals must be field filtered immediately after the sample is obtained from the ground water monitoring well using a forty-five hundredths (0.45) micron high capacity filter. Use of an alternative filter type or filter size must be approved by the commissioner.

(4) Static water in the ground water monitoring well must be removed with equipment that does not:

(A) cause the water to cascade over the ground water monitoring well screen; or

(B) cause strong gradients or excess volatilization of organic compounds in the ground water.

(5) The method of evacuation must be suited to the recharge of the ground water monitoring well, the well depth, and the well diameter, and must comply with one (1) of the following:

(A) Evacuation may be accomplished with a pump. If a pump is used, the following requirements must be satisfied:

(i) The intake of the pump must be placed within, and ground water must be withdrawn from, the screened interval of the ground water monitoring well.

(ii) Purging with a pump must continue until a minimum of three (3) well volumes has been evaluated or the field constituents of pH, specific conductance, and temperature are stabilized within ten percent (10%) of a field determined mean reading for three (3) consecutive field readings to be completed as follows:

(AA) A minimum of six (6) samples must be taken for the required parameters.

(BB) Three (3) consecutive samples must be used to arrive at the field determined mean reading, and each of the next three (3) samples must be within ten percent (10%) of the field determined mean.

(CC) In the event that one (1) or more of the last three (3) samples are not within ten percent (10%) of the mean, the first sample will be deleted and a new field mean will be calculated from the next three (3) consecutive samples.

(DD) Additional samples are taken and the process described under subitem (CC) is continued until three (3) consecutive samples agree within ten percent (10%) of the field mean determined by the three (3) previous consecutive samples.

(EE) Purging a monitoring well by more than five (5) well volumes is prohibited.

(iii) When removing water from the ground water monitoring well for obtaining a sample, the pump must not be raised or lowered unless the potentiometric surface is as low as or lower than the top of the well screen.

(iv) A ground water monitoring well purged by a pump must be sampled by the same pump unless otherwise approved by the commissioner.

(v) If the permittee chooses to use a rotary pump, it must be used in accordance with the following:

(AA) The flow must be maintained at a slow and steady rate.

(BB) If the flow of water is intermixed with air during the use of the rotary pump, the pump must be lowered deeper into the water column or the sample collection must be accomplished with a bottom discharging bailer.

(CC) The interior of the pump must be coated with Teflon® or an inert material equivalent to Teflon® or

be composed of stainless steel.

(vi) If the permittee chooses to use a positive gas displacement pump, it must be used in accordance with the following:

(AA) The flow must not be at a rate that forcefully ejects water or gas at the end of the expulsion cycle.

(BB) The generator must be placed downwind at least ten (10) feet from the ground water monitoring well being sampled.

(vii) If the permittee chooses to use a peristaltic pump, it must be used in accordance with the following:

(AA) The peristaltic pump must only be used in a ground water monitoring well with a depth of thirty-three (33) feet or less.

(BB) Historical data and tubing manufacturer data sheets must be utilized to select the proper tubing for each site.

(CC) Water in the tubes must be evacuated after each ground water monitoring well is sampled.

(DD) The tubes must be decontaminated after each ground water well is sampled.

(B) Evacuation may be accomplished with a bailer. If a bailer is used, the following requirements must be satisfied:

(i) The ground water monitoring well must be purged a minimum of three (3) well volumes if the ground water recharge rate is greater than the ground water withdrawal rate.

(ii) The ground water monitoring well may be purged dry if the ground water recharge rate is less than the ground water withdrawal rate.

(iii) Purging a ground water monitoring well more than five (5) well volumes is prohibited.

(iv) The bailer must be made of Teflon®, PVC, stainless steel, or other material approved by the commissioner.

(v) To assure that volatile organics are not stripped from the water, the bailer must be lowered in a slow and steady manner until the top of the ground water is contacted.

(vi) The bailer must be lowered into the water column until the bailer is full or the base of the ground water monitoring well is contacted by the bottom of the bailer.

(vii) Once full of water, the bailer must be lowered no further into the water column.

(viii) The bailer cord must not touch or contact the water column.

(ix) To assure that volatile organics are not stripped from the water, the bailer must be withdrawn at a slow steady rate up the ground water monitoring well casing.

(x) When the bailer reaches the top of the ground water monitoring well riser, the bailer must be removed carefully to prevent aeration or agitation.

(xi) The bailer cord must be pulled away from the water when pouring from a top discharging bailer.

(C) The MSWLF's sampling and analysis plan must designate methods for disposal of purged water and decontamination solutions.

(D) The commissioner shall consider a ground water monitoring well to be dry under the following circumstances:

(i) The ground water monitoring well is not mechanically damaged, yet it is unable to deliver water when opened for sampling.

(ii) The ground water monitoring well does not have a recovery rate adequate to supply ground water for sampling within a twenty-four (24) hour period after the monitoring well is purged.

(E) A ground water monitoring well that is dry on a consistent basis may be deemed by the commissioner to be an improperly functioning ground water monitoring well. The owner, operator, or permittee may be required to replace or relocate any improperly functioning ground water monitoring well.

(6) Upon request, the commissioner may approve use of equipment or methods not specified in subdivision (5). The alternative equipment must provide equivalent evacuation efficiency and the request must include:

(A) an exact description of the purging or sampling apparatus;

(B) operational specifics of the apparatus; and

(C) an explanation of why the proposed sampling equipment is equivalent or superior to the equipment specified under subdivision (5) for:

(i) accuracy of readings;

(ii) minimization of cross contamination;

(iii) suitability of the equipment to the site; and

(iv) ease of decontamination, when applicable.

(7) Ground water monitoring sample collection for detection monitoring, verification resampling, assessment, and corrective action ground water monitoring programs must satisfy the following requirements:

(A) Each sample must be numbered and labeled as a separate sample.

(B) One (1) or more independent samples must be collected from every ground water monitoring well on-site or as otherwise specified by the commissioner.

(C) At least one (1) field duplicate sample must be collected as follows:

(i) A field duplicate sample is defined as an additional sample collected from a ground water monitoring well, where:

(AA) the additional sample is analyzed independently of the first sample obtained from that ground water monitoring well; and

(BB) the ground water quality results for the additional sample are not used in the statistical evaluation, unless approved by the commissioner.

(ii) The field duplicate sample must be treated in the same manner as the independent sample.

(iii) A field duplicate sample must be collected from one (1) ground water monitoring well for every ten (10) monitoring wells, or part thereof, sampled.

(iv) The field duplicate sample must not be identified as such to the laboratory performing the sample analysis.

(D) The first sample collected from a given ground water monitoring well must be listed on the field record as the independent sample. The additional sample from the given monitoring well must be listed on the field record as the field duplicate sample.

(E) The independent sample and the field duplicate sample must be collected consecutively. The equipment for obtaining the samples does not require decontamination between sample collection; however, the independent sample and the field duplicate sample must be analyzed independently of each other.

(F) At least one (1) trip blank sample must be taken and must meet the following requirements:

(i) Be containerized prior to entering the MSWLF.

(ii) Consist of water that is:

(AA) distilled;

(BB) deionized; or

(CC) laboratory grade water.

(iii) Be analyzed for all constituents required for the sampling event unless a justification for limiting the trip blank to specific constituents is submitted to and approved by the commissioner.

(iv) Accompany the independent samples at all times.

(v) The trip blank must be identified as such to the laboratory performing the sample analysis.

(G) At least one (1) equipment blank sample must be collected from each piece of nondedicated equipment used to collect samples at the site, in accordance with the following:

(i) The water used for the equipment blank sample collection must be either distilled water or deionized water.

(ii) The equipment to be sampled must include:

(AA) all nondedicated pumps and bailers;

(BB) intermediate containers;

(CC) probes used for measuring static water levels, if the probe is inserted into the ground water monitoring well after the well is purged; and

(DD) reusable sections of the field filtration equipment.

(iii) The equipment blank must be analyzed for all constituents required by the sampling event unless a justification for limiting the equipment blank to specific constituents is submitted to and approved by the commissioner.

(iv) The equipment blank must be obtained after the last ground water monitoring well has been sampled.

(v) The equipment blank must be identified as such to the laboratory performing the sample analysis.

(H) At the end of each sampling day, the sampler may collect at least one (1) field blank sample. If a field blank sample is collected, the following criteria must be met:

(i) The water used for the sample must be distilled water or deionized water brought onto the site and poured into the designated sample bottles within fifty (50) feet from any ground water monitoring well sampled the day the field blank is collected.

(ii) Field blank samples must be analyzed for all constituents required for the sampling event unless a justification for limiting the field blank to specific constituents is submitted to and approved by the commissioner.

(iii) The field blank must be identified as such to the laboratory performing the sample analysis.

(8) Ground water samples must be collected in a sequence that satisfies the following:

(A) Ground water monitoring wells must be sampled in a sequence that minimizes the potential for cross contamination of samples. Historical ground water quality data must be used in estimating a well's potential for contamination. Samples must be collected in order of increasing likelihood of contamination in the monitoring well supplying the sample as follows:

(i) All background ground water monitoring wells must be sampled before downgradient wells.

(ii) If downgradient ground water monitoring wells have not been verified to be contaminated, samples must be collected first from those downgradient monitoring wells that are furthest from disposed solid waste, followed by monitoring wells that are increasingly close to disposed solid waste.

(iii) Downgradient ground water monitoring wells that have been verified as contaminated must be sampled in sequence, starting with those downgradient monitoring wells that have the lowest level of contaminants, followed by monitoring wells that have increasingly higher levels of contaminants.

(B) Samples must be collected in a sequence that minimizes volatilization of compounds. Samples must be collected in order of decreasing volatility as follows:

(i) For the constituents listed in section 15(a) of this rule (Table 1A) and section 15(b) of this rule (Table 1B):

(AA) volatile organic compounds;

(BB) field pH;

(CC) field specific conductance;

(DD) dissolved metals; and

(EE) all other constituents.

(ii) For the constituents listed in section 16 of this rule (Table 2):

(AA) volatile organic compounds;

(BB) field pH;

(CC) field specific conductance;

(DD) semivolatile organics;

(EE) dissolved metals;

(FF) total metals; and

(GG) all other constituents.

(C) A sample collection sequence for the constituents listed in section 15(a) of this rule (Table 1A), section 15(b) of this rule (Table 1B), and section 16 of this rule (Table 2) must be developed for use in the event that a ground water monitoring well cannot supply sufficient water volume to collect a full sample. To establish the sample collection sequence, the owner, operator, or permittee shall consider:

(i) ground water monitoring well logs; and

(ii) previous sample data.

(9) All nondedicated equipment must be decontaminated in accordance with the following requirements:

(A) Decontamination procedures must be implemented after sample collection at each ground water monitoring well and before reuse of the equipment. Time of decontamination must be indicated on the field report sheet. The commissioner may approve alternate decontamination procedures that provide equally reliable prevention of cross contamination.

(B) If a rotary pump is used, then the following decontamination procedures must be implemented:

(i) The interior, exterior, and tubing must be decontaminated.

(ii) The exterior of the rotary pump must be washed with a nonphosphate detergent and potable water bath. The exterior of the rotary pump must be rinsed in potable water and double rinsed in deionized or distilled water.

(iii) The pump must have a volume of a nonphosphate detergent water mixture pumped through the system equal to one-third (⅓) of the previous ground water monitoring well's purge volume or two (2) gallons, whichever is less, to remove all pumped water from the internal parts. This solution must be pumped through the pump head and then continued through the tubing until ejected from the system.

(iv) A gross rinse of potable water must follow the detergent mixture specified in item (iii). The rinse water

volume must match the volume specified in item (iii).

(v) If samples are acquired from the pump, a minimum of three (3) gallons of distilled or deionized water rinse must be pumped through the system prior to sampling the next ground water monitoring well.

(vi) The commissioner may approve an alternative decontamination procedure provided the alternative procedure yields equally reliable prevention of cross contamination.

(C) If a peristaltic pump is used, then the following decontamination procedures must be implemented:

(i) The tubing must be decontaminated.

(ii) After each water sample passes through the pump, a volume of distilled or deionized water and nonphosphate detergent solution equal to the sample volume must be immediately passed through the pump.

(iii) The detergent solution must be followed by a potable water rinse. The volume of the rinse must be three (3) times the detergent solution volume.

(D) If a bailer is used, then the following decontamination procedures must be implemented:

(i) The internal, external, and valve components of the bailer must be decontaminated.

(ii) Nondedicated bailers must be decontaminated on-site prior to obtaining samples from the next ground water monitoring well. Decontamination must consist of, in the following order:

(AA) Washing the interior and exterior surfaces of the bailer with a nonphosphate detergent solution.

(BB) Rinsing with potable water.

(CC) Final double rinsing with distilled or deionized water.

(iii) Dedicated bailers that are either stored at a site away from the sampling point, or stored in the ground water monitoring well riser and above the maximum ground water level must be double rinsed with distilled or deionized water prior to use. Bailers must not be stored below the ground water level in the monitoring well.

(iv) Teflon® coated wire and any water level probe must be:

(AA) submerged in a nonphosphate detergent bath;

(BB) abraded by a clean cloth as the wire is removed from the wash bath;

(CC) deposited into a gross rinse bath of potable water; and

(DD) lifted as a coil and placed in a final distilled or deionized water rinse.

(v) A rope attached to the bailer or lead wire must not be reused.

(E) Meters that measure for specific conductance, temperature, Eh, and pH must be washed with a nonphosphate detergent solution and rinsed with a volume of deionized water equal to a minimum of four (4) times the volume used by the meter for effective readings. If this procedure will inhibit the ability of the meter to function, the meter must be washed in accordance with the manufacturer's instructions.

(10) Ground water monitoring well samples must be collected in containers that are specified in either the MSWLF's sampling and analysis plan or the quality assurance project plan described in subdivision (13).

(11) Field meters for pH, Eh, and specific conductance must be as follows:

(A) Have accuracy of readings that do not vary more from a standard value than the following:

(i) Three percent (3%) of the reading for a suitable standard for specific conductance.

(ii) Twenty-five (25) millivolts of the indicator solution for Eh.

(iii) One-tenth (0.1) standard unit of the calibration standard value for pH.

(B) Be calibrated at the beginning and end of each day of a sampling event, or more frequently if recommended by a manufacturer's specifications, in accordance with the following:

(i) The calibration solutions of high, low, and midrange values must be retained on-site during the sampling event for potential use at every sampling point.

(ii) Calibrations must be conducted as specified by the manufacturer of the equipment.

(12) The sampler shall submit to the commissioner a field report for every sampling event. The report must include the following information pertaining to each ground water monitoring well and piezometer, when applicable:

(A) The time and date each ground water monitoring well was purged and sampled.

(B) The location of each ground water monitoring well that was sampled, including indicating the monitoring well as background or downgradient of the solid waste boundary.

(C) The condition of ground water monitoring well heads and piezometers and monitoring well security devices.

(D) The weather conditions during sample collection.

(E) The condition of purged water with regard to odor and turbidity, and the condition of the collected sample.

(F) The in situ temperature, in degrees Celsius, of the ground water as measured in line or immediately after removal of water from the ground water monitoring well.

(G) The static water elevations referenced to mean sea level and measured to the nearest one-hundredth (0.01) foot.

(H) The type of equipment used for purging and for collection of samples and, where applicable, the cord's chemical composition.

(I) A copy of the chain of custody for the sample.

(J) The location and elevation of the referenced measuring mark on the ground water monitoring well and piezometer casing used to measure the static water elevations.

(K) The time equipment was decontaminated at each ground water monitoring well location.

(L) The reaction of the ground water to the preserving agent when the sample is containerized.

(M) Additional information as required by the commissioner based on particular site or facility conditions.

(13) The owner, operator, or permittee of an MSWLF shall develop a quality assurance project plan and submit the following items to the commissioner for approval:

(A) Documentation to verify that all laboratories performing ground water sample analysis intend to comply with the minimum standards set forth in the facility's quality assurance project plan.

(B) One (1) scientifically valid and accurate testing method approved by the commissioner for each constituent required for analysis under this rule.

(14) Each owner, operator, or permittee of an MSWLF shall develop and utilize a chain of custody protocol to account for the possession and security of any sample from the time the sample is taken until the analytical results are received by the commissioner. The chain of custody protocol must conform with the following:

(A) The field chain of custody form must account for the sample from the time the sample is removed from the ground water monitoring well until the time the sample is delivered to the laboratory and the sample custodian of the analytical laboratory signs the field chain of custody form.

(B) The laboratory chain of custody form must account for the location and security of the sample from the sample's arrival at the analytical laboratory until the analysis of the sample is found to be acceptable under the quality assurance plan.

(C) Field and laboratory chain of custody forms must identify each sample with its unique identifying number and include the following information:

(i) The number and types of containers holding the sample.

(ii) The names of all persons having contact with the sample, including those persons collecting or transporting the sample.

(iii) The time and dates of any transfers in possession of a sample.

(iv) The condition of the sample at the time of its arrival at the laboratory, including the condition of the sample's seal and the temperature inside each cooler holding a sample.

(D) In addition to the information required under clause (C), the field chain of custody form must include a task sheet that delineates the analysis to be performed on the sample or samples.

(E) The laboratory must maintain the laboratory chain of custody form and, upon request, release the laboratory chain of custody form to the commissioner. The field chain of custody form must be submitted to the commissioner in accordance with section 1(s) of this rule.

(c) Upon request, the commissioner may approve the use of methods, procedures, or equipment not specified in subsection (b). The alternative methods, procedures, or equipment must provide results or measurements that are equivalent in accuracy and reliability and the request must include the following:

(1) an exact description of the alternative methods, procedures, or equipment; and

(2) an explanation of why the proposed methods, procedures, or equipment are equivalent or superior to those specified under subsection (b).

*(Solid Waste Management Board; 329 IAC 10-21-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1858; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2794; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3839; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1830, eff Apr 1, 2004)*

**329 IAC 10-21-3 Duration of monitoring program**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) Once established at an MSWLF, ground water monitoring must be conducted throughout the active life, closure, and post-closure care periods of the MSWLF.

(b) Ground water monitoring may be extended beyond the post-closure care period if an assessment ground water monitoring program or a corrective action program is being conducted at an MSWLF and the commissioner determines that an MSWLF unit within the MSWLF is adversely affecting ground water or poses a threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-21-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1863; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3845)*

**329 IAC 10-21-4 Ground water monitoring well and piezometer construction and design**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 4. (a) Ground water monitoring wells and piezometers installed after April 13, 1996, must comply with the requirements of this section.

(b) The following drilling techniques must be used to ensure proper ground water monitoring well construction:

(1) The method of drilling a borehole for a ground water monitoring well or for exploration must be selected to ensure the following:

(A) Subsurface materials are not adversely affected.

(B) Ground water or aquifers are not contaminated or cross-contaminated.

(C) Quality continuous unconsolidated and consolidated material samples are collected.

(D) Equipment sensitivity allows adequate determination of an appropriate screen location.

(E) The diameter of the borehole is at least four (4) inches larger than the diameter of the ground water monitoring well casing and screen, to allow tremie placement of the filter pack and annular sealants.

(F) Drill fluids other than water are to be avoided when possible. However, if fluid additives or lubricants are unavoidable, those used must be demonstrated to be inert and an impact statement must be made regarding the potential impact of any liquids introduced into the borehole on the physical and chemical characteristics of the subsurface and ground water.

(2) All equipment that will encounter formation materials must be decontaminated prior to drilling each new borehole.

(c) Casing and screen materials must comply with the following:

(1) Casing and screen materials must be chosen to:

(A) be resistant to corrosion and degradation in any natural or contaminated environment;

(B) be resistant to physical damage as a result of installation, usage, and time; and

(C) have minimal effect on ground water chemistry with respect to the analytes of concern.

(2) The casing sections must be physically joined and made watertight by:

(A) heat welding;

(B) threading; or

(C) force fitting.

(3) The use of solvents, glues, or other adhesives to join casing sections is prohibited.

(4) For:

(A) ground water monitoring wells, the casing must be two (2) inches in diameter or greater; or

(B) piezometers not to be used for sample collection, the diameter must be one (1) inch or greater.

(5) Except for open borehole bedrock ground water monitoring wells, screens are required for all ground water monitoring wells and piezometers and must include the following:

(A) The screens must be continuous slot wire or machine slotted.

(B) Slot size must retain ninety percent (90%) to one hundred percent (100%) of the filter pack material.

(C) Screen lengths must be not less than two (2) feet and not greater than ten (10) feet unless approved by the

commissioner based on site-specific conditions.

(6) Ground water monitoring well and piezometer casing and screens must be cleaned prior to introduction into the borehole to prevent manufacturers' residues and coatings from contaminating the borehole or aquifer.

(7) Screen and casing must be properly centered in the borehole prior to filling the annulus.

(d) Procedures for collecting, analyzing, and storing core samples must comply with the following:

(1) Continuous downhole samples of the unconsolidated and consolidated materials must be collected in all ground water monitoring well and piezometer boreholes unless the ground water monitoring wells or piezometers are replacement monitoring wells or piezometers under section 1(g)(2)(B) *[of this rule]*. For monitoring well clusters or piezometer clusters, continuous samples must be collected from the surface to the base of the deepest monitoring well or piezometer; other monitoring wells or piezometers within the cluster must be sampled at all significant stratigraphic changes and at the screened interval. Samples must not be combined into composite samples for classification or testing.

(2) All procedures regarding testing and sampling must be described to the commissioner in writing.

(3) The owner, operator, or permittee shall:

(A) retain all borehole samples in labeled containers or labeled core boxes that are securely stored and accessible for a period of:

(i) seven (7) years after the samples are collected; or

(ii) seven (7) years after permit issuance;

whichever occurs later;

(B) notify the commissioner, in writing, of the location of the core sample storage; and

(C) ensure that core samples are available for inspection, by the commissioner or by a representative of the department, at all reasonable times or during normal operating hours.

(4) Each significant stratum encountered in the borehole must have the following analysis performed and testing results must be identified with respect to sample elevations and borehole:

(A) Complete grain size using the following techniques:

(i) Sieve.

(ii) Hydrometer.

(B) Cation exchange capacity.

(C) Hydraulic conductivity if the information in this subsection for that strata is not available to the satisfaction of the commissioner.

(e) The ground water monitoring well or piezometer annulus must be filled as follows when drilling is complete:

(1) The annular space from six (6) inches below the well screen to two (2) feet above the well screen must be filled with a filter pack consisting of inert sand or gravel and shall comply with the following:

(A) A uniform grain size must be chosen to reflect three (3) to five (5) times the average fifty percent (50%) retained size of the formation material unless this filter pack grain size would impede adequate flow of ground water into the ground water monitoring well or piezometer. Should this happen, a filter pack grain size shall be used that allows ground water flow into the monitoring well or piezometer and prevents as much silt infiltration as possible.

(B) Natural material may be an acceptable constituent of the filter pack if slump is unavoidable.

(C) The filter pack in a bedrock monitoring well or piezometer is optional. However, if used, the filter pack must be of a nonreactive coarse sand or gravel.

(D) The upper one (1) to two (2) feet of the filter pack must be of fine, inert sand to prevent infiltration of seal materials.

(E) The filter pack must be emplaced without bridging, preferably by tremie pipe, or other methods as approved by the commissioner to ensure the integrity of the filter pack.

(2) A bentonite seal of at least three (3) feet must be emplaced by tremie pipe in the annular space directly above the filter pack.

(3) The annular space from the bentonite seal to one (1) foot below the frost line must be tremied with a grout of bentonite, cement/bentonite, or other shrinkage-compensated, low permeability fill and shall include the following:

(A) All bentonite and cements must be mixed to the manufacturer's specifications.

(B) Full hydration, curing, or setting of the bentonite seal must occur prior to further backfilling as required by this subdivision.

(4) A surface seal of neat cement or concrete must be installed in the remaining borehole annular space above the intermediate fill, including the following:

(A) The apron of the surface seal must be designed to prevent ponding and infiltration by extending at least two and five-tenths (2.5) feet from the ground water monitoring well casing.
(B) The apron must slope at least fifteen (15) degrees outward.
(C) A locking protective metal casing must be installed around the ground water monitoring well casing and be anchored below the frost line in the surface seal.
(D) A vent hole or vented cap must be placed at the top of the ground water monitoring well or piezometer casing to allow accurate piezometric variation and to prevent gas build-up.
(E) The annular space between the ground water monitoring well casing and the protective metal casing must be neat cement filled to a level at least one (1) inch higher than that of the surrounding apron.
(F) A drainage hole must be drilled in the protective metal casing immediately above the cement fill specified in clause (E).
(G) The remaining annular space between the ground water monitoring well casing and the protective metal casing must be filled with a fine gravel.
(H) A weather resistant lock must be dedicated to the ground water monitoring well and must be serviced twice a year and when the ground water monitoring well is sampled.
(I) A permanent unique identification must be affixed to each ground water monitoring well and the identification must be visible.
(J) Three (3) foot bumper guards or other suitable protection may be required by the commissioner to prevent vehicular traffic from damaging the protective metal casing.

(f) The permittee shall provide ten (10) days' advance notification to the department of the date and time of the installation of the monitoring wells or piezometers.

(g) Development of ground water monitoring wells must occur as soon as possible after the seal and grout have set and must conform with the following:

(1) All ground water monitoring wells must be developed in such a way as to:
(A) allow free entry of formation water;
(B) minimize turbidity of the sample; and
(C) minimize clogging of the monitoring wells.

(2) Development methods chosen must be appropriate for the stratigraphic conditions.

(3) An in situ hydraulic conductivity test must be performed after the ground water monitoring well has been properly developed.

(h) Diagrammatical borehole drilling logs for all ground water monitoring wells and piezometers must be of similar scale and include the following information:

(1) The monitoring well or piezometer and borehole identification.
(2) The date of drilling.
(3) The method of drilling.
(4) The borehole diameter.
(5) The method of obtaining consolidated material and unconsolidated material.
(6) The type of any drill fluids, fluid additives, or lubricants other than water that have been used.
(7) Penetration measurements, such as hammer blow counts, penetrometer measurements, or other acceptable penetration measurements.
(8) The sample recovery measured to the nearest one-tenth (0.1) foot.
(9) Consolidated material and unconsolidated material field descriptions, including the following information:
(A) Lithology and sedimentology.
(B) Mineralogy.
(C) Degree of cementation.
(D) Degree of moisture.
(E) Color as referenced from soil color charts such as the Munsell soil charts.
(F) Grain size and textural classification of unconsolidated samples as referenced from the United States Department of Agriculture (USDA) textural classification charts. Grain-size divisions shall be based on a modified form of the Wentworth grain-size scale defined under 329 IAC 10-2-206.3. A determination shall be made of the percentage and grades of coarse fragments greater than two (2) millimeters in size based on 329 IAC 10-2-206.3 in addition to the

USDA textural classification. Consolidated samples must be described using accepted geological classification systems and nomenclature. A clear description of the classification system used must be included with the logs.

(G) Any other physical characteristics of the consolidated material and unconsolidated material such as scent, staining, fracturing, and solution features.

(H) The percent recovery and rock quality designation.

(I) Other primary or secondary features.

(J) Drilling observations and appropriate details required for unconsolidated drilling logs.

(K) A clear photograph of all consolidated cores, labelled with:

(i) the date the photograph was taken;

(ii) the sample interval;

(iii) the reference scale;

(iv) the reference color scale; and

(v) the identification of the borehole.

(L) Interval of continuous samples and unconsolidated material test data.

(10) Distance to and depth of any water bearing zones, measured to the nearest one-hundredth (0.01) foot.

(11) Static water elevations measured to the nearest one-hundredth (0.01) foot and indicating the dates and times the measurements were taken.

(12) The elevation of permanent monitoring wells or piezometers at the ground surface to the nearest one-tenth (0.1) foot, with the referenced measuring mark measured to the nearest one-hundredth (0.01) foot relative to the National Geodetic Vertical Datum.

(13) The horizontal location of permanent monitoring wells or piezometers measured to the nearest thirty (30) cm using Universal Transverse Mercator (UTM) coordinates.

(14) Total borehole depth and elevation measured to the nearest one-hundredth (0.01) foot.

(15) Elevation range of screened interval measured to the nearest one-hundredth (0.01) foot.

(i) The construction details and diagrams of all pertinent ground water monitoring wells must be recorded on logs and include the following information:

(1) The monitoring well identification and UTM coordinates as described under subsection (h)(13).

(2) The composition of monitoring well and protective casing materials.

(3) The type of joints and couplings between monitoring well casing segments.

(4) The elevations of the ground surface to the nearest one-tenth (0.1) foot and of the referenced measuring mark at the top of the monitoring well casing measured to the nearest one-hundredth (0.01) foot relative to the National Geodetic Vertical Datum.

(5) The diameter of monitoring well casing and borehole.

(6) The elevation of the bottom of the borehole and the depth of the borehole measured to the nearest one-hundredth (0.01) foot.

(7) The screen slot size.

(8) The elevation range of the screened interval measured to the nearest one-hundredth (0.01) foot.

(9) The screen length measured to the nearest one-hundredth (0.01) foot.

(10) Methods of installation of the annular fill.

(11) The elevation range and the depth of the filter pack measured to the nearest one-hundredth (0.01) foot.

(12) The length of the filter pack.

(13) The grain size and composition of all filter pack materials and the fifty percent (50%) retained size of the formation material when used to determine the grain size of the filter pack materials.

(14) The elevation and depth range of the bentonite seal above the filter pack measured to the nearest one-hundredth (0.01) foot.

(15) The thickness of the bentonite seal above the filter pack.

(16) The composition of annular fill.

(17) The elevation range, depth range, and thickness of annular fill measured to the nearest one-hundredth (0.01) foot.

(18) The composition and design of the surface seal.

(19) The design and composition of materials used for the protection of the monitoring well casing.

(j) The construction details and diagram of each piezometer must be recorded on logs and include the following:

(1) Piezometer identification number and UTM coordinates.
(2) Elevation of the top of the piezometer casing.
(3) Height of piezometer casing above the ground.
(4) Elevation of the ground surface.
(5) Elevation and depth to the bottom of the borehole.
(6) Diameter of piezometer casing and borehole.
(7) Elevation and depth to the bottom and top of the piezometer screen.
(8) Length of piezometer casing.
(9) Composition of piezometer casing materials and piezometer screen material.
(10) Length of piezometer screen.
(11) Screen slot size.
(12) Type of joints or couplings, or both, between casing segments.
(13) Elevation and depth to the top and bottom of the gravel filter pack surrounding the piezometer screen.
(14) Length of the gravel filter pack.
(15) Elevation and depth of the bottom of the piezometer casing.
(16) Elevation and depth of the top and bottom of the seal above the gravel filter pack.
(17) The grain size and composition of all filter pack materials and the fifty percent (50%) retained size of the formation material when used to determine the grain size of the filter pack materials.
(18) Thickness of the seal above the gravel filter pack.
(19) Elevation and depth of the annular seal above the gravel filter pack seal.
(20) Thickness of the annular seal.
(21) Material used for the annular seal.
(22) Method of installation of the annular seal.
(23) The composition and design of the surface seal.

*(Solid Waste Management Board; 329 IAC 10-21-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1864; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2799; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3845; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1835, eff Apr 1, 2004)*

**329 IAC 10-21-5 Preoperational requirements pertaining to the ground water monitoring program**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. A newly constructed MSWLF unit of an MSWLF permitted under this article must not accept solid waste until it has complied with all applicable preoperational requirements, including those pertaining to ground water monitoring specified in 329 IAC 10-19-1(a)(2) through 329 IAC 10-19-1(a)(3). *(Solid Waste Management Board; 329 IAC 10-21-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1866; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3848)*

**329 IAC 10-21-6 Statistical evaluation requirements and procedures**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 6. (a) The owner, operator, or permittee shall determine if there is a statistically significant increase for each constituent analyzed, except for constituents listed in section 15(b) of this rule (Table 1B). This statistical evaluation is required each time ground water is collected and analyzed at the monitoring boundary for all MSWLFs.

(b) To determine a statistically significant increase compared to the background ground water quality, each constituent from each ground water monitoring well sample must be compared to the background ground water quality of that constituent, according to the statistical procedures and performance standards specified in this section.

(c) The owner, operator, or permittee shall submit to the commissioner for approval a written statistical evaluation plan for each ground water monitoring program required under this rule. Submittal of the plan must comply with the following:

(1) For all new MSWLFs and lateral expansions to be permitted under this article, the statistical evaluation plan shall be developed in accordance with the general description submitted under 329 IAC 10-15-1(a)(12).

(2) For existing MSWLFs, the plan must be submitted with the next renewal application, at the time of closure, or as specified by the commissioner, whichever occurs first, unless a statistical evaluation plan that includes all applicable requirements under this section has been previously submitted.

(3) The plan must explain which of the various statistical methods, described in subsection (f), may be needed to address a continuously expanding ground water data base. All statistical methods must meet the performance standards outlined in subsection (g).

(4) The plan must identify the statistical procedures to be used whenever verification resampling, as specified under section 8 of this rule, is implemented.

(5) The plan must identify any computer data management or statistical evaluation program used by the owner, operator, or permittee and, upon request by the commissioner, include appropriate documentation of the computer program.

(d) Changes to the statistical evaluation plan must not be implemented without approval from the commissioner.

(e) The owner, operator, or permittee shall submit a statistical evaluation report of the ground water sample analysis to the commissioner. The report must be submitted within sixty (60) days after obtaining ground water samples from the ground water monitoring wells, unless a verification resampling program described under section 8 of this rule, is implemented. The statistical evaluation report must include the following:

(1) All input data, output data, and equations used for all calculations and statistical tests utilized.

(2) A detailed discussion of the conclusions from the statistical evaluation. This discussion must include the identification of all constituents found to have a statistically significant increase.

(3) A graphical representation of the MSWLF's ground water data when requested by the commissioner. The commissioner shall specify the format of the graphical representation.

(f) Any of the following statistical procedures may be chosen for the statistical evaluation, provided the chosen statistical procedure is capable of meeting the performance standards in subsection (g):

(1) A parametric analysis of variance (ANOVA) followed by multiple comparison procedures to identify a statistically significant increase. The method must include estimation and testing of the contrasts between each downgradient ground water monitoring well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each downgradient ground water monitoring well's median and the background ground water quality median levels for each constituent.

(3) A tolerance or prediction interval in which an interval for each constituent is established from the distribution of the background ground water quality data, and the level of each constituent in each downgradient ground water monitoring well for the most recent sampling event is compared to the upper tolerance limit or upper prediction limit.

(4) A control chart, which establishes control limits for each constituent.

(5) A temporal or spatial trend analysis.

(6) Another valid statistical test method that meets the performance standards of subsection (g).

(g) The statistical procedures and methods used must comply with the following performance standards:

(1) The statistical procedure used to evaluate ground water monitoring data must be appropriate for the data distribution of each constituent. If the data distribution of a constituent is shown to be inappropriate for a normal theory test, then either the data must be transformed or a distribution-free statistical test must be used. If data distributions for the constituents differ, more than one (1) statistical method may be needed.

(2) If ground water data from an individual ground water monitoring well is compared either to background ground water quality, which may include pooled background monitoring well data from more than one (1) well, or to a ground water protection standard, then the test must be done at a Type I error level that is no less than one-hundredth (0.01) for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period must be no less than five-hundredths (0.05); however, the Type I error rate of no less than one-hundredth (0.01) for individual monitoring well comparisons must be maintained. This performance standard does not apply to:

(A) tolerance intervals;

(B) prediction intervals; and

(C) control charts.

(3) The validity of the statistical test method used must be evaluated prior to applying the method to the ground water data. This evaluation must address:

(A) the error potential for false positives and false negatives; and

(B) any other evaluation deemed necessary by the commissioner to confirm that the test method chosen will sufficiently detect contamination.

(4) If a control chart is used to evaluate ground water monitoring data, the specific type of control chart and associated statistical parameter values must be protective of human health and the environment. These values must be determined after considering:

(A) the number of background samples;

(B) the background data distribution; and

(C) the range of background concentrations for each constituent analyzed.

(5) If a tolerance interval or a prediction interval is used to evaluate ground water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be protective of human health and the environment. These statistical parameters must be determined after considering:

(A) the number of background samples;

(B) the background data distribution; and

(C) the range of background concentrations for each constituent analyzed.

(6) The statistical method must account for data below the limit of detection with one (1) or more statistical procedures. Any practical quantitation limit that is used in a statistical procedure must:

(A) be the lowest concentration limit that can be repeatedly and reliably achieved; and

(B) be within specified limits of precision and accuracy during routine laboratory operating conditions.

(7) If necessary, the statistical method must include procedures to control or correct for seasonal and spatial variability.

*(Solid Waste Management Board; 329 IAC 10-21-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1866; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2802; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3848; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1838, eff Apr 1, 2004)*

**329 IAC 10-21-7 Detection ground water monitoring program**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 7. (a) A detection ground water monitoring program that satisfies the following requirements is required for all MSWLFs:

(1) Within the six (6) months following the scheduled date of compliance that is specified in section 1(a) of this rule, a minimum of four (4) independent background samples from each approved ground water monitoring well must be collected and analyzed for the constituents listed in section 15(a) of this rule (Table 1A). If a background data base, comprising data from every monitoring well approved by the commissioner and every constituent listed in section 15(a) of this rule (Table 1A), has been previously established, then additional independent samples are not required for the purpose of establishing background.

(2) Any ground water monitoring well installed after the scheduled date of compliance specified in section 1(a) of this rule and designated for detection monitoring must have minimum number of independent samples collected and analyzed for the constituents listed in section 15(a) of this rule (Table 1A). The minimum number of independent samples must satisfy the chosen statistical procedures and performance standards under section 6 of this rule.

(3) Subsequent sampling events during the active life, closure, and post-closure periods of the MSWLF must include the collection and analysis of at least one (1) independent sample from each approved ground water monitoring well. These samples must be analyzed for all constituents in section 15 of this rule (Table 1A and Table 1B). The detection monitoring frequency must be at least semiannual during the active life, closure, and post-closure periods.

(4) The commissioner may specify an alternative frequency for detection monitoring that must comply with the following:

(A) The alternative frequency must be no less than annual.

(B) The alternative frequency must be based on consideration of the following factors:

(i) Sedimentology of the aquifer and unsaturated zone.

(ii) Hydraulic conductivity of the aquifer and unsaturated zone.

(iii) Ground water flow rates.

(iv) Minimum distance between the upgradient permitted solid waste boundary and the downgradient ground water monitoring well screen.
(v) Resource value of the aquifer.
(vi) The fate and mode of transport of any constituents detected in response to detection monitoring.
(vii) Constituent concentrations recorded at the date of alternative frequency selection.

(5) The owner, operator, or permittee must determine, based on the results of sample collection and analysis performed in accordance with this subsection, whether any statistically significant increase in concentration has occurred for any constituent listed in section 15(a) of this rule (Table 1A). In order to make this determination, the owner, operator, or permittee must compare the samples to:

(A) background ground water quality;
(B) a ground water protection standard that has been established from a previous assessment ground water monitoring program conducted under section 10 of this rule; or
(C) a ground water protection standard that was established under 329 IAC 2-16-10, which was repealed in 1996.

(b) If a preliminary exceedance in a constituent concentration has been determined, through ground water detection monitoring performed in accordance with subsection (a), the owner, operator, or permittee must accomplish the following:

(1) Notify the commissioner within fourteen (14) days of the determination. The notification must include the following:

(A) Those constituents listed in section 15(a) of this rule (Table 1A) for which a preliminary exceedance in concentration has been observed and the last recorded concentration for each of those constituents.
(B) The identification of each ground water monitoring well where a preliminary exceedance was observed.
(C) Whether verification procedures and sampling as described under section 8 of this rule will be pursued.

(2) Establish, within ninety (90) days of determination of a statistically significant increase, an assessment ground water monitoring program that meets the requirements of section 10 of this rule unless the owner, operator, or permittee chooses:

(A) to institute a verification program, pursuant to section 8 of this rule; or
(B) to demonstrate, pursuant to section 9 of this rule.

(c) A corrective action program may be required during a detection monitoring program if a preliminary exceedance is verified and is attributable to the MSWLF and is an increase over either of the following:

(1) A ground water protection standard that has been established from a previous assessment ground water monitoring program conducted under section 10 of this rule.
(2) A ground water protection standard that was established under 329 IAC 2-16-10, which was repealed in 1996, for any constituent listed in section 15(a) of this rule (Table 1A).

(d) If, pursuant to subsection (c), the commissioner determines that a corrective action program is necessary, the owner, operator, or permittee must notify all pertinent local government officials, including the county commissioner, officials of the solid waste management district, and the county health department, of this determination.

(e) If the field pH for any ground water sample obtained at the monitoring boundary is determined to be above ten (10) or below five (5) standard pH units, the owner, operator, or permittee shall:

(1) within fourteen (14) days of the determination, notify the commissioner, in writing, of the identity of the ground water monitoring well or wells whose samples indicated an anomalous pH level, and of the corresponding pH values of those samples; and
(2) within sixty (60) days of the determination, submit a written report explaining the anomalous pH values to the commissioner. After reviewing the report, the commissioner may determine that an assessment ground water monitoring program, described under section 10 of this rule, is necessary.

(f) During detection monitoring, if arsenic (dissolved) is determined to exceed the MCL or, if established, the ground water protection standard for arsenic for any ground water sample obtained at the monitoring boundary, the owner, operator, or permittee shall notify the commissioner in writing within fourteen (14) days of the determination. The notification must include the following:

(1) The identification of each ground water monitoring well where samples indicated a concentration greater than the MCL or, if established, the ground water protection standard for arsenic.
(2) And, whether:

(A) assessment monitoring and corrective action programs under 329 IAC 10-21-10 and 329 IAC 10-21-13 *[sections 10 and 13 of this rule]* are to be initiated; or
(B) a demonstration, as described under section 9 of this rule, will be pursued while maintaining a detection monitoring program.

*(Solid Waste Management Board; 329 IAC 10-21-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1868; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2046; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2803; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3849; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1840, eff Apr 1, 2004)*

**329 IAC 10-21-8 Verification of a statistically significant increase in constituent concentration**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 8. (a) The owner, operator, or permittee may develop a verification resampling and analysis plan that will provide verification that a preliminary exceedance has occurred in the concentration of one or more constituents during detection or assessment monitoring programs. This plan must:

(1) use the statistical procedures and performance standards described in section 6 of this rule to determine:

(A) the number of resamples that must be collected for verification of a preliminary exceedance in constituent concentration; and

(B) the number of resamples that must fail in order to verify the preliminary exceedance;

(2) identify the MSWLF-wide false positive rate and the per-comparison false positive rate;

(3) demonstrate that there is an acceptable balance between the false positive rate and the false negative rate;

(4) be approved by the commissioner prior to implementation; and

(5) after approval by the commissioner, be incorporated into the statistical evaluation plan.

(b) Until the owner, operator, or permittee obtains approval for a proposed verification resampling and analysis plan, a minimum of two (2) independent samples must be collected when verification of a statistically significant increase is attempted.

(c) Until the owner, operator, or permittee obtains approval for a verification resampling plan, the commissioner shall consider a preliminary exceedance to be verified if:

(1) any of the verification resamples confirm a statistically significant increase over background ground water quality; or

(2) the owner, operator, or permittee chooses not to institute a verification resampling program.

(d) Within fourteen (14) days following the verification resampling determination, the owner, operator, or permittee shall notify the commissioner of the following:

(1) The results of the verification resampling and analysis program.

(2) An intention, on the part of the owner, operator, or permittee to submit a demonstration pursuant to section 9 of this rule.

(e) The detection ground water monitoring program or the assessment ground water monitoring program shall continue throughout the verification resampling program. Progression to an assessment or corrective action ground water monitoring program shall be based on the verification resampling results, regardless of subsequent detection monitoring results if the verification resampling program extends into the next scheduled sampling event.

(f) Following the completion of a verification resampling program, a report must be submitted to the commissioner no later than sixty (60) days following the last verification resampling event or thirty (30) days prior to the next scheduled semiannual sampling event, whichever occurs first. This report must be written and include the following:

(1) All information required under section 1(s) of this rule.

(2) The date the commissioner was notified as required in subsection (d).

(3) Whether the ground water monitoring program will:

(A) remain in detection monitoring or assessment monitoring;

(B) advance into an assessment monitoring program; or

(C) advance into a corrective action program.

(4) Whether the owner, operator, or permittee intends to make a demonstration pursuant to section 9 of this rule.

(5) Results of the verification resampling, including information required by section 1(s)(3) through 1(s)(5) of this rule.

(g) If verification sampling determines that a statistically significant increase did occur, the owner, operator, or permittee:

(1) must initiate an assessment ground water monitoring program that meets the requirements of section 10 of this rule or a corrective action program that meets the requirements of section 13 of this rule, whichever program is applicable; or

(2) may choose to make a demonstration pursuant to section 9 of this rule, while maintaining a detection monitoring program.

(h) The commissioner may approve an extension of the submittal deadlines required by subsection (f) if the owner, operator, or permittee:

(1) requests an extension; and
(2) provides an adequate explanation for the need of an extension.
*(Solid Waste Management Board; 329 IAC 10-21-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1869; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2805; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3850; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1841, eff Apr 1, 2004)*

**329 IAC 10-21-9 Demonstration that a statistically significant increase or contamination is not attributable to a municipal solid waste land disposal facility unit**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 9. (a) If a verified statistically significant increase in a constituent concentration has occurred, the owner, operator, or permittee may demonstrate that the verified statistically significant increase was caused by:
(1) a source other than the MSWLF unit;
(2) an error in sampling technique, laboratory analysis, or statistical evaluation; or
(3) natural variation in ground water quality.
(b) If the owner, operator, or permittee intends to make a demonstration under this section, the owner, operator, or permittee shall submit, within fourteen (14) days of verifying a statistically significant increase, a plan that describes:
(1) the general approach that will demonstrate that the MSWLF unit did not cause the verified statistical increase; and
(2) a schedule to complete the demonstration. Based on previous ground water data and the thoroughness of the plan submitted under subdivision (1), the commissioner may modify the proposed schedule.
(c) If a demonstration is approved by the commissioner, the owner, operator, or permittee may continue detection ground water monitoring or assessment ground water monitoring, whichever is applicable.
(d) If a demonstration is not approved based on items listed in subsection (a), or the demonstration is not submitted within the time frame specified in subsection (b)(2), then the owner, operator, or permittee shall initiate either an assessment ground water monitoring program or a corrective action program, whichever program is applicable. The owner, operator, or permittee may continue the demonstration process while implementing an assessment ground water monitoring program or a corrective action program, whichever is applicable. If, subsequently, the extended demonstration process proves that the MSWLF unit is not the source of the verified statistically significant increase, the MSWLF unit may return to detection monitoring or assessment monitoring provided there have been no other verified statistically significant increases.
(e) The detection monitoring program or the assessment monitoring program, whichever is applicable, must be continued throughout the demonstration period identified in subsection (b)(2).
(f) The commissioner shall consider that a statistically significant increase is attributable to the MSWLF unit if the owner, operator, or permittee chooses not to demonstrate pursuant to this section. *(Solid Waste Management Board; 329 IAC 10-21-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1870; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2805; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3851; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1842, eff Apr 1, 2004)*

**329 IAC 10-21-10 Assessment ground water monitoring program**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 10. (a) Establishment of an assessment ground water monitoring program is required upon any of the following circumstances:
(1) When the owner, operator, or permittee has verified that a statistically significant increase over background levels has occurred for any constituent listed in section 15(a) of this rule (Table 1A) at any ground water monitoring well at the monitoring boundary of the MSWLF unit, and a demonstration pursuant to section 9 of this rule has not been approved by the commissioner.
(2) When the owner, operator, or permittee is engaged in a corrective action program specified under section 13 of this rule.
(3) When the owner, operator, or permittee of an existing MSWLF is conducting, as of April 13, 1996, a Phase II ground water monitoring program as specified under 329 IAC 2-16, which was repealed in 1996.

(b) The owner, operator, or permittee shall conduct an assessment ground water monitoring program in accordance with the following requirements:

(1) Within ninety (90) days after determining that the owner, operator, or permittee of an MSWLF must conduct assessment ground water monitoring, all ground water monitoring wells containing constituents with statistically significant elevated concentrations, and all ground water monitoring wells within six hundred (600) feet of the well with the statistically significant elevated concentrations and monitoring the same hydrogeologic unit of the well with the elevated concentrations, must be sampled and analyzed for all constituents listed in section 16 of this rule (Table 2). The commissioner may require samples to be collected and analyzed from additional monitoring wells.

(2) Within fourteen (14) days after receiving certified laboratory results from the final sampling conducted under subdivision (1), the owner, operator, or permittee shall submit to the commissioner written notification of the following information for any constituent listed in section 16 of this rule (Table 2) that is detected:

(A) The identity and recorded concentration of the constituent.

(B) The identity of each ground water monitoring well where the constituent was detected.

(3) A copy of the notification required under subdivision (2) and a copy of the certified laboratory results must be placed in the operating record within thirty (30) days of receiving the original certified laboratory results.

(4) The owner, operator, or permittee shall collect and analyze a minimum of four (4) independent samples from each ground water monitoring well identified in subdivision (2) in order to establish background ground water quality. Certified laboratory analyses of the independent ground water samples must be submitted to the commissioner no later than thirty (30) days prior to the next scheduled semiannual sampling event.

(5) The owner, operator, or permittee shall establish a ground water protection standard as described in section 11 of this rule for any constituent that has been detected in ground water samples collected under subdivision (1).

(6) The owner, operator, or permittee shall, during subsequent sampling events, collect at least one (1) independent sample from each ground water monitoring well designated to be in an assessment monitoring program as identified in subdivision (2)(B). Each independent sample must be analyzed for all constituents detected and identified in subdivision (2)(A).

(c) For sampling events during assessment ground water monitoring, the commissioner may do the following:

(1) Specify an appropriate subset of ground water monitoring wells to sample and analyze for constituents in section 16 of this rule (Table 2).

(2) Specify a constituent or constituents from section 16 of this rule (Table 2) that may be deleted from the constituent monitoring list upon demonstration by the owner, operator, or permittee that the constituent to be deleted is:

(A) not reasonably expected to be in the solid waste;

(B) not derived from the solid waste;

(C) naturally occurring in the soil that underlies the site and would be soluble in ground water at the detected levels, even in the absence of the MSWLF unit; and

(D) not a constituent of concern based on historical ground water quality.

(3) Specify a constituent or constituents that may be added to the assessment monitoring constituent list, based on historical ground water quality, analysis of leachate derived from the MSWLF, wastes placed in the MSWLF unit.

(4) Specify an alternate frequency for repeated sampling and analysis of the ground water for the full set of constituents in section 16 of this rule (Table 2). The sampling frequency for constituents in section 15 (Table 1A and Table 1B) may be altered, provided it is at least an annual frequency. The alternate frequency must continue throughout the active life, closure, and post-closure care periods of the MSWLF. The alternate frequency must be based on consideration of the following factors:

(A) Sedimentology of the aquifer and unsaturated zone.

(B) Hydraulic conductivity of the aquifer and unsaturated zone.

(C) Ground water flow rates.

(D) Minimum distance between upgradient solid waste boundary of the MSWLF unit and downgradient monitoring well screen.

(E) Resource value of the aquifer.

(F) The fate of any constituents detected.

(G) The mode of transport of any detected constituents.

(H) Ground water quality data.

(I) Other information as required by the commissioner for the demonstration.

(d) After establishing background ground water quality described in subsection (b)(4), subsequent semiannual sampling events

must include the following:

(1) At least one (1) independent sample from all the ground water monitoring wells that are included in both detection and assessment ground water monitoring programs and any other monitoring wells specified by the commissioner.

(2) Analysis for all constituents included in both detection and assessment ground water monitoring programs.

(3) Determination if there is a verified statistically significant increase for all constituents identified in subdivision (2). The determination shall be in accordance with section 6 of this rule and subsection (f).

(4) Submittal of the information required in section 1(s) of this rule.

(e) Starting from the date that an assessment ground water monitoring program is required, ground water samples must be collected and analyzed for all constituents in section 16 of this rule (Table 2) on an annual basis, or at an alternate frequency specified by the commissioner. Samples for assessment monitoring must be collected from each ground water monitoring well identified in subsection (b)(2)(B). For these sampling events, the owner, operator, or permittee shall:

(1) submit written notification as described in subsection (b)(2);

(2) establish background ground water quality as described in subsection (b)(4) for any constituent that has been detected in ground water samples collected during each sampling event;

(3) establish a ground water protection standard as described in section 11 of this rule for any constituent that has been detected in ground water samples collected during the sampling event;

(4) for subsequent sampling events following the sampling event required under this section, include sampling for all constituents listed in subsection (b)(2)(A); and

(5) include the sampling event in the assessment monitoring sample event schedule.

(f) During assessment ground water monitoring, the owner, operator, or permittee shall proceed according to the following:

(1) If the concentration of a constituent listed in section 16 of this rule (Table 2) is determined to be less than or equal to background ground water quality, for two (2) consecutive semiannual sampling events, then the owner, operator, or permittee may request from the commissioner permission to remove the constituent from the assessment monitoring list. When the concentrations of all constituents listed in section 16 of this rule (Table 2) are determined to be less than or equal to background ground water quality, for two (2) consecutive semiannual sampling events, then the owner, operator, or permittee may request from the commissioner permission to return to a detection monitoring program.

(2) If the concentration of any constituent listed in section 16 of this rule (Table 2) is determined to be a statistically significant increase over background ground water quality, but below the ground water protection standard established in section 11 of this rule, then assessment ground water monitoring must continue in accordance with this section.

(3) If a statistically significant increase above the ground water protection standard is determined for any constituent listed in section 16 of this rule (Table 2), the owner, operator, or permittee shall perform the following:

(A) Notify the commissioner within fourteen (14) days of this determination. The notification to the commissioner must include the following information:

(i) A list of all constituents in section 16 of this rule (Table 2) that have a statistically significant increase above the ground water protection standard established under section 11 of this rule.

(ii) The identification of each ground water monitoring well from which samples indicated a statistically significant increase.

(iii) Whether or not the owner, operator, or permittee intends to institute verification procedures and resampling as described under section 8 of this rule.

(B) In the event that a corrective action program is to be implemented, notify all pertinent local officials, including the county commissioner, and officials of the solid waste management district and the county health department.

(C) Within ninety (90) days of a determination under this subdivision, submit to the commissioner an initial proposal for a corrective action program that is designed to meet the requirements of section 13(b) of this rule unless the owner, operator, or permittee chooses to:

(i) institute a verification resampling program described in section 8 of this rule; or

(ii) submit a demonstration pursuant to section 9 of this rule.

(D) Remain in an assessment ground water monitoring program, which the commissioner may modify.

(g) During assessment ground water monitoring, whenever the concentration of a secondary constituent identified in section 11(c) of this rule is found to exceed levels that are twice the ground water protection standard at the monitoring boundary, as established in section 11 of this rule, the owner, operator, or permittee shall perform the following:

(1) Notify the commissioner within fourteen (14) days of the finding. This notification must include the following information:

(A) The identity and most recent concentration of any secondary constituent found to have the excessive levels.

(B) The identification of each ground water monitoring well found to have excessive levels of a secondary constituent.

(C) Whether verification resampling, as described under section 8 of this rule, will be initiated.

(2) Submit, if so directed by the commissioner, a proposal for a corrective action program. The proposal must be submitted within ninety (90) days after receiving notification from the commissioner that the proposal is required and must be in accordance with the requirements of section 13(b) of this rule, provided the owner, operator, or permittee:

(A) does not institute a verification resampling program pursuant to section 8 of this rule; and

(B) does not choose to submit a demonstration pursuant to section 9 of this rule.

(3) Remain in an assessment ground water monitoring program, which the commissioner may modify.

(h) If it is determined that the MSWLF is the cause of concentrations exceeding the secondary maximum contaminant levels established for chloride, sulfate, and total dissolved solids at the real property boundary of the MSWLF, then the owner, operator, or permittee may be required to establish a corrective action program under section 13 of this rule to ensure that the elevated concentrations do not go beyond the real property boundary.

(i) For sampling events during assessment ground water monitoring, the commissioner may require that any of the constituents identified in Table 3 under 329 IAC 10-21-17 *[section 17 of this rule]* be added to the assessment monitoring list based on wastes placed in the MSWLF unit, historical ground water quality, or geologic setting. Any constituent included in sampling from Table 3 must comply with all sections of this rule regarding statistical evaluation, establishment, and exceedance of the ground water protection standards. *(Solid Waste Management Board; 329 IAC 10-21-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1870; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2806; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3852; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1843, eff Apr 1, 2004)*

**329 IAC 10-21-11 Ground water protection standards**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 11. (a) For each constituent listed in section 16 of this rule (Table 2) and for every secondary constituent, as identified in subsection (c), the ground water protection standard shall be considered to be:

(1) the maximum contaminant level (MCL) for that constituent, if a maximum contaminant level has been established;

(2) the secondary maximum contaminant level for that constituent, if a secondary maximum contaminant level has been established; or

(3) the background ground water quality established for that constituent, based on background ground water monitoring data approved by the commissioner, if:

(A) a maximum contaminant level or a secondary maximum contaminant level has not been established; or

(B) for a given constituent, the background ground water quality is higher than the maximum contaminant level identified in subdivision (1), the secondary maximum contaminant level identified in subdivision (2), or the health-based levels identified in subsection (b).

(b) The commissioner may establish an alternative ground water protection standard for constituents for which an MCL has not been established in accordance with the following:

(1) The alternative ground water protection standards must be appropriate public health and environmental protection based concentrations that satisfy the following criteria:

(A) The ground water protection standard is derived in a manner consistent with the federal Environmental Protection Agency guidelines for assessing risks of environmental pollutants in accordance with 51 FR 33992, 51 FR 34006, 51 FR 34014, and 51 FR 34028, September 24, 1986.

(B) The ground water protection standard is based on scientifically valid studies, conducted in accordance with the Toxic Substances Control Act (TSCA) Good Laboratory Practice Standards as defined in 40 CFR 792, August 17, 1989.

(C) For carcinogens, the ground water protection standard represents a concentration associated with an excess lifetime cancer risk level within the $1 \times 10^{-5}$ to $1 \times 10^{-6}$ range.

(D) For systemic toxicants, the ground water protection standards represent a concentration to which the human population could be exposed on a daily basis that is likely to be without appreciable risk of deleterious effects during

a lifetime.

(2) The commissioner may consider the following in establishing ground water protection standards:

(A) Multiple contaminants in the ground water.

(B) Exposure threats to sensitive environmental receptors.

(C) Other site-specific exposure or potential exposure to ground water.

(c) For the purposes of this rule, secondary constituents are identified as the following:

(1) Ammonia.

(2) Chloride.

(3) Iron.

(4) Manganese.

(5) Sodium.

(6) Sulfate.

*(Solid Waste Management Board; 329 IAC 10-21-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1873; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3854)*

**329 IAC 10-21-12 Public notice for corrective action**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 12. (a) This section applies to owners, operators and permittees of MSWLFs.

(b) Any owner, operator, or permittee required to conduct an assessment of corrective measures, as described under section 13(d) of this rule, shall conduct a public meeting as follows:

(1) The meeting must be held within sixty (60) days after the owner, operator, or permittee has completed an approved assessment of corrective measures.

(2) The meeting must be held in the county where the MSWLF requiring the assessment of corrective measures is located.

(3) The meeting must be open to all persons.

(4) At least ten (10) days prior to the meeting, the owner, operator, or permittee shall publish notice of the public meeting in a newspaper of general circulation in the county where the public meeting will be held.

(5) The meeting must be transcribed by a court reporter.

(6) At the public meeting, the owner, operator, or permittee shall:

(A) present a brief description of the location and operation of the MSWLF;

(B) review the assessment of potential corrective measures, including:

(i) an analysis of the effectiveness of potential corrective measures in meeting all remedy requirements and objectives, as described under section 13(e) of this rule;

(ii) the performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(iii) the time required to begin and complete the remedy; and

(iv) the costs of remedy implementation;

(C) offer the opportunity for public comments and questions; and

(D) attempt to answer the public's questions.

(7) The owner, operator, or permittee shall submit to the department within thirty (30) days after the date of the meeting:

(A) a complete transcript of the public meeting; and

(B) a copy of the newspaper notice announcing the public meeting.

(c) The owner, operator, or permittee shall pay the costs of complying with this section. *(Solid Waste Management Board; 329 IAC 10-21-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1873; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3855)*

**329 IAC 10-21-13 Corrective action program**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 13. (a) The owner, operator, or permittee must submit a proposal for a plume and site characterization plan, as described in subsection (b), and initiate an assessment of various corrective measures, as described in subsection (d), within ninety (90) days of determining any of the following:

(1) A statistically significant increase above any ground water protection standard, as identified in section 11(a) or 11(b) of this rule, has occurred during an assessment ground water monitoring program for any constituent that is listed in section 16 of this rule (Table 2).

(2) At the request of the commissioner, and during assessment monitoring, a secondary constituent listed under section 11(c) of this rule has exceeded levels that are twice the ground water protection standard for that constituent.

(3) At the request of the commissioner, and during detection monitoring, a constituent listed in section 15(a) of this rule (Table 1A) has shown a concentration that is a statistically significant increase over a ground water protection standard established during a previous assessment monitoring program. Previous monitoring programs include those programs conducted under section 10 of this rule, or Phase II programs conducted under 329 IAC 2-16, which was repealed in 1996.

(b) The proposal for a plume and site characterization plan must include the following:

(1) Characterization of the chemical and physical nature of the contaminants, including vertical and horizontal extent of the release by:

(A) proposing location and installation procedures for additional assessment ground water monitoring wells, as necessary; and

(B) identification of all constituents to be analyzed during subsequent ground water sampling events.

(2) Characterization of the contaminated aquifer, limited to the area of the contamination plume. Aquifer characterization may include all of the items described in this subsection.

(3) Proposed location and installation procedures of at least one (1) additional ground water monitoring well at the facility boundary in the direction of contaminant migration.

(4) The process by which all persons who own or reside on land that directly overlies any part of the contaminated ground water plume will be notified.

(5) The process for sampling and analyzing ground water at any private or public intake, as specified by the commissioner, unless permission to sample cannot be obtained from the owner of the intake.

(6) The process by which drinking water will be supplied to all public and private ground water intakes affected by the contamination.

(7) Procedures that will be implemented to stop further migration of contaminants.

(c) Implementation of the plume and site characterization plan must include the following:

(1) Within thirty (30) days of receiving written approval of the initial corrective action proposal, the owner, operator, or permittee shall implement subsection (b)(1) through (b)(7).

(2) The owner, operator, or permittee shall submit a corrective action progress report, including any sampling and analysis results, on a semiannual basis, until the contamination has been determined to be cleaned up as defined in subsection (j).

(3) The ground water monitoring well identified in subsection (b)(3) must be sampled in accordance with section 10(b) and 10(d) of this rule.

(4) If any additional constituent is detected in the ground water monitoring well identified in subsection (b)(3) and that constituent exceeds its ground water protection standard at a statistically significant concentration, then the owner, operator, or permittee shall include that constituent in the sampling of the ground water monitoring wells identified in subsection (b)(1).

(5) The owner, operator, or permittee shall gather sufficient information from the plume and site characterization plan to be presented at the public meeting required in section 12 of this rule and incorporated in the final decision on an corrective action remedy as described in subsection (e).

(d) The assessment of various corrective measures must be initiated within ninety (90) days of determining that a corrective action program is necessary. The owner, operator, or permittee shall complete the assessment of various corrective measures in a reasonable time, with the approval of the commissioner, and in accordance with the following:

(1) The assessment of various corrective measures must include an analysis of the effectiveness of potential corrective measures in meeting all of the remedy requirements and objectives as described in subsection (e).

(2) The analysis must include the following:

(A) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies. This shall include safety impacts, cross-media impacts, and control of exposure to any residual contamination.

(B) The time required to begin and complete the remedy.

(C) Implementation costs of the proposed remedy.

(D) The institutional requirements, such as state or local permit requirements, or other environmental or public health requirements that may substantially affect remedy implementation.

(E) A discussion by the owner, operator, or permittee of the corrective measures assessment, prior to the selection of a remedy, in a public meeting as required in section 12 of this rule.

(3) The owner, operator, or permittee shall continue to monitor in accordance with the assessment ground water monitoring program as required in section 10 of this rule.

(e) The selection of the corrective action remedy must be based on the assessment of various corrective measures conducted under subsection (d), including the following:

(1) The owner, operator, or permittee shall:

(A) select a remedy that, at a minimum, meets the standards listed in subdivision (2); and

(B) submit to the commissioner, within sixty (60) days after the public meeting required in section 12 of this rule, a report describing the selected remedy and how the remedy meets the standards of subdivision (2).

(2) The owner, operator, or permittee shall select a remedy that:

(A) will be protective of human health and the environment;

(B) will attain the ground water protection standard as required in section 11 of this rule;

(C) will reduce or eliminate, to the maximum extent practicable, further releases of those constituents in sections 15 and 16 of this rule (Table 1A, Table 1B, and Table 2), and in section 11(c) of this rule that may pose a threat to human health or the environment;

(D) will comply with standards for waste management as required in subsection (i); and

(E) is chosen after considering input from the public hearing required under section 12 of this rule.

(3) In selecting a remedy that meets the standards of subdivision (2), a report must be submitted that includes the following factors:

(A) The long and short term effectiveness and protection that is offered by the potential remedy, along with an assessment of the remedy's probable outcome, based on the following considerations:

(i) The magnitude of reduction in the existing risks.

(ii) The magnitude of residual risks in terms of likelihood of further releases, due to waste remaining after implementing a remedy.

(iii) The type and degree of long term management required, including monitoring, operation, and maintenance.

(iv) The short term risks that might be posed to the community, workers, or the environment during the implementation of such a remedy. Short term risk assessment shall include potential threats to human health or the environment associated with excavation, transportation, redisposal, or containment of waste or contaminated materials.

(v) The estimated time until corrective measures are completed.

(vi) The potential for exposure of humans and environmental receptors to remaining waste, including the potential threat associated with excavation, transportation, redisposal, or containment of waste or contaminated materials.

(vii) The long term reliability of the engineering and institutional controls.

(viii) The potential need for additional or alternative remedies.

(B) The effectiveness of the remedy in controlling the source and in reducing further releases based on the following considerations:

(i) The extent to which containment practices will reduce further releases.

(ii) The extent to which treatment technologies may be used to reduce further releases.

(C) The ease or difficulty of implementing a potential remedy based on the following considerations:

(i) The technical difficulty of constructing the proposed remedy.

(ii) The expected operational reliability of the proposed remedial technologies.

(iii) The need to coordinate with and obtain necessary approvals and permits from other local or state agencies.

(iv) The availability of necessary equipment and specialists.

(v) The available capacity and location of needed treatment, storage, and disposal facilities.

(D) The capability of the owner, operator, or permittee to manage the technical and economic aspects of the corrective measures.

(E) The degree to which community concerns are addressed by a potential remedy.

(4) The selected remedy report, as described in subdivision (1)(B), must include a schedule for initiating and completing remedial activities. This schedule must be based on the following considerations:

(A) Vertical and horizontal extent, and physical or chemical characteristics of contamination.

(B) Direction of contaminant movement.

(C) Capacity of remedial technologies to achieve compliance with ground water protection standards, as established under section 11 of this rule, and any other remedial objectives.

(D) Availability of treatment or disposal capacity for waste volumes managed during implementation of remedial measures.

(E) Practical considerations of proposing to use currently unavailable technology that may offer significant advantages over readily available technology, in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives.

(F) Potential risks to human health or the environment from exposure to contamination prior to completing remedial measures.

(G) Resource value of the zone of saturation or aquifer, including the following:

(i) Current and future uses.

(ii) Proximity and withdrawal rate of users.

(iii) Ground water quantity and quality.

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

(v) The hydrogeologic characteristics of the MSWLF and surrounding land.

(vi) Ground water removal and treatment costs.

(vii) The cost and availability of alternative water supplies.

(H) Practical capability of the owner, operator, or permittee to achieve the remedy.

(I) Other relevant factors that may be determined by the commissioner.

(5) Selection of a remedy and implementation schedule must be submitted to the commissioner for review and approval.

(6) The commissioner may determine that remediation of a released constituent, listed in either section 16 of this rule (Table 2) or in section 11(c) of this rule, is not necessary if either of the following are demonstrated to the satisfaction of the commissioner:

(A) Remediation is technically impracticable.

(B) Remediation would result in unacceptable cross-media impacts.

(7) If the commissioner determines that an aquifer cannot be remediated, the owner, operator, or permittee shall contain the aquifer to prevent the migration of contaminants.

(8) A determination made by the commissioner under subdivision (6) will not affect the authority of the state to require source control measures or other necessary measures to:

(A) eliminate or minimize further releases to the ground water;

(B) prevent exposure to the ground water; or

(C) remediate ground water quality to technically achievable concentrations and significantly reduce threats to human health or the environment.

(f) Based on the schedule established under subsection (e)(4) and approved by the commissioner under subsection (e)(5), the owner, operator, or permittee shall do the following:

(1) Establish and implement a corrective action ground water monitoring program that:

(A) at a minimum, meets the requirements of an assessment monitoring program under section 10 of this rule;

(B) indicates the effectiveness of the corrective action remedy; and

(C) demonstrates compliance with the ground water protection standard under subsection (j).

(2) Implement the corrective action remedy selected under subsection (e).

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures must, to the greatest extent practicable, be consistent with remedial objectives and, if possible, contribute to the performance of remedial measures. The following factors must be considered in determining whether interim measures are necessary:

(A) Time required to develop and implement a final remedy.

(B) Actual and potential exposure of nearby populations or environmental receptors to regulated constituents.

(C) Actual and potential contamination of potentially useable water supplies or sensitive ecosystems.

(D) Further degradation of the ground water that may occur if remedial action is not initiated expeditiously.

(E) Weather conditions that may cause regulated constituents to migrate or be released.

(F) Potential for:

(i) fire or explosion; or

(ii) exposure to regulated constituents as a result of an accident, a container failure, or a handling system failure.

(G) Other situations that may pose threats to human health or the environment.

(4) Submit a report to the commissioner detailing the progress and performance of the selected remedy. The report must be submitted on a semiannual basis or as determined by the commissioner.

(g) An owner, operator, or permittee or the commissioner may determine, based on information developed after implementation of the remedy has begun or on other information, that compliance under subsection (e)(2) is not being achieved through the remedy selected. In such cases, after approval by the commissioner, the owner, operator, or permittee shall implement other methods or techniques that could practicably achieve compliance with the requirements unless the owner, operator, or permittee makes a determination under subsection (h).

(h) If the owner, operator, or permittee determines that compliance with requirements under subsection (e)(2) cannot be technically achieved with any currently available methods, the owner, operator, or permittee shall:

(1) apply for a commissioner's certification that compliance with requirements under subsection (e)(2) cannot be achieved with any currently available methods;

(2) implement alternate measures to contain contamination, as necessary, to protect human health, the environment and water resources;

(3) implement alternate measures that are technically practicable and consistent with the overall remedial objective to:

(A) control contamination sources; and

(B) remove or decontaminate equipment, units, devices, or structure; and

(4) within fourteen (14) days of determining that compliance cannot be achieved under subsection (g), submit a report to the commissioner that justifies the alternative measures. The report must be approved by the commissioner prior to implementation of any alternative measures.

(i) During a corrective action program, all solid waste managed under a remedy that is required under subsection (e), or under an interim measure that is required under subsection (f)(3), must be managed in a manner that:

(1) is protective of human health and the environment; and

(2) complies with the applicable requirements of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984.

(j) Remedies selected under subsection (e) are considered complete when the owner, operator, or permittee has demonstrated to the satisfaction of the commissioner the following:

(1) Ground water protection standards have been met at all points within the plume of contamination.

(2) For a period of three (3) consecutive years, using statistical procedures and performance standards outlined in section 6 of this rule, the following ground water protection standard, whichever is applicable, has not been exceeded:

(A) The ground water protection standards for the constituents listed in section 16 of this rule (Table 2).

(B) Levels that are twice the concentration of any secondary constituent identified in section 11(c) of this rule.

(3) All corrective actions required to complete the remedy have been satisfied.

(k) The commissioner may, after considering the factors indicated in subsection (l), specify an alternate period during which the following demonstration, whichever is applicable, must be made:

(1) The concentrations of the constituents listed in section 16 of this rule (Table 2) have not exceeded ground water protection standards.

(2) The concentrations of constituents listed in section 11(c) of this rule have not exceeded levels that are twice the ground water protection standard.

(l) The following factors will be considered by the commissioner in specifying an alternative time period:

(1) Vertical and horizontal extent and concentration of the release.

(2) Physical and chemical characteristics of the regulated constituents within the ground water.

(3) Accuracy of the ground water monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy.

(4) Physical and chemical characteristics of the affected ground water.

(5) Physical and chemical characteristics of the affected or potentially affected aquifer system.

(m) Within fourteen (14) days after the completion of all remedial measures, a certification report, signed by the owner,

operator, or permittee and a qualified ground water scientist, shall be submitted to the commissioner for written approval. The report must certify that the remedy has been completed in compliance with the requirements of subsection (j).

(n) Upon receipt of the commissioner's written approval of the certification report specified in subsection (m), the owner, operator, or permittee shall be released from the requirements for financial assurance for corrective action specified in 329 IAC 10-39-10.

(o) Corrective action programs that have been initiated under 329 IAC 1.5, which was repealed in 1989, or under 329 IAC 2, which was repealed in 1996, must continue as approved by the commissioner, and the commissioner may incorporate requirements found under this rule. *(Solid Waste Management Board; 329 IAC 10-21-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1874; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2808; errata filed Jun 10, 1998, 9:23 a.m.: 21 IR 3939; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3855; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1845, eff Apr 1, 2004)*

**329 IAC 10-21-14 Ground water corrective action contingency fund (Voided)**

Sec. 14. *(Voided by P.L.45-1997, SECTION 24, effective July 13, 1996.)*

**329 IAC 10-21-15 Constituents for detection monitoring**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 15. (a) The following constituents shall be measured during detection monitoring and be subject to statistical evaluation procedures under section 6 of this rule:

TABLE 1A
Constituents for Detection Monitoring Subject to
Statistical Evaluation Procedures

| Common Name[1] | CAS RN[2] |
|---|---|
| Inorganics: | |
| (1) Ammonia (as N) | |
| (2) Cadmium | (Dissolved) |
| (3) Chloride | |
| (4) Chromium | (Dissolved) |
| (5) Copper | (Dissolved) |
| (6) Sodium | (Dissolved) |
| (7) Sulfate | |
| Volatile organic compounds: | |
| (8) Benzene | 71-43-2 |
| (9) Carbon tetrachloride | 56-23-5 |
| (10) Chlorobenzene | 108-90-7 |
| (11) Chloroethane; Ethyl chloride | 75-00-3 |
| (12) Chloroform; Trichloromethane | 67-66-3 |
| (13) o-Dichlorobenzene; 1,2-Dichlorobenzene | 95-50-1 |
| (14) p-Dichlorobenzene; 1,4-Dichlorobenzene | 106-46-7 |
| (15) 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 |
| (16) 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 |
| (17) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | 75-35-4 |
| (18) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2 |
| (19) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | 156-60-5 |
| (20) 1,2-Dichloropropane; Propylene dichloride | 78-87-5 |
| (21) cis-1,3-Dichloropropene | 10061-01-5 |

(22) trans-1,3-Dichloropropene . . . . . 10061-02-6
(23) Ethylbenzene . . . . . 100-41-4
(24) Methyl bromide; Bromomethane . . . . . 74-83-9
(25) Methyl chloride; Chloromethane . . . . . 74-87-3
(26) Methylene chloride; Dichloromethane . . . . . 75-09-2
(27) Styrene . . . . . 100-42-5
(28) 1,1,1,2-Tetrachloroethane . . . . . 630-20-6
(29) 1,1,2,2-Tetrachloroethane . . . . . 79-34-5
(30) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene . . . . . 127-18-4
(31) Toluene . . . . . 108-88-3
(32) 1,1,1-Trichloroethane; Methylchloroform . . . . . 71-55-6
(33) 1,1,2-Trichloroethane . . . . . 79-00-5
(34) Trichloroethylene; Trichloroethene . . . . . 79-01-6
(35) Trichlorofluoromethane; CFC-11 . . . . . 75-69-4
(36) Vinyl chloride; Chloroethene . . . . . 75-01-4
(37) Xylene (Total) . . . . . See note 3

(b) The following constituents shall be measured during detection monitoring but are exempt from statistical evaluation procedures under section 6 of this rule:

TABLE 1B
Constituents for Detection Monitoring Not Subject to
Statistical Evaluation Procedures

(1) Field pH . . . . . .
(2) Field specific conductance . . . . . .
(3) Field Eh (Oxidation-Reduction Potential) . . . . . .
(4) Field dissolved oxygen . . . . . .
(5) Total solids . . . . . .
(6) Total dissolved solids . . . . . .
(7) Alkalinity . . . . . .
(8) Arsenic . . . . . (Dissolved)
(9) Bicarbonate . . . . . .
(10) Calcium . . . . . (Dissolved)
(11) Carbonate . . . . . .
(12) Iron . . . . . (Dissolved)
(13) Magnesium . . . . . (Dissolved)
(14) Manganese . . . . . (Dissolved)
(15) Potassium . . . . . (Dissolved)

Notes:

[1]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2]Chemical Abstracts Service registry number. Where "(Dissolved)" is entered, all species in a filtered sample of the ground water that contain this element are included.

[3]Xylene (total). This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1130-20-7).

*(Solid Waste Management Board; 329 IAC 10-21-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1879; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2812; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1849, eff Apr 1, 2004)*

**329 IAC 10-21-16 Constituents for assessment monitoring**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 16. (a) The constituents in this section shall be subject to assessment monitoring procedures under section 10 of this rule.
(b) The following metals (dissolved and total):

TABLE 2
Constituents for Assessment Monitoring

| Common Name[1] | CAS RN[2] |
|---|---|
| (1) Antimony | (Total) |
| (2) Antimony | (Dissolved) |
| (3) Arsenic | (Total) |
| (4) Arsenic | (Dissolved) |
| (5) Barium | (Total) |
| (6) Barium | (Dissolved) |
| (7) Beryllium | (Total) |
| (8) Beryllium | (Dissolved) |
| (9) Cadmium | (Total) |
| (10) Cadmium | (Dissolved) |
| (11) Chromium | (Total) |
| (12) Chromium | (Dissolved) |
| (13) Cobalt | (Total) |
| (14) Cobalt | (Dissolved) |
| (15) Copper | (Total) |
| (16) Copper | (Dissolved) |
| (17) Lead | (Total) |
| (18) Lead | (Dissolved) |
| (19) Lithium | (Total) |
| (20) Lithium | (Dissolved) |
| (21) Mercury | (Total) |
| (22) Mercury | (Dissolved) |
| (23) Nickel | (Total) |
| (24) Nickel | (Dissolved) |
| (25) Selenium | (Total) |
| (26) Selenium | (Dissolved) |
| (27) Silver | (Total) |
| (28) Silver | (Dissolved) |
| (29) Thallium | (Total) |
| (30) Thallium | (Dissolved) |
| (31) Tin | (Total) |
| (32) Tin | (Dissolved) |
| (33) Vanadium | (Total) |
| (34) Vanadium | (Dissolved) |
| (35) Zinc | (Total) |
| (36) Zinc | (Dissolved) |

(c) The following inorganics:

TABLE 2
Constituents for Assessment Monitoring

| Common Name[1] | CAS RN[2] |
|---|---|
| (1) Cyanide | 57-12-5 |
| (2) Fluoride | |
| (3) Nitrate (as N) | |
| (4) Sulfide | 18496-25-8 |

(d) The following volatile organic compounds:

TABLE 2

Constituents for Assessment Monitoring

| Common Name[1] | CAS RN[2] |
|---|---|
| (1) Acetone | 67-64-1 |
| (2) Acetonitrile; Methyl cyanide | 75-05-8 |
| (3) Acrolein | 107-02-8 |
| (4) Acrylonitrile | 107-13-1 |
| (5) Allyl chloride | 107-05-1 |
| (6) Benzene | 71-43-2 |
| (7) Bromochloromethane; Chlorobromomethane | 74-97-5 |
| (8) Bromodichloromethane; Dichlorobromomethane | 75-27-4 |
| (9) Bromoform; Tribromomethane | 75-25-2 |
| (10) Carbon disulfide | 75-15-0 |
| (11) Carbon tetrachloride | 56-23-5 |
| (12) Chlorobenzene | 108-90-7 |
| (13) Chloroethane; Ethyl chloride | 75-00-3 |
| (14) Chloroform; Trichloromethane | 67-66-3 |
| (15) Chloroprene | 126-99-8 |
| (16) Dibromochloromethane; Chlorodibromomethane | 124-48-1 |
| (17) 1,2-Dibromo-3-chloropropane; DBCP | 96-12-8 |
| (18) 1,2-Dibromoethane; Ethylene dibromide; EDB | 106-93-4 |
| (19) o-Dichlorobenzene; 1,2-Dichlorobenzene | 95-50-1 |
| (20) m-Dichlorobenzene; 1,3-Dichlorobenzene | 541-73-1 |
| (21) p-Dichlorobenzene; 1,4-Dichlorobenzene | 106-46-7 |
| (22) trans-1,4-Dichloro-2-butene | 110-57-6 |
| (23) Dichlorodifluoromethane; CFC 12 | 75-71-8 |
| (24) 1,1-Dichloroethane; Ethylidene chloride | 75-34-3 |
| (25) 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 |
| (26) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | 75-35-4 |
| (27) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2 |
| (28) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | 156-60-5 |
| (29) 1,2-Dichloropropane; Propylene dichloride | 78-87-5 |
| (30) 1,3-Dichloropropane; Trimethylene dichloride | 142-28-9 |
| (31) 2,2-Dichloropropane; Isopropylidene chloride | 594-20-7 |
| (32) 1,1-Dichloropropene | 563-58-6 |
| (33) cis-1,3-Dichloropropene | 10061-01-5 |
| (34) trans-1,3-Dichloropropene | 10061-02-6 |
| (35) Ethylbenzene | 100-41-4 |
| (36) 2-Hexanone; methyl butyl ketone | 591-78-6 |
| (37) Isobutyl alcohol | 78-83-1 |
| (38) Methacrylonitrile | 126-98-7 |
| (39) Methyl bromide; Bromomethane | 74-83-9 |
| (40) Methyl chloride; Chloromethane | 74-87-3 |
| (41) Methyl ethyl ketone; MEK; 2-Butanone | 78-93-3 |
| (42) Methyl iodide; Iodomethane | 74-88-4 |
| (43) Methyl methacrylate | 80-62-6 |
| (44) Methyl parathion; Parathion methyl | 298-00-0 |
| (45) 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 |
| (46) Methylene bromide; Dibromomethane | 74-95-3 |
| (47) Methylene chloride; Dichloromethane | 75-09-2 |
| (48) Styrene | 100-42-5 |
| (49) 1,1,1,2-Tetrachloroethane | 630-20-6 |

(50) 1,1,2,2-Tetrachloroethane . . . . . 79-34-5
(51) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene . . . . . 127-18-4
(52) Toluene . . . . . 108-88-3
(53) 1,1,1-Trichloroethane; Methylchloroform . . . . . 71-55-6
(54) 1,1,2-Trichloroethane . . . . . 79-00-5
(55) Trichloroethylene; Trichloroethene . . . . . 79-01-6
(56) Trichlorofluoromethane; CFC-11 . . . . . 75-69-4
(57) 1,2,3-Trichloropropane . . . . . 96-18-4
(58) Vinyl acetate . . . . . 108-05-4
(59) Vinyl chloride; Chloroethene . . . . . 75-01-4
(60) Xylene (Total) . . . . . See note 3

(e) The following semivolatile organic compounds:

TABLE 2
Constituents for Assessment Monitoring

Common Name[1] CAS RN[2]

(1) Acenaphthylene . . . . . 208-96-8
(2) Acenaphthene . . . . . 83-32-9
(3) Acetophenone . . . . . 98-86-2
(4) 2-Acetylaminofluorene; 2-AAF . . . . . 53-96-3
(5) 4-Aminobiphenyl . . . . . 92-67-1
(6) Anthracene . . . . . 120-12-7
(7) Benzo[a]anthracene;Benzanthracene . . . . . 56-55-3
(8) Benzo[b]fluoranthene . . . . . 205-99-2
(9) Benzo[k]fluoranthene . . . . . 207-08-9
(10) Benzo[ghi]perylene . . . . . 191-24-2
(11) Benzo[a]pyrene . . . . . 50-32-8
(12) Benzyl alcohol . . . . . 100-51-6
(13) Bis(2-chloroethoxy) methane . . . . . 111-91-1
(14) Bis(2-chloroethyl) ether; Dichloroethyl ether . . . . . 111-44-4
(15) Bis(2-chloro-1-methylethyl) ether; 2,2-Dichlorodiisopropyl ether; DCIP (See note 4) . . . . . 108-60-1
(16) Bis(2-ethylhexyl) phthalate . . . . . 117-81-7
(17) 4-Bromophenyl phenyl ether . . . . . 101-55-3
(18) Butyl benzyl phthalate; Benzyl butyl phthalate . . . . . 85-68-7
(19) p-Chloroaniline . . . . . 106-47-8
(20) Chlorobenzilate . . . . . 510-15-6
(21) p-Chloro-m-cresol; 4-Chloro-3-methylphenol . . . . . 59-50-7
(22) 2-Chloronaphthalene . . . . . 91-58-7
(23) 2-Chlorophenol . . . . . 95-57-8
(24) 4-Chlorophenyl phenyl ether . . . . . 7005-72-3
(25) Chrysene . . . . . 218-01-9
(26) m-Cresol; 3-Methylphenol . . . . . 108-39-4
(27) o-Cresol; 2-Methylphenol . . . . . 95-48-7
(28) p-Cresol; 4-Methylphenol . . . . . 106-44-5
(29) Diallate . . . . . 2303-16-4
(30) Dibenz[a,h]anthracene . . . . . 53-70-3
(31) Dibenzofuran . . . . . 132-64-9
(32) Di-n-butyl phthalate . . . . . 84-74-2
(33) 3,3'-Dichlorobenzidine . . . . . 91-94-1
(34) 2,4-Dichlorophenol . . . . . 120-83-2
(35) 2,6-Dichlorophenol . . . . . 87-65-0
(36) Diethyl phthalate . . . . . 84-66-2

(37) p-(Dimethylamino)azobenzene . . . . . 60-11-7
(38) 7,12-Dimethylbenz[a]anthracene . . . . . 57-97-6
(39) 3,3'-Dimethylbenzidine . . . . . 119-93-7
(40) 2,4-Dimethylphenol; m-Xylenol . . . . . 105-67-9
(41) Dimethyl phthalate . . . . . 131-11-3
(42) m-Dinitrobenzene . . . . . 99-65-0
(43) 4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol . . . . . 534-52-1
(44) 2,4-Dinitrophenol . . . . . 51-28-5
(45) 2,4-Dinitrotoluene . . . . . 121-14-2
(46) 2,6-Dinitrotoluene . . . . . 606-20-2
(47) Di-n-octyl phthalate . . . . . 117-84-0
(48) Diphenylamine . . . . . 122-39-4
(49) Ethyl methacrylate . . . . . 97-63-2
(50) Famphur . . . . . 52-85-7
(51) Fluoranthene . . . . . 206-44-0
(52) Fluorene . . . . . 86-73-7
(53) Hexachlorobenzene . . . . . 118-74-1
(54) Hexachlorobutadiene . . . . . 87-68-3
(55) Hexachlorocyclopentadiene . . . . . 77-47-4
(56) Hexachloroethane . . . . . 67-72-1
(57) Hexachloropropene . . . . . 1888-71-7
(58) Indeno(1,2,3-cd)pyrene . . . . . 193-39-5
(59) Isodrin . . . . . 465-73-6
(60) Isophorone . . . . . 78-59-1
(61) Isosafrole . . . . . 120-58-1
(62) Kepone . . . . . 143-50-0
(63) Methapyrilene . . . . . 91-80-5
(64) 3-Methylcholanthrene . . . . . 56-49-5
(65) Methyl methanesulfonate . . . . . 66-27-3
(66) 2-Methylnaphthalene . . . . . 91-57-6
(67) Naphthalene . . . . . 91-20-3
(68) 1,4-Naphthoquinone . . . . . 130-15-4
(69) 1-Naphthylamine . . . . . 134-32-7
(70) 2-Naphthylamine . . . . . 91-59-8
(71) o-Nitroaniline; 2-Nitroaniline . . . . . 88-74-4
(72) m-Nitroaniline; 3-Nitroaniline . . . . . 99-09-2
(73) p-Nitroaniline; 4-Nitroaniline . . . . . 100-01-6
(74) Nitrobenzene . . . . . 98-95-3
(75) o-Nitrophenol; 2-Nitrophenol . . . . . 88-75-5
(76) p-Nitrophenol; 4-Nitrophenol . . . . . 100-02-7
(77) N-Nitroso-di-n-butylamine . . . . . 924-16-3
(78) N-Nitrosodiethylamine . . . . . 55-18-5
(79) N-Nitrosodimethylamine . . . . . 62-75-9
(80) N-Nitrosodiphenylamine . . . . . 86-30-6
(81) N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine . . . . . 621-64-7
(82) N-Nitrosomethylethylamine . . . . . 10595-95-6
(83) N-Nitrosopiperidine . . . . . 100-75-4
(84) N-Nitrosopyrrolidine . . . . . 930-55-2
(85) 5-Nitro-o-toluidine . . . . . 99-55-8
(86) Pentachlorobenzene . . . . . 608-93-5
(87) Pentachloronitrobenzene . . . . . 82-68-8

(88) Pentachlorophenol . . . . . 87-86-5
(89) Phenacetin . . . . . 62-44-2
(90) Phenanthrene . . . . . 85-01-8
(91) Phenol . . . . . 108-95-2
(92) p-Phenylenediamine . . . . . 106-50-3
(93) Pronamide . . . . . 23950-58-5
(94) Propionitrile; Ethyl cyanide . . . . . 107-12-0
(95) Pyrene . . . . . 129-00-0
(96) Safrole . . . . . 94-59-7
(97) 1,2,4,5-Tetrachlorobenzene . . . . . 95-94-3
(98) 2,3,4,6-Tetrachlorophenol . . . . . 58-90-2
(99) o-Toluidine . . . . . 95-53-4
(100) 1,2,4-Trichlorobenzene . . . . . 120-82-1
(101) 2,4,5-Trichlorophenol . . . . . 95-95-4
(102) 2,4,6-Trichlorophenol . . . . . 88-06-2
(103) 0,0,0-Triethyl phosphorothioate . . . . . 126-68-1
(104) sym-Trinitrobenzene . . . . . 99-35-4

(f) The following pesticides, herbicides, and PCBs:

TABLE 2
Constituents for Assessment Monitoring

Common Name[1] . . . . . CAS RN[2]

(1) Aldrin . . . . . 309-00-2
(2) alpha-BHC . . . . . 319-84-6
(3) beta-BHC . . . . . 319-85-7
(4) delta-BHC . . . . . 319-86-8
(5) gamma-BHC; Lindane . . . . . 58-89-9
(6) Chlordane . . . . . See note 5
(7) 2,4-D; 2,4-Dichlorophenoxyacetic acid . . . . . 94-75-7
(8) 4,4'-DDD . . . . . 72-54-8
(9) 4,4'-DDE . . . . . 72-55-9
(10) 4,4'-DDT . . . . . 50-29-3
(11) Dieldrin . . . . . 60-57-1
(12) 0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin . . . . . 297-97-2
(13) Dimethoate . . . . . 60-51-5
(14) Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol . . . . . 88-85-7
(15) Disulfoton . . . . . 298-04-4
(16) Endosulfan I . . . . . 959-98-8
(17) Endosulfan II . . . . . 33213-65-9
(18) Endosulfan sulfate . . . . . 1031-07-8
(19) Endrin . . . . . 72-20-8
(20) Endrin aldehyde . . . . . 7421-93-4
(21) Ethyl methanesulfonate . . . . . 62-50-0
(22) Heptachlor . . . . . 76-44-8
(23) Heptachlor epoxide . . . . . 1024-57-3
(24) Methoxychlor . . . . . 72-43-5
(25) Parathion . . . . . 56-38-2
(26) Phorate . . . . . 298-02-2
(27) Polychlorinated biphenyls; PCBs; Aroclors . . . . . See note 6
(28) Silvex; 2,4,5-TP . . . . . 93-72-1
(29) 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid . . . . . 93-76-5
(30) Toxaphene . . . . . See note 7

Notes:

[1]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included. Where "Dissolved" is entered, all species in a filtered sample of the ground water that contain this element are included.

[3]Xylene (total). This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

[4]This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis[2-chloro- (CAS RN 39638-32-9).

[5]Chlordane. This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

[6]Polychlorinated biphenyls (CAS RN 1336-36-3). This category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5).

[7]Toxaphene. This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), that is, chlorinated camphene.

*(Solid Waste Management Board; 329 IAC 10-21-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1880; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1850, eff Apr 1, 2004)*

**329 IAC 10-21-17 Additional constituents for assessment monitoring**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 17. The following additional constituents shall be subject to assessment monitoring procedures under section 10 of this rule:

TABLE 3
Additional Constituents for Assessment Monitoring

| Common Name[1] | CAS RN[2] |
|---|---|
| (1) Asbestos | 132207-33-1 |
| (2) Combined beta/photon emitters | |
| (3) Gross alpha particle activity (including radium 226, but excluding radon and uranium) | |
| (4) Radium 226 and 228 (combined) | 7440-14-4 |
| (5) Alachlor | 15972-60-8 |
| (6) Atrazine | 1912-24-9 |
| (7) Carbofuran | 1563-66-2 |
| (8) Dalapon | 75-99-0 |
| (9) Di(2-ethylhexyl)adipate; DOA | 103-23-1 |
| (10) Diquat | 231-36-7 |
| (11) Endothall | 145-73-3 |
| (12) Glyphosate | 1071-83-6 |
| (13) Oxamyl | 23135-22-0 |
| (14) Picloram | 1918-02-1 |
| (15) Simazine | 122-34-9 |
| (16) 2, 3,7, 8 -TCDD (Dioxin) | 1746-01-6 |

Notes:

[1]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2]Chemical Abstracts Service registry number.

*(Solid Waste Management Board; 329 IAC 10-21-17; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1855, eff Apr 1, 2004)*

## Rule 22. Municipal Solid Waste Landfills; Closure Requirements

### 329 IAC 10-22-1 Performance standard

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. The owner, operator, or permittee of an MSWLF shall close the MSWLF in a manner that:

(1) minimizes the need for further maintenance;

(2) controls post-closure escape of waste, waste constituents, leachate, contaminated run-off, or waste decomposition products to the ground or surface waters or the atmosphere; and

(3) at a minimum, is in compliance with applicable closure provisions and conditions imposed in the facility permit.

*(Solid Waste Management Board; 329 IAC 10-22-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1882; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3859)*

### 329 IAC 10-22-2 Closure plan

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) The owner, operator, or permittee of an MSWLF shall prepare a written closure plan. The plan must be as follows:

(1) Submitted with the permit application in accordance with 329 IAC 10-11.

(2) Approved by the commissioner as part of the permit.

The approved closure plan becomes a condition of the permit upon approval.

(b) The owner, operator, or permittee of an MSWLF permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, that:

(1) closed on or before January 1, 1998, must close under the MSWLF's existing approved closure plans; or

(2) intend to close after January 1, 1998, must:

(A) revise closure plans to meet the requirements of subsection (c); and

(B) submit the revised plans to the commissioner for approval within six (6) months after April 13, 1996, or the anniversary date of the approved closure plans, whichever is earlier.

(c) The closure plan must identify the steps necessary to completely close the MSWLF at any point during its active life in accordance with section 1 of this rule. The plan must be certified by a registered professional engineer. The closure plan must include the following:

(1) A description of the steps that will be used to partially close, if applicable, and finally close the MSWLF in accordance with section 1 of this rule.

(2) A listing of labor, materials, and testing necessary to close the MSWLF.

(3) An estimate of the expected year of closure and a schedule for final closure. The schedule must include the following:

(A) The total time required to close the MSWLF.

(B) The time required for completion of intervening closure activities.

(4) An estimate of the maximum inventory of wastes that will be on site over the active life of the MSWLF.

(5) An estimate of the cost per acre of providing final cover and vegetation. The cost must reflect cost necessary to close the MSWLF by the third party as required by the approved plan, but must not be less than the following:

(A) Twenty-one thousand dollars ($21,000) per acre to close MSWLF units that are constructed with only a soil liner.

(B) Seventy-eight thousand seven hundred fifty dollars ($78,750) per acre for MSWLF units that are constructed with a composite bottom liner system.

For an application for a new MSWLF or a major modification submitted on or after April 1, 2005, the owner, operator, or permittee must adjust the minimum closure costs provided in clauses (A) and (B) for inflation, as described in 329 IAC 10-39-2(c)(1).

(6) For new MSWLFs and major modifications, the closure cost estimate must include a ten percent (10%) contingency cost on the total closure cost of the MSWLF.
(7) If the owner, operator, or permittee of an MSWLF utilizes the incremental closure standard, as contained in 329 IAC 10-39-2(b)(3)(B), then for each yearly period following the beginning of operation of the MSWLF, the closure plan must do the following:
(A) Specify the maximum area of the MSWLF into which municipal solid waste will have been deposited through that year of the MSWLF's life.
(B) Delineate the areas on the copy of the facility's final contour map.
(C) List closure cost estimates for each year of the anticipated life of the facility equal to the costs specified by subdivisions (5) and (6).
(8) An estimate of the yearly maintenance costs for a dike or dikes required under 329 IAC 10-16-2.
(9) An estimate of the installation costs for a landfill gas control system must be submitted, if the facility has:
(A) complied with 329 IAC 10-20-25(b); or
(B) obtained a waiver under 329 IAC 10-22-6(c).
(10) A construction quality assurance and construction quality control plan for the construction and installation of the final cover system as required by this rule.
(11) A description of the final cover, designed in accordance with this rule, and the methods and procedures to be used to install the cover.
(12) An estimate of the largest area of the MSWLF ever requiring a final cover as required under this rule at any time during the active life.
(13) If property is used to fulfill or reduce the cost of closure funding, the property must not be sold, relinquished, or used for any other purpose. If the property is proposed to be sold, relinquished, or used for any other purpose, the owner, operator, or permittee shall complete the following requirements:
(A) The closure plan must be:
(i) updated under this section; and
(ii) submitted to the commissioner.
(B) The closure financial responsibility must be:
(i) updated under 329 IAC 10-39; and
(ii) submitted to the commissioner.
(C) The owner, operator, or permittee shall receive approval from the commissioner for the requirements under clauses (A) and (B) before selling, relinquishing, or using the property for any other purpose.

*(Solid Waste Management Board; 329 IAC 10-22-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1882; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3859; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1855, eff Apr 1, 2004; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA)*

**329 IAC 10-22-3 Partial closure certification**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 3. (a) The owner, operator, or permittee of an MSWLF may submit partial closure certification for portions of the MSWLF that have received final cover and are graded and have established vegetation in accordance with the applicable provisions of this rule, 329 IAC 10-20, and the approved closure plan prior to closure of the MSWLF.

(b) The owner, operator, or permittee of an MSWLF shall submit to the commissioner a certification signed by the owner, operator, or permittee and an independent registered professional engineer that specifically identifies the closed areas and that specifies that the partial closure has been accomplished in accordance with the approved closure plan and this article. Certification of partial closure must not be made for an area until the final cover has been completely provided for that area and vegetation has been established.

(c) The partial closure certification will be deemed adequate unless, within ninety (90) days of receipt of the partial closure certification, the commissioner issues a notice of deficiency of closure, including action necessary to correct the deficiency.

(d) A partial closure for leachate generation rate, as specified in 329 IAC 10-23-3(c)(5)(B), may be granted if the owner,

operator, or permittee of an MSWLF provides actual leachate generation rate data of an area for at least a two (2) year duration after final cover is installed and certified.

(e) Fifteen (15) days prior to initiation of partial closure of a certain area, the owner, operator, or permittee of an MSWLF shall notify the commissioner in writing that they will be constructing a final cover. *(Solid Waste Management Board; 329 IAC 10-22-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1883; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2813; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3860; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1856, eff Apr 1, 2004)*

**329 IAC 10-22-4 Initiation of final closure**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 4. (a) Within fifteen (15) days after the last receipt of waste, the owner, operator, or permittee of an MSWLF shall notify the commissioner in writing that the MSWLF has stopped accepting waste and final closure has commenced on all areas not certified as partially closed. Final closure must be in accordance with the approved closure plan.

(b) The owner, operator, or permittee shall complete other closure activities in accordance with the approved closure plan. *(Solid Waste Management Board; 329 IAC 10-22-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1883; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2813; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3860)*

**329 IAC 10-22-5 Completion of closure and final cover**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 5. (a) The owner, operator, or permittee of an MSWLF shall complete closure activities and complete application of final cover within one hundred eighty (180) days on any area in the MSWLF as approved in the closure plan that:

(1) has received the area's final waste volume; or

(2) is filled to the area's final approved waste elevation.

(b) Upon application for an extension by the owner, operator, or permittee, a one (1) time extension of the closure period may be granted by the commissioner if the owner, operator, or permittee demonstrates that closure will, by necessity, take longer than one hundred eighty (180) days and the owner, operator, or permittee has taken and will continue to take all steps to prevent threats to human health or the environment. The extension of the closure period must not be longer than three hundred sixty-five (365) days immediately following the one hundred eighty (180) days of the original closure period. *(Solid Waste Management Board; 329 IAC 10-22-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1883; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2813; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3860; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1856, eff Apr 1, 2004)*

**329 IAC 10-22-6 Final cover requirements for new MSWLF units or existing MSWLF units that have a composite bottom liner and a leachate collection system**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) The owner, operator, or permittee of an MSWLF containing new MSWLF units or existing MSWLF units that have a composite bottom liner system and a leachate collection system shall install a final cover system as defined in subsection (b) within one hundred eighty (180) days on any area in the MSWLF units as approved in the closure plan that:

(1) has received the final waste volume; or

(2) is filled to the approved final waste elevation;

or as approved under section 5(b) of this rule.

(b) Final cover systems for new MSWLF units or existing MSWLF units that have a composite bottom liner system must consist of the following, starting from the top of the municipal solid waste mass (waste placement) to the top of the final cover system:

(1) A methane gas venting layer must be installed directly over the waste. This layer must consist of twelve (12) inches of drainage layer material that has a hydraulic conductivity of $1 \times 10^{-3}$ centimeters per second or more. Geosynthetic material (geotextile, geonet, both, or other material as approved by the commissioner) may be substituted for drainage layer material in the gas venting layer if equivalent or better performance is demonstrated. The owner, operator, or permittee must demonstrate that transmissivity and permitivity provide for the anticipated gas discharge quantity.

(2) A soil barrier layer must be installed over the methane gas venting layer. The soil barrier must consist of a lower component of twelve (12) inches of structural fill and an upper component of twelve (12) inches of compacted earthen material with a hydraulic conductivity of $1 \times 10^{-6}$ centimeters per second or less. The upper component must be soil of Unified Soil Classification ML, CL, MH, CH, or OH. Other suitable material approved by the commissioner may be used if it provides an adequate level of protection to human health and the environment. Grain size, Atterberg limits, and hydraulic conductivity tests as approved by the commissioner must be performed to confirm the quality of the final cover.

(3) A minimum thirty (30) mil geomembrane top liner must be installed directly in contact with the upper portion of the soil barrier layer. If the geomembrane is composed of high density polyethylene (HDPE), then it must be at least sixty (60) mil thick. The commissioner may require an increase in the thickness of the geomembrane if it is determined that increased thickness is necessary to prevent failure under stresses caused by construction equipment and waste settlement during the post-closure care period.

(4) A drainage layer must be installed over the geomembrane liner. The drainage layer must consist of twelve (12) inches of material that has a hydraulic conductivity of $1 \times 10^{-3}$ centimeters per second or more. If geosynthetic materials are used as a drainage layer, the effective transmissivity must be equivalent to twelve (12) inches of drainage layer with a hydraulic conductivity of $1 \times 10^{-3}$ centimeters per second or more.

(5) A top protective soil layer must overlay the drainage layer. This layer must consist of at least eighteen (18) inches of earthen material. If geosynthetic materials are used as a drainage layer, at a minimum, thirty (30) inches of earthen material must be placed on top of the geosynthetic materials. The protective soil layer material must be designed to not clog the drainage layer.

(6) A vegetative layer must overlay the top protective layer. This layer must consist of at least six (6) inches of earthen material capable of sustaining vegetation. In any case, a total thickness of earthen material over the geomembrane top liner must not be less than thirty-six (36) inches.

(7) The maximum projected erosion rate of the final cover must be no more than five (5) tons per acre per year.

(8) The final cover must have a slope no less than four percent (4%) or two and twenty-nine hundredths (2.29) degrees and no greater than thirty-three percent (33%) or eighteen and twenty-six hundredths (18.26) degrees.

(c) The requirement in subsection (b)(1) may be waived by the commissioner if the following apply:

(1) The MSWLF has a permitted active gas recovery and extraction system in place.

(2) The permitted active gas extraction system at the MSWLF extracts or recovers at least sixty percent (60%) of the total volume of landfill gas produced or generated by the MSWLF.

*(Solid Waste Management Board; 329 IAC 10-22-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1883; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3861; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1856, eff Apr 1, 2004)*

**329 IAC 10-22-7 Final cover requirements for existing MSWLF units constructed without a composite bottom liner**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 7. (a) The owner, operator, or permittee of an MSWLF containing existing MSWLF units constructed without a composite bottom liner shall install a final cover system as appropriate to subsection (b) or (c) within one hundred eighty (180) days on any area in the MSWLF units as approved in the closure plan that:

(1) has received the final waste volume; or

(2) is filled to the approved final waste elevation;

or as approved under section 5(b) of this rule.

(b) Unless otherwise approved by the commissioner based on a final cover system providing equivalent environmental protection, final cover systems for existing MSWLF units constructed with a soil bottom liner and a leachate collection system that were permitted under 329 IAC 2, which was repealed in 1996, and closing after January 1, 1998, must consist of the following:

(1) On slopes equal to or less than fifteen percent (15%) or eight and fifty-three hundredths (8.53) degrees, the final cover must be constructed as follows:

(A) A twenty-four (24) inch barrier layer of soil of the Unified Soil Classification ML, CL, MH, CH, or OH directly over the waste. Other suitable material approved by the commissioner may be used if it provides an adequate level of protection to human health and the environment. The soil must be compacted to achieve a hydraulic conductivity equal to $1 \times 10^{-7}$ centimeters per second or less. Grain size, Atterberg limits, and hydraulic conductivity tests as approved by the commissioner or as required by this article must be performed to confirm the quality of the final cover.

(B) A vegetative layer must overlay the top protective layer. This layer must consist of at least six (6) inches of earthen material capable of sustaining vegetation.

(2) On slopes greater than fifteen percent (15%) or eight and fifty-three hundredths (8.53) degrees, the final cover must be constructed as follows:

(A) A twenty-four (24) inch barrier layer of soil of the Unified Soil Classification ML, CL, MH, CH, or OH directly over the waste. Other suitable material approved by the commissioner may be used if it provides an adequate level of protection to human health and the environment. The soil must be compacted to achieve a hydraulic conductivity equal to $1 \times 10^{-6}$ centimeters per second or less. Grain size, Atterberg limits, and hydraulic conductivity tests as approved by the commissioner or as required by this article must be performed to confirm the quality of the final cover.

(B) A vegetative layer consisting of at least six (6) inches of earthen material capable of sustaining vegetation must overlay the barrier layer.

(C) An increase in the thickness of the layers required in this subdivision may be required by the facility permit or the commissioner.

(3) The maximum projected erosion rate of the final cover must be no more than five (5) tons per acre per year.

(4) The final cover must have a slope:

(A) no less than four percent (4%) or two and twenty-nine hundredths (2.29) degrees; and

(B) no greater than thirty-three percent (33%) or eighteen and twenty-six hundredths (18.26) degrees.

(c) Unless otherwise approved by the commissioner based on a final cover system providing equivalent environmental protection, final cover systems for existing MSWLF units constructed without a soil bottom liner or a leachate collection system that were permitted under 329 IAC 1.5, which was repealed in 1989, or 329 IAC 2, which was repealed in 1996, and closing after January 1, 1998, must consist of the following:

(1) On slopes equal to or less than fifteen percent (15%) or eight and fifty-three hundredths (8.53) degrees, the final cover not including benches, swales, and drainage features, must be constructed as specified in section 6(b)(1) through 6(b)(7) of this rule.

(2) On slopes greater than fifteen percent (15%) or eight and fifty-three hundredths (8.53) degrees, the final cover must be constructed as specified in subsection (b)(2).

(3) The maximum projected erosion rate of the final cover must be no more than five (5) tons per acre per year.

(4) The final cover must have a slope:

(A) not less than four percent (4%) or two and twenty-nine hundredths (2.29) degrees; and

(B) not greater than thirty-three percent (33%) or eighteen and twenty-six hundredths (18.26) degrees.

*(Solid Waste Management Board; 329 IAC 10-22-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1884; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2813; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3861; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1857, eff Apr 1, 2004)*

**329 IAC 10-22-8 Final closure certification**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 8. (a) Following closure of an MSWLF unit at an MSWLF, the owner, operator, or permittee shall submit to the commissioner a certification signed by the owner, operator, or permittee and an independent registered professional engineer that the partial closure involving an MSWLF unit or final closure of the entire MSWLF has been completed in accordance with the approved closure plan. Certification of closure must not be made for an area until the final cover has been completed and vegetation has been established.

(b) Following final closure of all MSWLF units at an MSWLF, the owner, operator, or permittee shall record with the county land recording authority, a notation on the deed to the MSWLF property, or some other instrument normally examined during title search, and notify the commissioner in writing that the notation has been recorded. The notation on the deed must in perpetuity notify any potential purchaser of the property that the land has been used as a MSWLF. At a minimum, the recording must contain the following:

(1) The general types and location of waste.

(2) The depth of fill.

(3) A plot plan, with surface contours at intervals of two (2) feet, which must indicate:

(A) surface water run-off directions;

(B) surface water diversion structures after completion of the operation; and

(C) final grade contours.

(4) A statement that no construction, installation of ground water monitoring wells, pipes, conduits, or septic systems, or any other excavation will be done on the property without approval of the commissioner.

(c) The final closure certification will be deemed adequate unless within ninety (90) days of receipt of the final closure certification the commissioner issues a notice of deficiency of closure, including action necessary to correct the deficiency. *(Solid Waste Management Board; 329 IAC 10-22-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1885; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2814; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3862; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1858, eff Apr 1, 2004)*

**329 IAC 10-22-9 Areas of MSWLFs closing prior to the effective date of this rule**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 9. Areas of MSWLFs that are certified partially closed on or before the effective date of this article must be closed in accordance with the approved closure plan and the applicable law in effect at the time of partial closure. The partial closure certification must be submitted to the commissioner on or before the effective date of this article. *(Solid Waste Management Board; 329 IAC 10-22-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1885; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2815; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3863)*

**329 IAC 10-22-10 Additional final cover requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. Any final cover required by this rule must be constructed and tested according to all the applicable construction quality control and construction quality assurance (CQC/CQA) requirements in 329 IAC 10-15-7 and 329 IAC 10-17. *(Solid Waste Management Board; 329 IAC 10-22-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1886)*

## Rule 23. Municipal Solid Waste Landfills; Post-Closure Requirements

**329 IAC 10-23-1 Performance standard**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. The owner, operator, or permittee of an MSWLF shall maintain the MSWLFs during the post-closure period in a manner that:

(1) minimizes the need for further maintenance;

(2) controls post-closure release of waste, waste constituents, leachate, contaminated run-off, or waste decomposition products to the ground or surface waters or the atmosphere; and

(3) at a minimum, is in compliance with applicable closure provisions and post-closure conditions imposed in the MSWLF

permit.

*(Solid Waste Management Board; 329 IAC 10-23-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1886; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3863)*

**329 IAC 10-23-2 Post-closure duties**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 2. (a) The owner, operator, or permittee of an MSWLF has the following duties after closure:

(1) Post-closure activities must be performed in accordance with the approved post-closure plan as specified in section 3 of this rule.

(2) Inspection of the MSWLF at least twice per year with a written report on the condition of the MSWLF to be submitted to the commissioner.

(3) Maintenance of the integrity of the geomembrane cap, if applicable, and the minimum thickness of final cover and vegetation as required by 329 IAC 10-20 and 329 IAC 10-22 or as approved by the commissioner.

(4) Maintenance of the final contours of the MSWLF in accordance with the applicable standards of 329 IAC 10-20 and 329 IAC 10-22 and, at a minimum, to provide that no ponding of water occurs on filled areas.

(5) Control of any vegetation on vehicular access ways to monitoring wells as required by 329 IAC 10-20-2(d).

(6) Control of vegetation at the MSWLF as necessary to enable determination of the need for slope and cover maintenance and leachate outbreak abatement.

(7) Maintenance of access control and benchmarks at the MSWLF.

(8) Maintenance and monitoring of the dike or dikes required under 329 IAC 10-16-2.

(9) If ownership of the land or MSWLF changes at any time during the post-closure period, the new owner must have a written agreement with the past owner which states the new owner will monitor and maintain the dike or dikes required by 329 IAC 10-16-2 during the subsequent post-closure period.

(10) Maintenance and monitoring of leachate collection and treatment systems and methane control systems.

(11) Control of any leachate or gas generated at the MSWLF as required by 329 IAC 10-20.

(12) Erosion and sediment control measures must be instituted to comply with 329 IAC 10-20-12.

(13) An MSWLF that closes:

(A) prior to the effective date required by 40 CFR 258 for the MSWLF units' ground water monitoring, must continue to monitor ground water as required by the rules in force at the time the facility entered into post-closure;

(B) on or after the effective date required by 40 CFR 258 for the MSWLF units' ground water monitoring, must monitor ground water after April 13, 1996, as required by 329 IAC 10-21; or

(C) under any other article is required to follow the:

(i) post-closure plan as required by the rules in force at the time the MSWLF entered into post-closure; or

(ii) rules in force at the time the MSWLF entered into post-closure if the rules in force do not require a post-closure plan.

(14) In addition to the corrective action program required by the rules under which the facility closed, the commissioner may require performance of corrective action measures within 329 IAC 10-21-13 if the MSWLF:

(A) closed prior to April 13, 1996;

(B) is monitoring ground water in accordance with the rules in force at the time the MSWLF entered into post-closure; and

(C) finds a corrective action program is applicable under the rules in force at the time the MSWLF entered post-closure.

(b) Post-closure requirements imposed by this section must be followed for a period of thirty (30) years after the following applicable date:

(1) If the final closure certification is deemed adequate, the date the final closure certification is received by the commissioner in accordance with 329 IAC 10-22-8(a).

(2) If the final closure certification is deemed inadequate, the date the commissioner approves any actions necessary to correct items listed in a notice of deficiency of closure certification under 329 IAC 10-22-8(c).

(c) The length of the post-closure care period may be increased by the commissioner if the commissioner determines that the

lengthened period is necessary to protect human health and the environment. The standards to determine an increased post-closure care period include, but are not limited to:

(1) stability of final cover;
(2) maintenance problems with an MSWLF certified as closed;
(3) evidence of ground water contamination;
(4) quantity of gas produced and managed; or
(5) reliability of ground water monitoring well system.

*(Solid Waste Management Board; 329 IAC 10-23-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1886; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2815; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3863; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1859, eff Apr 1, 2004)*

**329 IAC 10-23-3 Post-closure plan**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 3. (a) The owner, operator, or permittee of an MSWLF shall have a written post-closure plan. The post-closure plan must be as follows:

(1) Submitted with the permit application in accordance with 329 IAC 10-11.
(2) Approved by the commissioner.

The approved post-closure plan must become a condition of the permit. If the permit expires or is revoked, the post-closure plan remains effective and enforceable during the post-closure period. If the plan is determined to be unacceptable, the commissioner shall identify the items needed to make it complete.

(b) The owner, operator, or permittee of existing MSWLFs shall revise and submit post-closure plans meeting the requirements of this rule within six (6) months after April 13, 1996, or the anniversary date of the approved post-closure plan, whichever is earlier.

(c) The post-closure plan must identify the activities that will be carried on after closure under section 2 of this rule and must include at least the following:

(1) A description of the planned:
(A) ground water monitoring activities; and
(B) maintenance activities;
and the frequency at which they will be performed.

(2) A description of the planned uses of the property during the post-closure period. Post-closure use of the property must not disturb the:
(A) integrity of the final cover, liner, or any other component of the containment system; or
(B) function of the monitoring system;
unless necessary to comply with this article. The commissioner may approve other disturbances if the owner, operator, or permittee demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(3) The name, address, and telephone number of the owner, operator, or permittee with responsibility for maintaining the site after closure whom the commissioner may contact about the MSWLF during the post-closure period.

(4) A post-closure cost estimate in accordance with 329 IAC 10-39. Post-closure costs must be calculated based on the cost necessary for the work to be performed by a third party for thirty (30) years of the post-closure period and must include the following:
(A) For post-closure maintenance of final cover and vegetation, the amount per acre must be ten percent (10%) of the cost calculated under 329 IAC 10-22-2(c)(5) multiplied by the total acreage of the site permitted for filling.
(B) At a minimum, the amount of funds necessary for leachate treatment and disposal must be based on the following gallons per acre per day over the thirty (30) year post-closure period:

| Year | Gallons Per Acre Per Day (GPAD) |
|---|---|
| 1–5 | 150 |
| 6–10 | 80 |

| | |
|---|---|
| 11–15 | 50 |
| 16–20 | 30 |
| 21–25 | 20 |
| 26–30 | 10 |

The commissioner may increase or decrease this amount of funding if it is determined that, based on a site-specific basis, more or less funds are necessary. A partial closure for leachate generation rate, based on the rates described in this clause, may be granted if the owner, operator, or permittee of an MSWLF provides actual leachate generation rate data of an area for at least a two (2) years duration after final cover is installed and certified.

(C) At a minimum, the amount of funds necessary to provide for post-closure activities must include funds for the following:

(i) Ground water monitoring and well maintenance, including piezometers when applicable.

(ii) Methane monitoring and maintenance.

(iii) Landfill gas emissions extraction system operation and maintenance.

(iv) Maintenance of the following:

(AA) The drainage and erosion control system.

(BB) The leachate collection system.

(CC) Access control.

(v) Control of vegetation.

(vi) Maintenance of the dike or dikes if required under 329 IAC 10-16-2.

(5) The post-closure cost estimate must include a twenty-five percent (25%) contingency cost based on total post-closure cost.

(6) If the property is used to fulfill or reduce the cost of post-closure funding, the property must not be sold, relinquished, or used for any other purpose. If the property is proposed to be sold, relinquished, or used for any other purpose, the owner, operator, or permittee shall complete the following requirements:

(A) The post-closure plan must be:

(i) updated under this section; and

(ii) submitted to the commissioner.

(B) The post-closure financial responsibility must be:

(i) updated under 329 IAC 10-39; and

(ii) submitted to the commissioner.

(C) The owner, operator, or permittee shall receive approval from the commissioner for the requirements under clauses (A) and (B) before selling, relinquishing, or using the property for any other purpose.

(d) Proposed changes to the approved post-closure plans may be submitted to the commissioner during the post-closure period. The commissioner shall provide notification that the modification is not acceptable within sixty (60) days of receiving the modification request. If the owner or operator does not receive notification from the commissioner within sixty (60) days, the post-closure plan modifications may be installed in accordance with documentation provided to the commissioner. *(Solid Waste Management Board; 329 IAC 10-23-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1887; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2816; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3864; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1859, eff Apr 1, 2004; filed Apr 26, 2007, 9:41 a.m.: 20070523-IR-329050296FRA)*

**329 IAC 10-23-4 Post-closure certification**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. When the post-closure care requirements of this rule have been completed, the owner, operator, or permittee shall submit a certification statement signed by the owner, operator, or permittee and an independent registered professional engineer that the post-closure care requirements have been met and the MSWLF has stabilized. The post-closure certification will be deemed adequate, unless within ninety (90) days of receipt of the post-closure certification and subsequent review, the commissioner issues notice of the deficiency of post-closure, including actions necessary to correct the deficiency. *(Solid Waste Management Board; 329 IAC 10-23-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1887; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3865; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1861, eff Apr 1, 2004)*

**329 IAC 10-23-5 Responsibility after post-closure to correct nuisance**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. Subsequent to the completion of post-closure, the owner, operator, or permittee of a closed MSWLF or the owner of real estate upon which a closed MSWLF is located, shall be responsible for correcting and controlling any nuisance conditions occurring at the MSWLF. *(Solid Waste Management Board; 329 IAC 10-23-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1888; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3865)*

**329 IAC 10-23-6 Elimination of threats to human health or the environment after post-closure**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. Subsequent to the completion of post-closure, the owner, operator, or permittee of a closed MSWLF or the owner of real estate upon which a closed MSWLF is located, shall be responsible for eliminating any threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-23-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1888; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3865)*

**329 IAC 10-23-7 Remedial action**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-25-4-7; IC 36-9-30

Sec. 7. The commissioner may proceed under IC 13-25-4, and rules adopted under IC 13-25-4-7, which require the owner, operator, or permittee of a closed MSWLF or the owner of real property upon which a closed MSWLF is located, or any other responsible party under IC 13-25-4, to perform remedial action, including the installation and monitoring of ground water monitoring wells or other devices, if the commissioner determines that the closed MSWLF is a threat to human health or the environment, due to a release of a hazardous substance from the facility into the environment. *(Solid Waste Management Board; 329 IAC 10-23-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1888; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2816; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3865)*

## Rule 24. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Additional Application Requirements to 329 IAC 10-11

**329 IAC 10-24-1 General**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. An application for a restricted waste site Type I or Type II or nonmunicipal solid waste landfill permit must be accompanied by the plans or documents specified in this rule, including the following:
(1) Design drawings and specifications certified by a registered professional engineer.
(2) Properly titled design drawings.
*(Solid Waste Management Board; 329 IAC 10-24-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1888; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-24-2 Plot plans and cross-sectional drawings**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) An application for restricted waste site Type I or Type II or nonmunicipal solid waste landfill must be accompanied by plot plans using:

(1) a scale of at least one (1) inch equals one hundred (100) feet for a site of less than eighty (80) acres; or

(2) a scale of at least one (1) inch equals two hundred (200) feet for a facility of eighty (80) acres or more.

A bar scale must be shown on plans in order to properly indicate the scale if size changes occur. All plot plans must include the facility boundaries and indicate each of the required features set forth in this section within three hundred (300) feet of the facility boundaries. All facility plan elevations must correlate with United States Geological Survey (USGS) mean sea level data.

(b) An application for restricted waste site Type I or Type II or nonmunicipal solid waste landfill must be accompanied by the following plot plans and cross sections:

(1) A plot plan that indicates the following:

(A) Locations and elevations of all existing and proposed on-site boring locations.

(B) Rock outcroppings.

(C) Surface water run-off direction.

(D) Fences.

(E) Utility easements and rights-of-way.

(F) Present land surface contours at intervals of no more than five (5) feet.

(G) Proposed location of scales required by 329 IAC 10-14-2.

(2) A plot plan that indicates the fill boundaries and proposed final contours of the site at intervals of no more than two (2) feet.

(3) A plot plan, with surface contours at intervals of no more than five (5) feet, which indicates initial facility development. Compliance with this plan is a preoperational requirement under 329 IAC 10-27-2. Benchmarks, as required by 329 IAC 10-27-2, must be shown with a description and elevation provided.

(4) A plot plan, with surface contours at intervals of no more than five (5) feet, which indicates the following:

(A) Land surface water diversion structures.

(B) Berms.

(C) Vegetation or fences for visual screening.

(D) Sedimentation control structures and erosion control structures.

(E) Protective barriers.

(F) Leachate collection and methane control systems if proposed.

(G) Existing and proposed structures.

(H) The precise location of the solid waste boundary.

(I) Methods of operation.

(J) Direction and order that the operation and development will proceed.

(K) Depth of excavation.

(L) Length and width of trenches if proposed.

(M) Depth of lifts and size of working face.

(N) Areas of the site to be used only for acquisition of cover soil.

(5) Geological cross-sectional drawings of the proposed facility showing the following:

(A) The types of soil materials or rock strata, as identified by boring logs, from the ground surface to the required boring depth.

(B) Depth of proposed fill.

(C) Fill boundaries.

(D) Present topography, including mean sea level elevations.

All boring logs must be shown on cross sections. A minimum of two (2) intersecting cross sections must be submitted.

(6) Cross-sectional drawings of proposed on-site all-weather roads.

(7) Cross-sectional drawings of proposed sedimentation control structures and erosion control structures, including, but not limited to, berms, dikes, and ditches.

(8) Cross-sectional drawings of proposed protective barriers, leachate collection, or methane control systems, if applicable.

*(Solid Waste Management Board; 329 IAC 10-24-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1888; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-24-3 Soils, ground water, geology information; certified**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. An application for restricted waste site Type I or Type II or nonmunicipal solid waste landfill must be accompanied by the following information on soils, ground water, and geology, and be certified by a registered professional engineer or certified professional geologist, either of whom shall have education or professional experience in hydrogeology or ground water hydrology:

(1) The number and location of soil borings completed at the site must be indicated as follows:

(A) There must be at least one (1) boring for every five (5) acres of fill area up to one hundred (100) acres and one (1) boring for every ten (10) acres of fill area beyond one hundred (100) acres, with a minimum of five (5) borings at any site. The borings must be evenly distributed over the site.

(B) Borings must be completed to a depth necessary to indicate compliance with the design standards of 329 IAC 10-26, with a minimum depth of twenty (20) feet below the depth of waste placement or to bedrock, whichever is shallower.

(C) At least one (1) of the required borings in clause (A) for sites less than ten (10) acres and at least two (2) borings for sites greater than ten (10) acres must be completed to a depth of at least seventy (70) feet below the depth of waste placement, or at least twenty (20) feet into the bedrock, whichever is shallower. The deep borings, where two (2) are required, must be evenly distributed over the site.

(D) Additional borings, meeting other requirements, may be required to delineate the boundaries of any features pertinent to the site design.

(E) The commissioner may vary the minimum requirements where alternate testing provides comparable information.

(F) The commissioner may require prior notification of the date and time of soil borings.

(2) Boring logs must include the following:

(A) The date of drilling.

(B) The method of drilling.

(C) The method of backfilling and sealing of the borehole.

(D) Textural classification.

(E) The descriptions for:

(i) the entire depth of the boring;

(ii) the depths to and thickness of any water bearing zones; and

(iii) the static water levels immediately following the boring.

The mean sea level surface elevation at each boring must be recorded and submitted with the boring log. The textural classification system utilized must be identified. The commissioner may establish guidance on the recommended sample descriptions to be utilized.

(3) The following testing requirements must apply to the minimum number of borings required under subdivision (1):

(A) Split spoon samples of the unconsolidated material must be taken at an interval of one (1) per two and five-tenths (2.5) feet unless the commissioner otherwise authorizes, based on uniformity of geologic conditions at the site.

(B) For at least three (3) evenly distributed borings, including one (1) of the deep borings required under subdivision (1), split spoon samples of the unconsolidated material must be taken on a continuous basis.

(C) For the deep borings required under subdivision (1), continuous core samples must be taken of any bedrock encountered.

(D) A complete grain size analysis, including Atterberg limits, must be performed on a representative sample from each significant stratum encountered. A significant stratum must be defined as a soil layer with a minimum thickness of eighteen (18) inches which, based on appearance (color and texture), can be visually distinguished from other layers. More than one (1) stratum may be represented by a single grain size analysis and Atterberg limits test where alternating strata of approximately identical color and texture are encountered. At least one (1) grain size analysis and Atterberg limits test must be performed for each of the required minimum number of borings.

(E) Hydraulic conductivity tests must be conducted on each of the required minimum number of borings at a depth of approximately five (5) feet below the proposed base of waste placement.

(F) Cation exchange capacity (CEC) and additional hydraulic conductivity tests must be conducted as necessary to characterize the major strata proposed for use as base and sidewall barriers or cover material.

(G) Hydraulic conductivity sampling must occur by a combination of in situ field tests and laboratory permeability tests on undisturbed Shelby tube samples. CEC must be determined according to the ammonium saturation method specified in Part 2 of "Methods of Soil Analysis" published by the American Society of Agronomy in 1965.

(H) Other tests may be required by the commissioner to further evaluate soil suitability. The commissioner may vary the preceding minimum requirements where alternate testing methods provide comparable information.

(I) All testing and sampling procedures must be identified, and all results must be identified with respect to boring and depth.

(4) Boring samples must be collected and maintained until the solid waste land disposal facility permit is issued, or until any litigation with regard to the proposed permit is resolved, whichever is later.

(5) Borings completed for the purpose of satisfying this section may be converted to piezometers or cased holes to comply with the requirements of section 4 of this rule.

*(Solid Waste Management Board; 329 IAC 10-24-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1889; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-24-4 Hydrogeologic study**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) An application for restricted waste site Type I or Type II or nonmunicipal solid waste landfill must be accompanied by a proposal for the installation of monitoring devices, upgradient and downgradient from the landfill with respect to ground water flow direction. The proposal must consist of a hydrogeologic study that provides the information specified in subsection (b). The commissioner may modify the requirements for the proposal dependent on site characteristics. The proposal must be certified by a registered professional engineer or licensed professional geologist, either of whom shall have education or professional experience in hydrogeology or hydrology.

(b) The proposal must provide the following information by means of maps, diagrams, and narrative:

(1) Summary of regional and site-specific geologic information obtained from recent or previous soil borings, coal borings, area ground water monitoring well logs, and published reports.

(2) Water table and potentiometric surface maps of the proposed site, including ground water flow directions as follows:

(A) Such maps must be prepared from data from cased holes or piezometers capable of measuring hydraulic head at a maximum screen interval of five (5) feet. This limitation on the maximum length of the screened interval must not apply to those piezometers used to determine a water table surface. At least:

(i) three (3) such devices must be necessary for fill areas less than twenty (20) acres;

(ii) four (4) such devices for fill areas between twenty (20) and fifty (50) acres;

(iii) five (5) such devices for fill areas between fifty (50) and ninety (90) acres; and

(iv) six (6) such devices for fill areas greater than ninety (90) acres.

The required devices must be evenly distributed over the site. In addition, vertical hydraulic gradients must be measured, at a minimum, of two (2) separate points at the site. Additional nested piezometers or ground water monitoring wells may be required by the commissioner to adequately determine vertical components. When more than one (1) aquifer is present within the specified boring depths required in section 3(1)(C) of this rule, individual water table and potentiometric maps may be required.

(B) Monthly water level measurements over a period of at least six (6) months, along with water table and potentiometric surface maps constructed from each measurement event, must be submitted to the commissioner prior to operation of the facility.

(C) The proposal must discuss the evidence and potential of significant components of vertical ground water flow. If there are significant components of vertical flow, cross-sectional representations of equipotential lines and ground water flow direction must be provided that adequately represent the flow beneath the site.

(3) Identification of aquifers below the proposed site to the depth required by section 3(1)(C) of this rule, including the following information:

(A) Aquifer thickness or thicknesses.

(B) Lithology.

(C) Estimated hydraulic conductivity and effective porosity.
(D) Presence of low permeability units above or below.
(E) Whether the aquifers are confined or unconfined.

In addition, a general identification and description must be provided for aquifers known to exist from the geologic literature and area ground water monitoring well logs.

(4) Known or projected information on hydraulic connections of ground water to surface water and hydraulic connections between different aquifers at site.

(5) Information on the current and proposed use of ground water in the area, including any available information on existing quality of ground water in the aquifer or aquifers.

(6) Diagrammatic representation of proposed ground water monitoring well design and construction, including any available information on existing quality of ground water in the aquifer or aquifers.

(7) Proposed ground water monitoring well locations, including length and elevation of screened intervals.

(c) The commissioner may require that pumping tests or similar hydraulic tests be performed to provide a more accurate determination of aquifer characteristics where necessary to determine the adequacy of site or monitoring system design. *(Solid Waste Management Board; 329 IAC 10-24-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1890; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1861, eff Apr 1, 2004; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-24-5 Descriptive narrative; restricted waste sites Type I and Type II**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. An application for restricted waste site Type I or Type II must be accompanied by a narrative describing the proposed facility and include the following:

(1) Anticipated quantity, types, and sources of solid waste to be deposited.

(2) The equipment to be used for placement and compaction of all solid waste, excavation of soil, moving of stockpiled soils, and application of cover soil.

(3) Procedures to control fugitive dust.

(4) Sanitary facilities if employees are at the site full time.

(5) A statement as to the existence of and a description of any wells within six hundred (600) feet of the proposed fill area.

(6) A description of the access control at the site.

(7) A description of the safety equipment to be used at the site.

(8) The distance from the site to the nearest dwelling.

(9) A description of the location, amount, and depth of excavation that will occur at the site.

(10) A description of the supervision that will occur at the site.

(11) A description of the base flood at the site and whether the site is in the floodway.

(12) Proposed hours of operation.

(13) The names and addresses of all adjoining land owners.

(14) Development and progression of the solid waste land disposal facility as illustrated in the design and operational plan.

(15) Calculations of quantities of cover soil available and quantities of necessary cover soil. If cover material is obtained from a location other than the proposed facility, its source, quantity, and characteristics must be identified and approved by the commissioner.

(16) Winter and inclement weather operating procedures, including the method of obtaining and applying cover soil.

(17) If protective barriers, leachate, or methane control measures are proposed, describe or identify the following:
(A) Source and type of material utilized.
(B) Method and specifications of construction.
(C) Testing procedures for conformance with construction specifications.
(D) Storage, treatment, and disposal processes.
(E) Any calculations necessary to indicate that the proposed design complies with this article.

(18) Sampling methodology for all proposed monitoring devices.

(19) Testing method for all samples to be taken.
(20) A description of the proposed sign or signs at the site.
*(Solid Waste Management Board; 329 IAC 10-24-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1891; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-24-6 Descriptive narrative; nonmunicipal solid waste landfills**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. An application for a nonmunicipal solid waste landfill must be accompanied by a narrative describing the proposed facility, which must include the following:
(1) Anticipated quantity, types, and sources of solid waste to be deposited.
(2) The equipment to be used for placement and compaction of all solid waste, excavation of soil, moving of stockpiled soils, and application of cover soil.
(3) Procedures to control fugitive dust.
(4) Sanitary facilities if employees are at the site full time.
(5) A statement as to the existence of and a description of any wells within six hundred (600) feet of the proposed fill area.
(6) A description of the access control at the site.
(7) A description of the safety equipment to be used at the site.
(8) The distance from the site to the nearest dwelling.
(9) A description of the location, amount, and depth of excavation that will occur at the site.
(10) A description of the supervision that will occur at the site.
(11) A description of the base flood at the site and whether the site is in the floodway.
(12) Proposed hours of operation.
(13) The names and addresses of all adjoining land owners.
(14) Development and progression of the solid waste land disposal facility as illustrated in the design and operational plan.
(15) Calculations of quantities of cover soil available and quantities of necessary cover soil. If cover material is obtained from a location other than the proposed facility, its source, quantity, and characteristics must be identified and approved by the commissioner.
(16) Winter and inclement weather operating procedures, including the method of obtaining and applying cover soil.
(17) If protective barriers, leachate, or methane control measures are proposed, describe or identify the following:
(A) Source and type of material utilized.
(B) Method and specifications of construction.
(C) Testing procedures for conformance with construction specifications.
(D) Storage, treatment, and disposal processes.
(E) Any calculations necessary to indicate that the proposed design complies with this article.
(18) Sampling methodology for all proposed monitoring devices.
(19) Testing method for all samples to be taken.
(20) A description of the proposed sign or signs at the site.
(21) Procedures for the disposal of bulky solid waste, such as:
(A) refrigerators;
(B) stoves;
(C) tree trunks;
(D) tires;
(E) fence wire; and
(F) other similar items.
The disposal of all items specified in this subdivision must be in accordance with state and federal regulations.
(22) Procedures for controlling or handling windblown materials.
(23) Procedures to be used to prevent and extinguish fires.
(24) Details of salvage operations, if planned, indicating how the salvage operation must comply with 329 IAC 10-28.

(25) Personnel and equipment facilities.

*(Solid Waste Management Board; 329 IAC 10-24-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1891; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 25. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Location Restrictions

### 329 IAC 10-25-1 Solid waste boundary limits; restricted waste sites Type I and Type II

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. On and after the effective date of this article, the solid waste boundary of new restricted waste sites Type I and Type II and the additional areas beyond that which has been previously approved for existing restricted waste sites Type I and Type II must be prohibited from the following areas:

(1) Wetlands in violation of Section 404 of the Clean Water Act as amended February 4, 1987.

(2) The critical habitat of an endangered species as defined by 50 CFR 17.

(3) Floodways of drainage areas greater than one (1) square mile, without the approval of the department of natural resources, and floodways without provisions to prevent washout of the waste.

(4) Within areas of karst topography, without provisions to collect and contain all of the leachate generated, and without a demonstration that the integrity of the landfill will not be damaged by subsidence.

(5) Over mines unless it is demonstrated that the integrity of the landfill will not be damaged by subsidence.

(6) Within six hundred (600) feet of a potable water well, in use as a water supply for a dwelling or dwellings on the date of public notice for zoning approval for the permitted activity or the date of public notice by the commissioner of the permit application, whichever occurs first, unless written consent is obtained from the owner of the well.

(7) Within six hundred (600) feet of any dwelling, in existence on the date of public notice for zoning approval for the permitted activity or the date of public notice by the commissioner of the permit application, whichever occurs first, unless written consent has been obtained from the occupant and the owner of the dwelling.

(8) Within one hundred (100) feet of the normal water line of any lake, reservoir, or continuously flowing stream.

(9) Within the floodplain unless the waste is protected from floodwater inundation by a dike with a top elevation not less than three (3) feet above the base flood elevation.

(10) Within fifty (50) feet of the real property boundaries of the facility.

*(Solid Waste Management Board; 329 IAC 10-25-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1892; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-25-2 Solid waste boundary limits; nonmunicipal solid waste landfills

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. On and after the effective date of this article, the solid waste boundary of new nonmunicipal solid waste landfills and the additional areas beyond that which has been previously approved for existing nonmunicipal solid waste landfills must be prohibited from the following areas:

(1) Wetlands in violation of Section 404 of the Clean Water Act as amended February 4, 1987.

(2) The critical habitat of an endangered species as defined by 50 CFR 17.

(3) Floodways of drainage areas greater than one (1) square mile, without the approval of the department of natural resources and floodways without provisions to prevent washout of the waste.

(4) Within areas of karst topography, without provisions to collect and contain all of the leachate generated, and without a demonstration that the integrity of the landfill will not be damaged by subsidence.

(5) Over mines, unless it is demonstrated that the integrity of the landfill will not be damaged by subsidence.

(6) Within six hundred (600) feet of a potable water well, in use as a water supply for a dwelling or dwellings on the date of public notice for zoning approval for the permitted activity or the date of public notice by the commissioner of the permit

application, whichever occurs first, unless written consent is obtained from the owner of the well.

(7) Within six hundred (600) feet of any dwelling, in existence on the date of public notice for zoning approval for the permitted activity or the date of public notice by the commissioner of the permit application, whichever occurs first, unless written consent has been obtained from the occupant and the owner of the dwelling.

(8) Within one hundred (100) feet of the normal water line of any lake, reservoir, or continuously flowing stream.

(9) Within the floodplain unless the waste is protected from floodwater inundation by a dike with a top elevation not less than three (3) feet above the base flood elevation.

(10) Within one hundred (100) feet of the real property boundaries of the facility.

(11) Within one thousand two hundred (1,200) feet of any public water supply well, in use as such on the date of public notice for zoning approval for the permitted activity or the date of public notice by the commissioner of the permit application, whichever occurs first, unless written consent is obtained from the owner of the well.

*(Solid Waste Management Board; 329 IAC 10-25-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1892; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 26. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Liner System Design Standards and Height Increases

### 329 IAC 10-26-1 Design standards; restricted waste sites Type I and Type II

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) On and after the effective date of this article, for new restricted waste sites Type I and Type II or any increased height and horizontal expansions of the fill area beyond that which had been approved previously, a barrier must be placed between the solid waste and an aquifer. The barrier must consist of the following:

(1) Soil, whether undisturbed, constructed, or a combination thereof, with an equivalent hydraulic conductivity through the barrier of less than or equal to $1 \times 10^{-6}$ centimeters per second.

(2) A minimum thickness consisting of the following:

(A) For Type I sites, fifteen (15) feet or ten (10) feet if the waste is demonstrated to have an equivalent hydraulic conductivity through the barrier of less than $1 \times 10^{-6}$ centimeters per second. A greater thickness may be required where necessary to protect human health and the environment.

(B) For Type II sites, a range between five (5) feet and ten (10) feet depending upon the permeability of the waste.

(b) Barrier thickness as specified in subsection (a) may be increased due to cation exchange capacities less than ten (10) milliequivalents per one hundred (100) grams or decreased due to lack of ground water resources in the area or alternate technology such as synthetic liners and leachate collection. *(Solid Waste Management Board; 329 IAC 10-26-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1892; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-26-2 Design standards; nonmunicipal solid waste landfills

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. On and after the effective date of this article, the fill area of new nonmunicipal solid waste landfills and horizontal expansions of the fill area to areas beyond that which previously have been approved for existing facilities, the following must be required:

(1) The following are requirements for nonmunicipal solid waste landfills, except for the alternative provisions of subdivision (2):

(A) Have a leachate collection system with the following specifications:

(i) A drainage layer overlying the entire base of the proposed fill area, with a minimum thickness of one (1) foot and a minimum hydraulic conductivity of not less than $1 \times 10^{-3}$ centimeters per second.

(ii) The base of the drainage layer must have a minimum slope of two percent (2%) toward the leachate collection lines.
(iii) The upper three (3) feet of material beneath the drainage layer and piping must be recompacted to achieve an equivalent hydraulic conductivity of not more than $1 \times 10^{-7}$ centimeters per second.
(iv) The system must be designed to limit the leachate level above the base of the landfill to a maximum of one (1) foot under the conditions that would be present after the final cover has been placed at the landfill.
(v) A piping system with a minimum slope of five-tenths percent (0.5%) and a minimum diameter of six (6) inches.
(vi) A maximum length of leachate collection lines that must not exceed the capabilities of available clean-out devices.
(vii) The design submitted for the leachate collection system must adequately address the following:
(AA) Prevention of crushing and clogging of the leachate collection system.
(BB) Protection of the liner and the leachate collection system from damage due to uplift from hydrostatic forces.
(CC) Phasing of construction and inspection procedures to provide for waste disposal capacity during periods of inclement weather.
(DD) Prevention of damage to the system due to freeze/thaw and wet/dry cycles.
(EE) Storage of collected leachate on-site prior to disposal in a manner adequate to prevent leachate releases to the environment.
(viii) Prior to the placement of waste in an area, a report must be submitted to the commissioner by a registered professional engineer, certifying that the leachate collection system in that area has been constructed according to the approved plans. The report must indicate the boundaries of the area being certified and must include the results of testing conducted.
(B) Place a barrier immediately beneath the base of the leachate collection system drainage layer and piping of at least ten (10) feet of material with an equivalent hydraulic conductivity of not more than $1 \times 10^{-6}$ centimeters per second.
(C) The system may be designed with a different minimum slope than specified in clause (A)(ii) and may be operated at a different leachate level than specified in clause (A)(iv) if it is demonstrated that a comparable level of leachate migration control is provided.
(2) This subdivision establishes alternative provisions for nonmunicipal solid waste landfills. The requirements of subdivision (1) need not be met if the proposed site meets the following criteria:
(A) Existence of a minimum fifty (50) foot barrier of material having an equivalent hydraulic conductivity no greater than $1 \times 10^{-6}$ centimeters per second between any locally useful aquifer and the solid waste.
(B) Demonstration that the ground water standard specified in 329 IAC 10-29 must not be exceeded in any locally useful aquifer or surface waters, except on-site retention ponds, without leachate collection. Consideration must be given to the following:
(i) Concentration and total amount of contaminants generated.
(ii) Specific geologic characteristics of the site, including secondary porosity features occurring in soil or rock, and cation exchange.
(iii) Ground water flow direction and predicted mechanisms of contaminant attenuation.
(C) Notwithstanding clauses (A) through (B), other alternative technologies for the design of a nonmunicipal solid waste landfill may be considered by the commissioner provided the alternative is demonstrated to provide at least the equivalent protection to human health and the environment as the standard in subdivision (1).

*(Solid Waste Management Board; 329 IAC 10-26-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1893; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-26-3 Height increases for existing nonmunicipal solid waste landfills; limits**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. On and after the effective date of this article, the increased height beyond that which has previously been approved for

existing nonmunicipal solid waste landfills must meet the following requirements:

(1) Be separated from any locally useful aquifer by material that:

(A) has an equivalent hydraulic conductivity through the barrier of less than or equal to $1 \times 10^{-6}$ centimeters per second; and

(B) provides a cation exchange capacity (CEC) of at least two thousand three hundred (2,300) milliequivalents per square foot for recompacted soil or two thousand eight hundred (2,800) milliequivalents for natural soil for every vertical foot of solid waste in the site.

(2) For aquifers that are not locally useful beneath a site, the required CEC may be decreased by one-half (½) from that specified in subdivision (1).

(3) To the extent that a leachate collection system is designed and will be operated to remove a fraction of the leachate from a site, the barrier thickness calculated under subdivision (1) or (2) may be reduced in proportion to that fraction, except as provided in subdivision (5).

(4) In cases where an aquifer will exist horizontally adjacent to waste deposition, the required barrier thickness may be decreased from that specified in subdivisions (1) through (2) or subdivision (3) depending upon the projected leachate migration through the barrier.

(5) Notwithstanding any of the calculations in subdivisions (1) through (3) or subdivision (4), a minimum subsurface barrier adjacent to the waste or leachate collection system must be soil with an equivalent hydraulic conductivity through the barrier of less than or equal to $1 \times 10^{-6}$ centimeters per second and a thickness of ten (10) feet over locally useful aquifers and five (5) feet in all other cases.

*(Solid Waste Management Board; 329 IAC 10-26-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1894; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 27. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Operation Approval and Preoperational Requirements

### 329 IAC 10-27-1 Operation approval

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) A newly constructed restricted waste site Type I or Type II or nonmunicipal solid waste landfill that holds a valid permit under this article must not accept solid waste until it has complied with the applicable preoperational requirements of this rule.

(b) The owner or operator of the restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall notify the commissioner in writing when all the preoperational requirements have been completed. Unless the commissioner denies operational approval within twenty-one (21) days of receipt of such notice, the facility may begin to accept solid waste in accordance with its permit and 329 IAC 10-28. *(Solid Waste Management Board; 329 IAC 10-27-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1895; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-27-2 Preoperational requirements

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. Before beginning operation, owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall be required to do the following:

(1) Establish a series of identifiable boundary markers that will delineate the approved facility boundaries and solid waste boundaries for the life of the facility.

(2) Complete initial site development and construction in accordance with the initial facility development plan required in 329 IAC 10-24 and complete other preoperational requirements imposed as conditions to the facility permit.

(3) Establish permanent, on-site benchmark or benchmarks with vertical, mean sea level elevation, and horizontal control so that no portion of the proposed fill area is further than one thousand (1,000) feet from a benchmark. However, distances greater

than the specified one thousand (1,000) feet may be allowed where necessary to avoid the placement of benchmarks on filled areas.

(4) Install any required ground water monitoring devices in accordance with 329 IAC 10-29.

*(Solid Waste Management Board; 329 IAC 10-27-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1895; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 28. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Operational Requirements

### 329 IAC 10-28-1 Access control

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must be accessible by means of established roadways only.

(b) Solid waste must be deposited at the solid waste land disposal facility only when operating personnel are on duty. Containers may be placed outside the facility entrance so that solid waste may be deposited after hours. Restricted waste sites Type I and Type II that dispose of waste on-site where the waste is generated or off-site at a location that is owned and operated by the generator for its exclusive use are exempt from this subsection. *(Solid Waste Management Board; 329 IAC 10-28-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1895; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-28-2 On-site roads

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) On-site roads that provide access to disposal areas must be passable to vehicles utilizing these areas.

(b) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall construct and maintain on-site roads in such a way as to minimize the tracking of mud or soil material from the facility onto public highways or provide and maintain equipment to remove any such mud or soil material that is tracked onto the public highways.

(c) Access to monitoring wells for vehicles driven by department representatives must be provided. Such areas must be passable. Gravel or other materials must be provided as needed to provide trafficability. Vegetation must be controlled on the access way and around the wells. *(Solid Waste Management Board; 329 IAC 10-28-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1895; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-28-3 Signs

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) For all restricted waste sites Type I and Type II and nonmunicipal solid waste landfills, except facilities disposing of waste generated on-site, a sign of at least sixteen (16) square feet must be erected at each facility entrance. The sign must identify the following:

(1) The facility name.
(2) The operating schedule.
(3) The type of facility.
(4) The solid waste facility permit number.

(b) For nonmunicipal solid waste landfills, traffic signs or other devices, as needed, must be provided to promote an orderly traffic pattern to and from the solid waste discharge area. *(Solid Waste Management Board; 329 IAC 10-28-3; filed Mar 14, 1996,*

*5:00 p.m.: 19 IR 1895; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-4 Sanitation**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 15-2.1-16; IC 36-9-30

Sec. 4. (a) Cattle, hogs, poultry, or other livestock are prohibited from any filled area that has not received final cover and vegetation.

(b) Vectors, dust, and odors must be controlled by effective means so that they do not constitute or contribute to a nuisance or a health hazard.

(c) Windblown materials and litter must be collected and buried daily. Windblown materials must be controlled by effective means so that they do not constitute or contribute to a nuisance.

(d) Disposal of dead animals must be accomplished in accordance with IC 15-2.1-16.

(e) Containers that have been placed outside the facility entrance for the disposal of solid waste after hours must be emptied at a frequency that will minimize odors and control vectors, but in no event, less than once in every twenty-four (24) hours. Areas around the containers must be maintained in a sanitary and litter-free condition. *(Solid Waste Management Board; 329 IAC 10-28-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-5 Scavenging**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. Scavenging is prohibited. *(Solid Waste Management Board; 329 IAC 10-28-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-6 Salvaging**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) Salvaging on-site at a restricted waste site Type I or Type II or nonmunicipal solid waste landfill must be done only under the supervision of the owner or operator and must not interfere with the facility operations.

(b) Salvaged materials must be stored in buildings or transportable containers while awaiting removal from the facility. Alternative methods of storing salvaged materials must have prior approval from the commissioner. Approval may be granted at the request of the owner or operator if the owner or operator can demonstrate that the alternative method will provide a comparable level of environmental protection. *(Solid Waste Management Board; 329 IAC 10-28-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-7 Safety requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. (a) Safety devices, including roll bars and fire extinguishers, must be provided on all rolling equipment.

(b) A first aid kit must be available on-site for nonmunicipal solid waste landfills.

(c) A telephone or radio communication system must be provided on-site for nonmunicipal solid waste landfills.

(d) A nonmunicipal solid waste landfill that operates within ten thousand (10,000) feet (three thousand forty-eight (3,048) meters) of any airport runway used by turbojet aircraft or within five thousand (5,000) feet (one thousand five hundred twenty-four

(1,524) meters) of any airport runway used by only piston-type aircraft must not pose a bird hazard to aircraft. *(Solid Waste Management Board; 329 IAC 10-28-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-8 Records and reports**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 24-6; IC 36-9-30

Sec. 8. (a) Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must maintain on-site an up-to-date copy of the plans and specifications approved by the commissioner in granting the permit.

(b) Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must maintain on-site a plot plan of the solid waste land disposal facility. The plot plan must be updated quarterly. The plot plan must describe the following:

(1) Areas of excavation.
(2) Areas of current filling.
(3) Areas under intermediate cover.
(4) Filled areas lacking final cover.
(5) Finished areas with final cover contoured and seeded.

(c) The following must be furnished upon request and be made available during normal operating hours for inspection, by any officer, employee, or representative of the department:

(1) All solid waste land disposal facility records, reports, and plans required by this section.
(2) The current waste classification documentation required under 329 IAC 10-9-4 or 329 IAC 10-9-5.

*(Solid Waste Management Board; 329 IAC 10-28-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-9 Open burning**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 9. Open burning of solid waste is prohibited at restricted waste sites Type I and Type II and nonmunicipal solid waste landfills. Burning of solid waste must take place only in an incinerator permitted under 329 IAC 11 and operating in compliance with all applicable air pollution control requirements. *(Solid Waste Management Board; 329 IAC 10-28-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1896; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-10 Diversion of surface water**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. (a) Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must not deposit solid waste in standing or ponded water except for that water resulting from precipitation directly upon the working face.

(b) Nonmunicipal solid waste landfills must divert surface water from the active fill area and must minimize surface water contact with solid waste or interference with the daily operation.

(c) Nonmunicipal solid waste landfills must provide and maintain sedimentation control systems and erosion control systems wherever necessary to minimize erosion and sedimentation of surface waters. Any permanent surface water diversion structures must be able to accommodate the twenty-five (25) year precipitation event. *(Solid Waste Management Board; 329 IAC 10-28-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1897; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-11 Cover; general provisions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 11. (a) Cover for restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must be soil of Unified Soil Classification ML, CL, MH, CH, or OH, or other suitable material approved by the commissioner to provide an adequate level of environmental protection.

(b) Cover must be applied and maintained at restricted waste sites Type I and Type II and nonmunicipal solid waste landfills in accordance with the applicable requirements of this rule and 329 IAC 10-30-2 or 329 IAC 10-30-3. Other provisions for cover may be approved by the commissioner if it can be demonstrated that an alternate cover or site design will provide an adequate level of environmental protection. *(Solid Waste Management Board; 329 IAC 10-28-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1897; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-12 Cover; restricted waste sites Type I and Type II and nonmunicipal solid waste landfills**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 12. (a) Restricted waste site Type I and nonmunicipal solid waste landfills must complete the following:

(1) Limit the size of the working face to an area that can be covered daily.

(2) Apply and compact no less than six (6) inches of cover over all exposed solid waste:

(A) by the end of each operating day, regardless of weather conditions;

(B) in the case of a facility that is open continuously, at least once in every twenty-four (24) hour period; or

(C) as specified in the permit.

(3) Apply and compact intermediate cover of not less than one (1) foot over any point in the fill that has not received solid waste for ninety (90) days or more.

(b) Restricted waste site Type II must apply and compact no less than six (6) inches of cover over all exposed solid waste regardless of weather conditions:

(1) monthly; or

(2) annually;

if the solid waste can be demonstrated to the satisfaction of the commissioner to have an in-place permeability of less than $1 \times 10^{-6}$ centimeters per second. *(Solid Waste Management Board; 329 IAC 10-28-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1897; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-13 Dispersal control**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 13. (a) Notwithstanding the cover requirements of this rule and 329 IAC 10-30-3 for restricted waste site Type II, if the facility operation is found to be in violation of fugitive dust regulations of the air pollution control board or if the commissioner documents evidence of visible waste deposits carried by wind or surface water beyond the site property boundary, restricted waste site Type II must complete the following:

(1) Apply daily cover.

(2) Submit a plan to control dispersal.

(b) Application of daily cover must continue until a dispersal control plan is approved by the commissioner. *(Solid Waste Management Board; 329 IAC 10-28-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1897; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-14 Grading and soil stabilization**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 14. (a) Cover material applied as required in sections 11 through 13 of this rule and 329 IAC 10-30-2 or 329 IAC 10-30-3 must be continuously maintained, including application and compaction of additional cover as needed to maintain required depth.

(b) A grass or ground cover crop must be established and maintained continuously as soon as weather permits and seasonal conditions are suitable, on any portion of the restricted waste site Type I or Type II or nonmunicipal solid waste landfill that has received final cover, except where other provisions for land use have been approved by the commissioner.

(c) Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must be graded to promote surface water drainage and to prevent the ponding of water on previously filled areas.

(d) Vegetation must be cleared only as necessary. *(Solid Waste Management Board; 329 IAC 10-28-14; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1897; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-15 Surface leachate control**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 15. (a) Any leachate on the surface of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must be immediately managed or controlled to prevent off-site migration.

(b) Any surface movement of leachate past a point fifty (50) feet outside of the solid waste boundary is prohibited except as specified in the facility permit. *(Solid Waste Management Board; 329 IAC 10-28-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-16 Leachate disposal**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 16. Any discharge or disposal of collected leachate must be in accordance with applicable local, state, and federal laws and rules. *(Solid Waste Management Board; 329 IAC 10-28-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-17 Ground water monitoring wells**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 17. Restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must have ground water monitoring devices in accordance with 329 IAC 10-29. *(Solid Waste Management Board; 329 IAC 10-28-17; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-18 Waste deposit and compaction**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 18. (a) Nonmunicipal solid waste landfills must spread and compact solid waste at the working face in shallow layers not exceeding two (2) feet in thickness.

(b) Compaction must:

(1) occur on a sloped working face; and

(2) be accomplished with repeated passes of appropriate equipment.

(c) Neither the slope of the working face nor intermediate slopes of compacted material must exceed 3:1, run over rise. *(Solid Waste Management Board; 329 IAC 10-28-18; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-19 Explosive gases**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 19. (a) Nonmunicipal solid waste landfills must ensure that:

(1) the concentration of methane generated by the facility does not exceed twenty-five percent (25%) of the lower explosive limit for the gases in facility structures, excluding gas control or recovery system components; and

(2) the concentration of methane gas does not exceed the lower explosive limit for the gases at the facility property boundary.

(b) Nonmunicipal solid waste landfills must implement a methane monitoring program approved by the commissioner to ensure that the standards in subsection (a) are met. The type and frequency of monitoring must be determined based on soil conditions, hydrogeologic conditions, and the location of structures and property boundaries.

(c) If methane gas levels exceed the limits in subsection (a), the permittee must:

(1) within twenty-four (24) hours notify the commissioner; and

(2) immediately implement all necessary steps to ensure protection of human health.

*(Solid Waste Management Board; 329 IAC 10-28-19; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-20 Leachate collection**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 20. Leachate collection systems must be operated in such a manner as to comply with the design standards and plans specified in 329 IAC 10-26-2(1)(A) and 329 IAC 10-26-1(b) if applicable. *(Solid Waste Management Board; 329 IAC 10-28-20; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1898; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-21 Facility responsibility for special waste disposal (Repealed)**

Sec. 21. *(Repealed by Solid Waste Management Board; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3980)*

**329 IAC 10-28-22 Prohibition on accepting municipal waste by a nonmunicipal solid waste landfill**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 22. (a) Prior to accepting a shipment of municipal waste from a transfer station located inside or outside of Indiana, a nonmunicipal solid waste landfill must receive a copy of the manifest and must review the manifest to determine whether the items listed under 329 IAC 11-15-3 are included on the manifest.

(b) A nonmunicipal solid waste landfill must not knowingly accept a shipment of municipal waste from a transfer station

located inside or outside of Indiana if:

(1) the municipal waste is not accompanied by a manifest that contains the information required under 329 IAC 11-15-3; or

(2) the nonmunicipal solid waste landfill has received notice from the department that the commissioner has issued an order under IC 13-20-6-3 *[IC 13-20-6-3 was repealed by P.L.154-2005, SECTION 17, effective July 1, 2005.]* or IC 13-20-6-4 that suspends the waste transfer activities within Indiana of the transfer station or operator that is listed on the manifest accompanying the shipment of municipal waste.

(c) Subsection (b)(2) does not apply unless the department has sent a notice by certified mail, return receipt requested, to the nonmunicipal solid waste landfill that the commissioner has suspended the waste transfer activities of the transfer station or operator listed on the manifest. The notice must contain the following:

(1) The name of the operator or transfer station subject to the commissioner's order to suspend waste transfer activities.

(2) The date on which the waste transfer activities are suspended under the commissioner's order.

(3) The acknowledgement number issued to the operator under IC 13-20-6 if applicable.

(4) The location of the transfer station if the order applies to a transfer station.

(d) Subsection (b)(2) does not apply after the department has notified a suspended transfer station or operator that they may resume waste transfer activities in Indiana. The notice to the formerly suspended transfer station or operator must contain the date in which waste transfer activities may resume. A copy of this notice must be sent by the department, via certified mail, return receipt requested, to each nonmunicipal solid waste landfill that was sent the applicable notice under subsection (c). *(Solid Waste Management Board; 329 IAC 10-28-22; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1899; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-23 Violations**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 23. (a) A nonmunicipal solid waste landfill that knowingly accepts a shipment of municipal waste in contravention to section 22(b) of this rule violates this rule.

(b) Acceptance of a shipment of municipal waste is not a violation of this rule if:

(1) the nonmunicipal solid waste landfill did not receive a notice under section 22(c) of this rule that the department has suspended the waste transfer activities of a transfer station or operator listed on the manifest; or

(2) the nonmunicipal solid waste landfill did not receive a notice under section 22(d) of this rule that the department has allowed the waste transfer activities of a transfer station or operator listed on the manifest to resume.

*(Solid Waste Management Board; 329 IAC 10-28-23; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1899; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-28-24 Definitions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-11-2-133; IC 13-11-2-148; IC 13-11-2-254; IC 13-19-3-3; IC 13-22; IC 13-30-2; IC 16-41-16-4; IC 36-1-2-23; IC 36-9-30

Sec. 24. As used in sections 22 and 23 of this rule, the following definitions apply:

(1) "Manifest" means the form used for identifying the quantity, origin, operators involved in a shipment, and the destination of municipal waste during its transportation.

(2) "Municipal waste", as defined in IC 13-11-2-133, means any garbage, refuse, industrial lunchroom or office waste, and other similar material resulting from the operation of residential, municipal, commercial, or institutional establishments, and community activities. The term does not include the following:

(A) Hazardous waste regulated under:

(i) IC 13-22-1 through IC 13-22-8 and IC 13-22-13 through IC 13-22-14; or

(ii) the federal Solid Waste Disposal Act, 42 U.S.C. 6901 et seq., as in effect on January 1, 1990.

(B) Infectious waste as defined in IC 16-41-16-4.

(C) Wastes that result from the combustion of coal and that are referred to in IC 13-19-3-3.
(D) Materials that are being transported to a facility for reprocessing or reuse.
(E) As used in this subdivision, "reprocessing or reuse" does not include either of the following:
(i) Incineration.
(ii) Placement in a landfill.
(3) "Operator", as defined in IC 13-11-2-148(c), means a corporation, a limited liability company, a partnership, a business association, a unit, or an individual who is a sole proprietor that is one (1) of the following:
(A) A broker.
(B) A person who manages the activities of a transfer station that receives municipal waste.
(C) A transporter.
(4) "Waste transfer activities", as defined in IC 13-11-2-254, means the participation by a:
(A) broker or transporter who is:
(i) a resident of Indiana; or
(ii) not a resident of Indiana; or
(B) transfer station that receives municipal waste located:
(i) inside Indiana; or
(ii) outside Indiana;
in the collection or transportation of municipal waste for disposal or incineration in Indiana.
*(Solid Waste Management Board; 329 IAC 10-28-24; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1899; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3969; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 29. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Ground Water Monitoring and Corrective Action

### 329 IAC 10-29-1 Monitoring devices

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) All new restricted waste sites Type I and Type II and nonmunicipal solid waste landfills must have ground water monitoring devices. All existing nonmunicipal solid waste landfills in operation on the effective date of 329 IAC 2, which was repealed in 1996, that do not have ground water monitoring devices must install such devices on or before September 1, 1989.
(b) The number and location of monitoring devices are as follows:
(1) The following for new facilities:
(A) The ground water monitoring system must consist of a sufficient number of monitoring devices, installed at appropriate locations and depths, to yield ground water samples from the aquifer or aquifers that represent the quality of both background water that has not been affected by leachate from a facility and the quality of ground water passing the monitoring boundary of the facility. If the aquifer to be monitored exceeds the depth specified in 329 IAC 10-24-3(1)(C), the commissioner may allow alternative placement of monitoring devices.
(B) The number, spacing, and depths of monitoring devices must be proposed by the applicant in the site-specific geological study required under 329 IAC 10-24.
(C) A minimum of four (4) ground water monitoring devices, one (1) upgradient and three (3) downgradient, must be installed.
(2) For existing facilities under subsection (a), as follows:
(A) A minimum of four (4) ground water monitoring devices, one (1) upgradient and three (3) downgradient, must be installed at facilities that do not have an existing ground water monitoring system that meets the requirements of the commissioner.
(B) Locations and installation of monitoring devices must be in accordance with a plan submitted to and approved by the commissioner.
(c) The commissioner may request notification in advance of the date and time of the installation of the monitoring devices.

(d) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall prepare and submit to the commissioner at least annually a ground water flow map or maps as necessary to indicate seasonal ground water. If data acquired during operation of the facility indicates that ground water flow directions are other than as anticipated in the ground water monitoring system design, the commissioner may require additional ground water monitoring wells at the facility.

(e) If for any reason a ground water monitoring well or other monitoring device is destroyed or otherwise fails to properly function, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall notify the commissioner within ten (10) days of discovery. The device must be repaired if possible. If the device cannot be repaired, it must be properly abandoned and replaced within sixty (60) days of the notification unless the owner or operator is notified otherwise in writing by the commissioner.

(f) As used in this rule, "monitoring devices" includes the following:

(1) Ground water monitoring wells.

(2) Suction lysimeters.

(3) Moisture probes.

(4) Similar monitoring devices.

(g) As used in this rule, "monitoring boundary of the facility" means the vertical plane provided by the monitoring devices hydraulically downgradient from the facility. The downgradient monitoring devices that constitute the monitoring boundary of the facility must be located within fifty (50) feet of the solid waste boundary or the property line, whichever is closer to the solid waste boundary, except where fifty (50) feet is not possible because of site topography or geology. In the case of existing facilities that have ground water monitoring devices approved by the commissioner prior to April 13, 1996, those approved devices must define the monitoring boundary of the facility. *(Solid Waste Management Board; 329 IAC 10-29-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1900; errata filed Apr 4, 1996, 4:00 p.m.: 19 IR 2047; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1862, eff Apr 1, 2004; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-2 Sampling procedures**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall develop and follow a written ground water monitoring plan. The ground water monitoring plan must include consistent sampling and analysis procedures to assure that monitoring results will provide a reliable indication of ground water quality in the zone being monitored. The plan must describe procedures and techniques utilized to comply with subsections (b) through (e). A copy of the ground water monitoring plan must be kept on-site.

(b) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall utilize procedures and techniques to ensure that collected samples are representative of the zone being monitored and that cross-contamination of samples from other monitoring devices or from other samples is prevented.

(c) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall establish a quality assurance program that provides quantitative detection limits and the degree of error for analysis of each chemical constituent.

(d) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall establish a sample preservation and shipment procedure that maintains the reliability of the sample collected for analysis.

(e) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall institute a chain of custody procedure to prevent tampering and contamination of the collected samples prior to completion of analysis.

(f) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall take water level measurements and sample monitoring devices for the monitoring parameters specified in section 6(b) of this rule or the constituents specified in section 7 of this rule on a semiannual basis as specified by the commissioner.

(g) The results of all water elevation measurements and sampling, including copies of original laboratory certified copies of analyses, must be reported to the commissioner within sixty (60) days of sampling.

(h) The following background quality at existing units may be based on sampling of devices that are not upgradient from the waste management area where:

(1) Hydrogeologic conditions do not allow the permittee to determine what devices are upgradient.

(2) Sampling at other devices will provide an indication of background ground water quality that is as representative or more

representative than that provided by the upgradient devices.
*(Solid Waste Management Board; 329 IAC 10-29-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1901; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-3 Duration of monitoring program**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. Once established at a restricted waste site Type I or Type II or nonmunicipal solid waste landfill, ground water monitoring must be conducted throughout the active life and the post-closure care period of the facility as provided under 329 IAC 10-31. *(Solid Waste Management Board; 329 IAC 10-29-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1901; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-4 Preoperational conditions relating to ground water monitoring**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) Unless the commissioner denies operational approval under 329 IAC 10-27-1, any newly constructed restricted waste site Type I or Type II or nonmunicipal solid waste landfill holding a valid permit under this article may begin accepting solid waste twenty-one (21) days after it has notified the commissioner in writing that the following have been accomplished:

(1) Installation of any required water quality monitoring devices.

(2) Submission to the commissioner of a plot plan indicating location, mean sea level elevation, and numbering system of all water quality monitoring devices.

(3) Submission to the commissioner of a copy of well logs, including construction details.

(4) Submission to the commissioner of results of the first round of water level measurements and water sampling analyses to determine background water quality in accordance with the monitoring parameters in section 6(b) or 6(c) of this rule, the secondary standards in section 7(c) of this rule, and the constituents in section 10 of this rule. A minimum of four (4) samples taken from each upgradient monitoring device, one (1) every three (3) months for a one (1) year period, must be used to determine initial background water quality.

(b) All existing solid waste land disposal facilities required to have ground water monitoring must comply with the requirement of subsection (a)(4) upon institution of their ground water monitoring program under this rule and with submission of their first regular sampling under section 2(f) of this rule. *(Solid Waste Management Board; 329 IAC 10-29-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1901; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-5 Determining increases over background**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall determine whether there is a statistically significant increase over background values for each constituent required in the particular ground water monitoring program that applies to the facility. The owner or operator shall make these statistical determinations each time the owner or operator monitors ground water quality at the monitoring boundary as follows:

(1) In determining whether a statistically significant increase has occurred, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall compare the ground water quality at each monitoring device at the monitoring boundary for each constituent to the background value for that constituent according to the statistical procedures specified under subdivision (3).

(2) The owner or operator shall determine whether there has been a statistically significant increase at each monitoring device

at the monitoring boundary within sixty (60) days after completion of sampling.

(3) The most scientifically valid of the following statistical procedures that will provide a ninety-five percent (95%) level of confidence must be utilized when determining if a change in the concentration of a constituent has occurred or if ground water quality standards have been exceeded:

(A) Mann-Whitney U-test.

(B) Student's T-test.

(C) Temporal or spatial trend analysis.

(D) Any other valid statistical analysis that is appropriate for the distribution of the data being considered and that provides a reasonable balance between the probability of falsely identifying a significant difference and the probability of failing to identify a significant difference.

*(Solid Waste Management Board; 329 IAC 10-29-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1902; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-6 Phase I monitoring program**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) Phase I monitoring is required at all restricted waste sites Type I and Type II and nonmunicipal solid waste landfills except as otherwise provided in sections 7 and 9 of this rule.

(b) A Phase I monitoring program for nonmunicipal solid waste landfills must include the following monitoring parameters:

(1) Field pH.

(2) Specific conductance.

(3) Chloride.

(4) Boron.

(5) Ammonia.

(6) Sodium.

(7) Chemical oxygen demand.

(8) Total phenolics.

(9) Methylene chloride.

(10) 1,1-dichloroethane.

(11) Toluene.

(12) Benzene.

(13) 1,2-dichloroethene, total.

(14) Ethyl benzene.

(15) 2-butanone, methyl ethyl ketone.

(c) Appropriate monitoring parameters for restricted waste sites Type I and Type II must be determined by the commissioner based on the constituents of the waste permitted to be accepted at the site.

(d) If the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill determines, under section 5 of this rule, that there is a statistically significant increase over background for two (2) or more of the parameters under subsection (b) or (c) at any monitoring device at the monitoring boundary, the owner or operator shall do the following:

(1) Notify the commissioner within fourteen (14) days of this finding. The notification must indicate what Phase I parameters have shown statistically significant increases over background levels.

(2) Within sixty (60) days:

(A) sample the ground water in all monitoring devices;

(B) determine the concentration of all constituents identified in section 7(b) through 7(c) of this rule or section 7(d) of this rule; and

(C) report the results to the commissioner.

(3) Within a reasonable time period, to be established by the commissioner, establish a Phase II detection monitoring program meeting the requirements of section 7 of this rule.

*(Solid Waste Management Board; 329 IAC 10-29-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1902; readopted filed Jan 10, 2001, 3:25*

*p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-7 Phase II monitoring program**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. (a) Phase II monitoring is required whenever statistically significant increases over background have been detected between background and downgradient monitoring devices for two (2) or more of the Phase I parameters under section 6 of this rule, and must continue until sampling results over a one (1) year period do not show a statistically significant increase in the constituents to be monitored under subsection (b) or (d).

(b) A Phase II monitoring program for nonmunicipal solid waste landfills must include the constituents that comprise the ground water protection standard set out in section 10(a) of this rule.

(c) The Phase II monitoring program for nonmunicipal solid waste landfills must also include monitoring of the following secondary standards:

(1) Chloride.
(2) Copper.
(3) Iron.
(4) Manganese.
(5) Sulfate.
(6) Total dissolved solids.
(7) Zinc.

(d) Appropriate monitoring constituents for restricted waste sites Type I and Type II must be determined by the commissioner based on the constituents of the waste permitted to be accepted at the site.

(e) If the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill determines, under section 5 of this rule, that there is a statistically significant increase for constituents specified in subsection (b) or (d) at any monitoring device at the monitoring boundary, the owner or operator shall do the following:

(1) Notify the commissioner of this finding in writing within fourteen (14) days. The notification must indicate what constituents have shown statistically significant increases over background levels.
(2) Within one hundred eighty (180) days, submit to the commissioner a plan for a corrective action program designed to meet the requirements of section 9 of this rule unless none of the increases over background of constituents identified under this subsection results in an exceedance of the ground water protection standard under section 10 of this rule.

(f) If the permittee determines that the level of concentration of any of the secondary standards at any monitoring device at the monitoring boundary has reached or exceeded the greater of two (2) times the background level or two (2) times the secondary maximum contaminant level established by 40 CFR 143.3, the permittee shall notify the commissioner of this finding within fourteen (14) days, specifying the secondary standards that have reached this level. *(Solid Waste Management Board; 329 IAC 10-29-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1903; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-8 Increase not attributable to landfill**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 8. If the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill determines, under section 6(d), 7(e), or 7(f) of this rule, that there is a statistically significant increase of the specified constituents at any monitoring device at the solid waste boundary, the owner or operator may demonstrate that a source other than the solid waste facility caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. The owner or operator may make a demonstration under this section in lieu of submitting the information under section 6(d)(2), 7(e)(2), or 7(f) of this rule, only if the demonstration made under this section successfully shows that a source other than the solid waste facility caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this section, the owner or

operator shall do the following:

(1) Notify the commissioner in writing, within seven (7) days of determining a statistically significant increase at the monitoring boundary, that the owner or operator intends to make a demonstration under this section.

(2) Within ninety (90) days, submit a report to the commissioner demonstrating that a source other than the solid waste facility caused the increase or that the increase resulted from error in sampling, analysis, or evaluation.

(3) Continue to monitor in accordance with the Phase I monitoring program established under section 6 of this rule or the Phase II monitoring program established under section 7 of this rule as appropriate.

*(Solid Waste Management Board; 329 IAC 10-29-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1903; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-9 Corrective action program**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 9. (a) A corrective action program is required whenever the ground water protection standard under section 10 of this rule is exceeded, and may be required at the discretion of the commissioner if any of the secondary standards under section 7(c) of this rule exceed the levels specified in section 7(f) of this rule.

(b) A corrective action monitoring program must comply with the Phase II monitoring requirements under section 7 of this rule. Additional monitoring must be implemented as determined by the commissioner to be necessary to the following:

(1) Determine the areal extent of any plume of contamination for each constituent under section 10 of this rule that has been measured at concentrations that exceed background levels.

(2) Demonstrate the effectiveness of the corrective action program.

This additional monitoring may include a requirement that the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill sample public or private water supply wells identified by the commissioner to determine the extent of ground water contamination unless permission cannot be obtained from the well owner.

(c) With the approval of the commissioner, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall immediately implement a corrective action program to include the following:

(1) Prevent further migration of all constituents that exceed the ground water protection standard established under section 10 of this rule.

(2) Minimize any increase in the concentrations of all constituents specified in the ground water protection standard established under section 10 of this rule at the existing monitoring boundary.

(3) Notify all persons who own the land or reside on the land that directly overlies any part of the plume defined in subsection (b)(1).

(4) Replace any currently used sources of ground water that lie within any part of the plume defined in subsection (b)(1) with water from an alternate source that has been approved by the commissioner. The amount of water supplied from an alternate water source under this subdivision must be equal to the usage rates of the replaced ground water source.

(5) Take any other steps deemed necessary by the commissioner to ensure protection of human health and the environment.

(d) If the commissioner determines that restoration of the ground water protection standard at or beyond the monitoring boundary is necessary to eliminate any threat to human health or the environment, the commissioner may require the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill to design and implement a corrective action program to achieve the concentration limits in the ground water protection standard by removing or treating in place any constituents under section 10 of this rule that were released by the solid waste facility and that exceed the ground water protection standard established under section 10 of this rule at or beyond the monitoring boundary. Corrective action programs under this subsection must be initiated and completed within a reasonable period of time as determined by the commissioner. When the ground water protection standard has been achieved, the commissioner may determine appropriate monitoring requirements on a site-specific basis to demonstrate the continued effectiveness of the corrective action program. *(Solid Waste Management Board; 329 IAC 10-29-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1904; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-29-10 Ground water quality standard**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. (a) The constituents that comprise the ground water protection standard for the purposes of this rule are as follows:

(1) The following inorganics:
- (A) Arsenic.
- (B) Barium.
- (C) Cadmium.
- (D) Chromium.
- (E) Fluoride.
- (F) Lead.
- (G) Mercury.
- (H) Nitrate (as nitrogen).
- (I) Selenium.
- (J) Silver.

(2) The following volatile organic compounds:
- (A) Acetone.
- (B) Acrolein.
- (C) Acrylonitrile.
- (D) Benzene.
- (E) Bromodichloromethane.
- (F) Bromoform.
- (G) Bromomethane.
- (H) 2-butanone (methyl ethyl ketone).
- (I) Carbon disulfide.
- (J) Carbon tetrachloride.
- (K) Chlorobenzene.
- (L) Chlorodibromomethane.
- (M) Chloroethane.
- (N) 2-chloroethyl vinyl ether.
- (O) Chloroform.
- (P) Chloromethane.
- (Q) Dibromomethane.
- (R) Dichlorodifluoromethane.
- (S) 1,1-dichloroethane.
- (T) 1,2-dichloroethane.
- (U) 1,2-dichloroethene (total).
- (V) cis-1,3-dichloropropene.
- (W) trans-1,3-dichloropropene.
- (X) Ethylbenzene.
- (Y) Ethyl methacrylate.
- (Z) 2-hexanone.
- (AA) Iodomethane.
- (BB) Methylene chloride.
- (CC) 4-methyl-2-pentanone.
- (DD) Styrene.
- (EE) 1,1,2,2-tetrachloroethane.
- (FF) Toluene.
- (GG) 1,1,1-trichloroethane.

(HH) 1,1,2-trichloroethane.
(II) Trichloroethene.
(JJ) Trichlorofluoromethane.
(KK) 1,2,3-trichloropropane.
(LL) Vinyl acetate.
(MM) Vinyl chloride.
(NN) Xylenes (total).

(b) The concentrations of the constituents listed in subsection (a) must not exceed current background concentrations or the maximum contamination level (MCL) established for the constituent, whichever is the higher concentration. If an MCL has not been established, then the concentration limit is the background concentration of ground water at the facility. When background is the standard, statistically significant exceedances must be determined as provided in section 5 of this rule.

(c) As used in this section, "maximum contamination level" or "MCL" is defined under 329 IAC 10-2-110. *(Solid Waste Management Board; 329 IAC 10-29-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1904; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 30. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Closure Requirements

### 329 IAC 10-30-1 Performance standard

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. Owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall close the facilities in a manner that:

(1) minimizes the need for further maintenance;
(2) controls post-closure escape of waste, waste constituents, leachate, contaminated precipitation, or waste decomposition products to the ground or surface waters or the atmosphere; and
(3) at a minimum, is in compliance with applicable closure provisions and conditions imposed in the facility permit.

*(Solid Waste Management Board; 329 IAC 10-30-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1905; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-30-2 Final cover; restricted waste site Type I and nonmunicipal solid waste landfills

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Owners or operators of restricted waste site Type I and nonmunicipal solid waste landfills shall apply and compact final cover of not less than two (2) feet, except as more cover may be required under subsection (c), to any point in the fill:

(1) within one hundred eighty (180) days of receiving its final waste volume; or
(2) when any area of the restricted waste site Type I or nonmunicipal solid waste landfill is filled to its approved elevation.

(b) Owners or operators of restricted waste site Type I and nonmunicipal solid waste landfills shall apply six (6) inches of topsoil on top of the final cover to establish vegetation as required by 329 IAC 10-28-14.

(c) Restricted waste site Type I and nonmunicipal solid waste landfills must meet the following requirements for final cover:

(1) The maximum projected erosion rate must be five (5) tons per acre per year.
(2) The final compacted cover must have six (6) inches of topsoil plus a minimum depth of compacted clay of:
  (A) two (2) feet for slopes less than or equal to fifteen percent (15%);
  (B) three (3) feet for slopes greater than fifteen percent (15%) but less than twenty-five percent (25%); and
  (C) four (4) feet for slopes greater than twenty-five percent (25%).
(3) The final cover must have a slope of:
  (A) not less than two percent (2%) and not greater than thirty-three percent (33%) for restricted waste site Type I; and
  (B) not less than four percent (4%) and not greater than thirty-three percent (33%) for nonmunicipal solid waste landfills.

*(Solid Waste Management Board; 329 IAC 10-30-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1905; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-30-3 Final cover; restricted waste site Type II**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) Owners or operators of a restricted waste site Type II shall apply and compact no less than two (2) feet of final cover over any area in the fill within one hundred eighty (180) days when:

(1) solid waste has not been disposed for one (1) year; or

(2) any area of the restricted waste site Type II has been filled to its approved elevation.

(b) Owners or operators of the restricted waste site Type II shall apply six (6) inches of topsoil on top of the final cover to establish vegetation as required by 329 IAC 10-28-14.

(c) The restricted waste site Type II must meet the following requirements for final cover:

(1) The maximum projected erosion rate must be five (5) tons per acre per year.

(2) The final compacted cover must be as specified in subsections (a) and (b).

(3) The final cover must have a slope of not less than two percent (2%) and not greater than thirty-three percent (33%).

*(Solid Waste Management Board; 329 IAC 10-30-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1905; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-30-4 Closure plan**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) Owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall have a written closure plan. The closure plan must be submitted with the permit application in accordance with 329 IAC 10-11 and be approved by the commissioner as part of the permit. The approved closure plan will become a condition of the permit.

(b) The closure plan must identify the steps necessary to completely close the restricted waste site Type I or Type II or nonmunicipal solid waste landfill at any point during its intended life in accordance with section 1 of this rule. The plan must be certified by a registered professional engineer. The closure plan must include the following:

(1) A description of the steps that will be used to partially close, if applicable, and finally close the facility in accordance with section 1 of this rule.

(2) A listing of labor, materials, and testing necessary to close the facility.

(3) An estimate of the expected year of closure and a schedule for final closure. The schedule must include:

(A) the total time required to close the facility; and

(B) the time required for completion of intervening closure activities.

(4) An estimate of the cost per acre of providing final cover and vegetation. Such cost must be that which is necessary for providing the following, but must not be less than five thousand dollars ($5,000) per acre:

(A) Two (2) feet of compacted clay soil.

(B) Six (6) inches of topsoil.

(C) Vegetation.

(D) Certification of closure, including any testing necessary for such certification.

(5) The closure plan must separately identify any closure costs for items other than providing final cover and vegetation.

(6) The closure plan must list a closure cost estimate equal to the costs specified by subdivision (5) plus the product of the total area of the site permitted for filling and the cost per unit area specified by subdivision (4). Closure costs must be calculated based on the cost necessary for the work to be performed by a third party.

(7) The estimate of the cost per acre of providing final cover and vegetation must be that necessary for providing the activities as specified in the closure plan; however, the sum of the closure cost estimate and post-closure cost estimate must not be less than fifteen thousand dollars ($15,000) per acre or fraction of an acre covered by the permitted facility.

(8) If the restricted waste site Type I or Type II or nonmunicipal solid waste landfill utilizes the incremental closure standard, as contained in 329 IAC 10-39-2(b)(3)(B), then for each yearly period following the beginning of operation of the facility, the plan must specify the maximum area of the facility into which solid waste will have been deposited through that year of the facility's life and must delineate such areas on the copy of the facility's final contour map. The closure plan must list closure cost estimates for each year of the anticipated life of the facility equal to the costs specified by subdivision (5), plus the product of the noted maximum areas of the site and the cost per unit area specified by subdivision (4).

*(Solid Waste Management Board; 329 IAC 10-30-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1906; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1862, eff Apr 1, 2004; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-30-5 Partial closure**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. (a) Areas of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill that have received final cover, and are graded and have established vegetation in accordance with the applicable provisions of this rule, 329 IAC 10-28, and the approved closure plan prior to closure of the facility may receive certification of partial closure.

(b) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall submit to the commissioner a certification, signed by both the owner or operator and a registered professional engineer, which specifically identifies the closed areas and indicates that the partial closure is in accordance with the approved closure plan and the standards of this article. Certifications of partial closure must not be made for an area until the final cover has been completely provided for that area and vegetation has been established. *(Solid Waste Management Board; 329 IAC 10-30-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1906; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-30-6 Initiation of final closure**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) Within fifteen (15) days after receiving the final volume of waste, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall initiate final closure of all areas not certified as partially closed. Final closure must be in accordance with the approved closure plan.

(b) The owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall complete other closure activities in accordance with the approved closure plan. *(Solid Waste Management Board; 329 IAC 10-30-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1907; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-30-7 Closure certification**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. (a) As part of the final closure of a facility, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall submit to the commissioner the following:

(1) A certification statement, signed by both the owner or operator and a registered professional engineer, that the facility has been closed in accordance with the approved closure plan.

(2) Verification that the owner of the property on which the facility is located has recorded a notation on the deed to the facility property, or on some other instrument, normally examined during title search, which will, in perpetuity, notify any potential purchaser of the property that the land has been used as a solid waste land disposal facility. At a minimum, the recording must contain the following:

(A) The general types and location of waste.
(B) The depth of fill.
(C) A plot plan, with surface contours at intervals of two (2) feet, which must indicate:
(i) final land surface water run-off direction;
(ii) surface water diversion structures after completion of the operation; and
(iii) final grading.
(D) A statement that no construction, installation of wells, pipes, conduits, or septic systems, or any other excavation must be done on the property without approval by the commissioner.

(b) The final closure will be deemed adequate unless within one hundred fifty (150) days of receipt of the documentation required by subsection (a), the commissioner issues a notice of deficiency of final closure, including additional action that needs to be taken and the timetable for the necessary additional actions. *(Solid Waste Management Board; 329 IAC 10-30-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1907; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 31. Restricted Waste Sites Type I and Type II and Nonmunicipal Solid Waste Landfills; Post-Closure Requirements

### 329 IAC 10-31-1 Performance standard

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. Owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall maintain the facilities during the post-closure period in a manner that:
(1) minimizes the need for further maintenance;
(2) controls post-closure escape of waste, waste constituents, leachate, contaminated precipitation, or waste decomposition products to the ground or surface waters or the atmosphere; and
(3) at a minimum, is in compliance with applicable closure provisions and conditions imposed in the facility permit.
*(Solid Waste Management Board; 329 IAC 10-31-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1907; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-31-2 Post-closure duties

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Owners or operators of the restricted waste sites Type I and Type II and nonmunicipal solid waste landfills have the following duties after closure of the facility:
(1) Post-closure activities must be performed in accordance with the approved post-closure plan as specified in section 3 of this rule.
(2) Inspection of the facility at least twice per year with a written report on the condition of the facility to be submitted to the commissioner.
(3) Maintenance of the minimum thickness of final cover and vegetation as required by 329 IAC 10-28 and 329 IAC 10-30.
(4) Maintenance of the final contours of the facility in accordance with the applicable standards of 329 IAC 10-28 and 329 IAC 10-30 and, at a minimum, to provide that no ponding of water occurs on filled areas.
(5) Control of any vegetation on vehicular access ways to monitoring wells as required by 329 IAC 10-28-2(c).
(6) Control of vegetation at the site as necessary to enable determination of the need for slope and cover maintenance and leachate outbreak abatement.
(7) Maintenance of access control and benchmarks at the facility.
(8) Maintenance and monitoring of water quality monitoring devices and, if applicable, any leachate collection and treatment systems or methane control systems.

(9) Control of any leachate or gas generated at the facility, as required by 329 IAC 10-28-19 or 329 IAC 10-28-20.

(b) Post-closure requirements imposed by this section must be followed for a period of thirty (30) years following the date of final closure certification in accordance with 329 IAC 10-30-7. *(Solid Waste Management Board; 329 IAC 10-31-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1907; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-31-3 Post-closure plan**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) Owners or operators of restricted waste sites Type I and Type II and nonmunicipal solid waste landfills shall have a written post-closure plan. The post-closure plan must be submitted with the permit application in accordance with 329 IAC 10-11 and be approved if acceptable by the commissioner as part of the permit. The approved post-closure plan must become a condition of the permit. If the plan is determined to be unacceptable, the commissioner shall identify the items needed to make it complete.

(b) The post-closure plan must identify the activities that will be carried on after closure under section 2 of this rule and must include at least the following:

(1) A description of the planned ground water monitoring activities and the frequency at which they will be performed.

(2) A description of the planned maintenance activities and the frequency at which they will be performed.

(3) The name, address, and telephone number of the owner or operator with responsibility for maintaining the site after closure whom the commissioner may contact about the solid waste facility during the post-closure period.

(4) A post-closure cost estimate in accordance with 329 IAC 10-39-3. Post-closure costs must be calculated based on the cost necessary for the work to be performed by a third party. For post-closure maintenance of final cover and vegetation, the amount per acre must be ten percent (10%) of the cost calculated under 329 IAC 10-30-4(b)(4) multiplied by the total acreage of the site permitted for filling. The estimate of the post-closure cost per acre must be that which is necessary for providing the activities as specified in the post-closure plan; however, the sum of the closure cost estimate and post-closure cost estimate must not be less than fifteen thousand dollars ($15,000) per acre or fraction of an acre covered by the permitted facility.

*(Solid Waste Management Board; 329 IAC 10-31-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1908; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-31-4 Post-closure certification**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. When the post-closure care requirements of this rule have been completed, the owner or operator of a restricted waste site Type I or Type II or nonmunicipal solid waste landfill shall submit a certification statement signed by both the owner or operator and a registered professional engineer states that the post-closure care requirements have been met and the facility has stabilized. The post-closure certification will be deemed adequate unless within one hundred fifty (150) days of receipt of the post-closure certification, the commissioner issues notice of the deficiency of post-closure, including actions necessary to correct the deficiency. *(Solid Waste Management Board; 329 IAC 10-31-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1908; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-31-5 Responsibility after post-closure to correct nuisance**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. Subsequent to the completion of post-closure, the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located shall be responsible for correcting and controlling any nuisance conditions occurring at the facility. *(Solid Waste Management Board; 329 IAC 10-31-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1908; readopted filed Jan 10, 2001, 3:25*

*p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-31-6 Elimination of threats to human health or the environment after post-closure**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. Subsequent to the completion of post-closure, the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located shall be responsible for eliminating any threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-31-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1908; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-31-7 Remedial action**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. The commissioner may proceed under IC 13-25-4 and rules adopted under IC 13-25-4-7 that require the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located, or any other responsible party under IC 13-25-4, to perform remedial action, including the installation and monitoring of ground water monitoring wells or other devices, if the commissioner determines that the closed facility is a threat to human health or the environment, due to a release of a hazardous substance from the facility into the environment. *(Solid Waste Management Board; 329 IAC 10-31-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1908; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 32. Restricted Waste Site Type III and Construction/Demolition Sites; Additional Application Requirements to 329 IAC 10-11

**329 IAC 10-32-1 General**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) An application for a restricted waste site Type III or a construction/demolition site permit must be accompanied by the plans or documents specified in this rule.

(b) Design drawings and specifications must be certified by a registered professional engineer and must be properly titled. *(Solid Waste Management Board; 329 IAC 10-32-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1909; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-32-2 Plot plans and cross-sectional drawings**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) An application for a restricted waste site Type III or a construction/demolition site must be accompanied by plot plans using a scale of at least one (1) inch equals one hundred (100) feet for a site of less than eighty (80) acres, or a scale of at least one (1) inch equals two hundred (200) feet for a facility of eighty (80) acres or more. A bar scale must be shown on plans in order to properly indicate the scale if size changes occur. All plot plans must include the facility boundaries and indicate each of the required features set forth in this section within three hundred (300) feet of the facility boundaries. All facility plan elevations must correlate with United States Geological Survey (USGS) mean sea level data.

(b) An application for restricted waste site Type III must be accompanied by the following plot plans and cross sections:

(1) A plot plan that indicates the following:

(A) Locations and elevations of all existing and proposed on-site boring locations.
(B) Rock outcroppings.
(C) Surface water run-off direction.
(D) Fences.
(E) Utility easements and rights-of-way.
(F) Present land surface contours at intervals of no more than five (5) feet.
(G) Proposed location of scales required by 329 IAC 10-14-2.

(2) A plot plan that indicates the fill boundaries and proposed final contours of the site at intervals of no more than two (2) feet.

(c) An application for a construction/demolition site must be accompanied by the following plot plans and cross sections:

(1) A plot plan that indicates the following:
(A) Locations and elevations of all existing and proposed on-site boring locations.
(B) Rock outcroppings.
(C) Surface water run-off direction.
(D) Fences.
(E) Utility easements and rights-of-way.
(F) Present land surface contours at intervals of no more than five (5) feet.
(G) Proposed location of scales required by 329 IAC 10-14-2.

(2) A plot plan that indicates the fill boundaries and proposed final contours of the site at intervals of no more than two (2) feet.

(3) A plot plan, with surface contours at intervals of no more than five (5) feet, which indicates initial facility development. Compliance with this plan is a preoperational requirement under 329 IAC 10-35-2. Benchmarks as required by 329 IAC 10-35-2 must be shown with a description and elevation provided.

(4) A plot plan, with surface contours at intervals of no more than five (5) feet, which indicates the following:
(A) Land surface water diversion structures.
(B) Berms.
(C) Vegetation or fences for visual screening.
(D) Sedimentation control structures and erosion control structures.
(E) Protective barriers.
(F) Leachate collection and methane control systems if proposed.
(G) Existing and proposed structures.
(H) The precise location of the solid waste boundary.
(I) Methods of operation.
(J) Direction and the order operation and development will proceed.
(K) Depth of excavation.
(L) Length and width of trenches if proposed.
(M) Depth of lifts and size of working face.
(N) Areas of the site to be used only for acquisition of cover soil.

*(Solid Waste Management Board; 329 IAC 10-32-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1909; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-32-3 Soils; ground water; geology information**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. An application for a restricted waste site Type III or a construction/demolition site must be accompanied by boring and testing information if well logs, soils maps, or other information does not indicate a suitable barrier between locally useful aquifers and the solid waste. *(Solid Waste Management Board; 329 IAC 10-32-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1909; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-32-4 Descriptive narrative**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. An application for a restricted waste site Type III or a construction/demolition site must be accompanied by a narrative describing the proposed facility and include the following:

(1) Anticipated quantity, types, and sources of solid waste to be deposited.
(2) The equipment to be used for placement and compaction of all solid waste, excavation of soil, moving of stockpiled soils, and application of cover soil.
(3) Procedures to control fugitive dust.
(4) Sanitary facilities if employees are at the site full time.
(5) A statement as to the existence of and a description of any wells within six hundred (600) feet of the proposed fill area.
(6) A description of the access control at the site.
(7) A description of the safety equipment to be used at the site.
(8) The distance from the site to the nearest dwelling.
(9) A description of the location, amount, and depth of excavation that will occur at the site.
(10) A description of the supervision that will occur at the site.
(11) A description of the base flood at the site and whether the site is in the floodway.
(12) Proposed hours of operation.
(13) The names and addresses of all adjoining land owners.

*(Solid Waste Management Board; 329 IAC 10-32-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1910; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 33. Restricted Waste Site Type III and Construction/Demolition Sites; Location Restrictions

**329 IAC 10-33-1 Solid waste boundary limits**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) On and after the effective date of this article, the solid waste boundary of a new restricted waste site Type III and the additional areas beyond that which have been previously approved for existing restricted waste site Type III must be prohibited from the following areas:

(1) Wetlands in violation of Section 404 of the Clean Water Act as amended February 4, 1987.
(2) The critical habitat of an endangered species as defined by 50 CFR 17.
(3) Floodways of drainage areas greater than one (1) square mile, without the approval of the department of natural resources, and floodways without provisions to prevent washout of the waste.
(4) Within areas of karst topography without:
    (A) provisions to collect and contain all of the leachate generated; and
    (B) a demonstration that the integrity of the landfill will not be damaged by subsidence.
(5) Over mines unless it is demonstrated that the integrity of the landfill will not be damaged by subsidence.
(6) Within six hundred (600) feet of a potable water well in use as a water supply for a dwelling or dwellings on the date of public notice for zoning approval for the permitted activity or the date of public notice of the permit application by the commissioner, whichever occurs first, unless written consent is obtained from the owner of the well.
(7) Within fifty (50) feet of the real property boundaries of the facility.

(b) On and after the effective date of this article, the solid waste boundary of a new construction/demolition site and the additional areas beyond that which have been previously approved for existing construction/demolition sites must be prohibited from the following areas:

(1) Wetlands in violation of Section 404 of the Clean Water Act as amended February 4, 1987.
(2) The critical habitat of an endangered species as defined by 50 CFR 17.

(3) Floodways of drainage areas greater than one (1) square mile, without the approval of the department of natural resources, and floodways without provisions to prevent washout of the waste.
(4) Within areas of karst topography without:
(A) provisions to collect and contain all of the leachate generated; and
(B) a demonstration that the integrity of the landfill will not be damaged by subsidence.
(5) Over mines unless it is demonstrated that the integrity of the landfill will not be damaged by subsidence.
(6) Within six hundred (600) feet of a potable water well in use as a water supply for a dwelling or dwellings on the date of public notice for zoning approval of the permitted activity or the date of public notice of the permit application by the commissioner, whichever occurs first, unless written consent is obtained from the owner of the well.
(7) Within six hundred (600) feet of any dwelling in existence on the date of public notice for zoning approval of the permitted activity or the date of public notice by the commissioner of the permit application, whichever occurs first, unless written consent has been obtained from the occupant and the owner of the dwelling.
(8) Within one hundred (100) feet of the normal water line of any lake, reservoir, or continuously flowing stream.
(9) Within the flood plain unless the waste is protected from floodwater inundation by a dike with a top elevation not less than three (3) feet above the base flood elevation.
(10) Within fifty (50) feet of the real property boundaries of the facility.
*(Solid Waste Management Board; 329 IAC 10-33-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1910; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 34. Restricted Waste Site Type III and Construction/Demolition Sites; Liner System Design Standards

### 329 IAC 10-34-1 Design standards

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) On and after the effective date of this article, for a restricted waste site Type III and a construction/demolition site, the increased height and horizontal expansions of the fill area, beyond that which had been approved previously and for new facilities, must have a barrier between the solid waste and an aquifer. This barrier must:
(1) consist of soil, whether undisturbed, constructed, or a combination thereof, with an equivalent hydraulic conductivity through the barrier of less than or equal to $1 \times 10^{-6}$ centimeters per second; and
(2) have a minimum thickness consisting of three (3) feet between the solid waste and any locally useful aquifer.
(b) Barrier thickness as specified in subsection (a) may be increased due to cation exchange capacities less than ten (10) milliequivalents per one hundred (100) grams or decreased due to lack of ground water resources in the area or alternate technology such as synthetic liners and leachate collection. *(Solid Waste Management Board; 329 IAC 10-34-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1911; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 35. Restricted Waste Site Type III and Construction/Demolition Sites; Operation Approval and Preoperational Requirements

### 329 IAC 10-35-1 Operation approval

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) A newly constructed restricted waste site Type III or construction/demolition site that holds a valid permit under this article must not accept solid waste until it has complied with the applicable preoperational requirements of this rule.
(b) The owner or operator of the restricted waste site Type III or construction/demolition site shall notify the commissioner in writing when all the preoperational requirements have been completed. Unless the commissioner denies operational approval within twenty-one (21) days of receipt of the notice, the facility may begin to accept solid waste in accordance with its permit granted

under 329 IAC 10-11 and the requirements of 329 IAC 10-36. *(Solid Waste Management Board; 329 IAC 10-35-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1911; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-35-2 Preoperational requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Before beginning operation, owners or operators of a restricted waste site Type III shall be required to establish a series of identifiable boundary markers that will delineate the approved facility boundaries and solid waste boundaries for the life of the facility.

(b) Before beginning operation, owners or operators of construction/demolition sites shall be required to complete the following:

(1) Establish a series of identifiable boundary markers that will delineate the approved facility boundaries and solid waste boundaries for the life of the facility.

(2) Complete initial site development and construction in accordance with the initial facility development plan required in 329 IAC 10-32 and complete other preoperational requirements imposed as conditions to the facility permit.

(3) Establish permanent, on-site benchmark or benchmarks with vertical, mean sea level elevation, and horizontal control so that no portion of the proposed fill area is further than one thousand (1,000) feet from a benchmark. However, distances greater than the specified one thousand (1,000) feet may be allowed where necessary to avoid the placement of benchmarks on filled areas.

*(Solid Waste Management Board; 329 IAC 10-35-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1911; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 36. Restricted Waste Site Type III and Construction/Demolition Sites; Operational Requirements

**329 IAC 10-36-1 Access control**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) A restricted waste site Type III and a construction/demolition site must be accessible by means of established roadways only.

(b) Solid waste must be deposited at the solid waste land disposal facility only when operating personnel are on duty. Containers may be placed outside the facility entrance so that solid waste may be deposited after hours.

(c) A restricted waste site Type III that disposes of waste on-site where the waste is generated or off-site at a location that is owned and operated by the generator for its exclusive use is exempt from subsection (b). *(Solid Waste Management Board; 329 IAC 10-36-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1911; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-2 On-site roads**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) On-site roads that provide access to disposal areas must be passable to vehicles utilizing these areas.

(b) The owner or operator of a restricted waste site Type III or a construction/demolition site shall construct and maintain on-site roads in such a way as to minimize the tracking of mud or soil material from the facility onto public highways or provide and maintain equipment to remove any such mud or soil material that is tracked onto the public highways.

(c) Access to monitoring wells for vehicles driven by department representatives must be provided. Such areas must be

passable. Gravel or other materials must be provided as needed to provide trafficability. Vegetation must be controlled on the access way and around the wells. *(Solid Waste Management Board; 329 IAC 10-36-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-3 Signs**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) For all restricted waste site Type III and construction/demolition sites, except facilities disposing of waste generated on-site, a sign of at least sixteen (16) square feet must be erected at each facility entrance. The sign must identify the following:

(1) The facility name.
(2) The operating schedule.
(3) The type of facility.
(4) The solid waste facility permit number.

(b) For construction/demolition sites, traffic signs or other devices, as needed, must be provided to promote an orderly traffic pattern to and from the discharge area. *(Solid Waste Management Board; 329 IAC 10-36-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-4 Sanitation**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 15-2.1-16; IC 36-9-30

Sec. 4. (a) Cattle, hogs, poultry, or other livestock are prohibited from any filled area that has not received final cover and vegetation.

(b) Vectors, dust, and odors must be controlled by effective means so that they do not constitute or contribute to a nuisance or a health hazard.

(c) Windblown materials and litter must be collected and buried daily. Windblown materials must be controlled by effective means so that they do not constitute or contribute to a nuisance.

(d) Disposal of dead animals must occur in accordance with IC 15-2.1-16.

(e) Containers that have been placed outside the facility entrance for the disposal of solid waste after hours must be emptied at a frequency that will minimize odors and control vectors, but in no event, less than once in every twenty-four (24) hours. Areas around the containers must be maintained in a sanitary and litter-free condition. *(Solid Waste Management Board; 329 IAC 10-36-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-5 Scavenging**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. Scavenging is prohibited. *(Solid Waste Management Board; 329 IAC 10-36-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-6 Salvaging**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) Salvaging on-site at a restricted waste site Type III or a construction/demolition site must be completed only under

the supervision of the owner or operator and must not interfere with the facility operations.

(b) Salvaged materials must be stored in buildings or transportable containers while awaiting removal from the facility. Alternative methods of storing salvaged materials must have prior approval from the commissioner. Approval may be granted at the request of the owner or operator, if the owner or operator can demonstrate that the alternative method will provide a comparable level of environmental protection. *(Solid Waste Management Board; 329 IAC 10-36-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-7 Safety requirements**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. (a) Safety devices, including roll bars and fire extinguishers, must be provided on all rolling equipment.

(b) A first aid kit must be available on-site for a construction/demolition site.

(c) A telephone or radio communication system must be provided on-site for a construction/demolition site. *(Solid Waste Management Board; 329 IAC 10-36-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1912; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-8 Records and reports**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 8. (a) A restricted waste site Type III and a construction/demolition site must maintain on-site an up-to-date copy of the plans and specifications, approved by the commissioner, in granting the permit.

(b) A restricted waste site Type III and a construction/demolition site must maintain on-site a plot plan of the solid waste land disposal facility. The plot plan must be updated quarterly. The plot plan must describe the following:

(1) Areas of excavation.
(2) Areas of current filling.
(3) Areas under intermediate cover.
(4) Filled areas lacking final cover.
(5) Finished areas with final cover contoured and seeded.

(c) The following must be furnished upon request and be made available during normal operating hours for inspection by any officer, employee, or representative of the department:

(1) All solid waste land disposal facility records, reports, and plans required by this section.
(2) The current waste classification documentation required under:
    (A) 329 IAC 10-9-3 for construction/demolition sites; or
    (B) 329 IAC 10-9-4 for restricted waste site Type III.

(d) Under 329 IAC 11-15, the owner or operator of a construction/demolition site to which municipal waste is transported shall retain each manifest for one (1) year and send one (1) copy of each manifest to the department within three (3) months after receiving the manifest. Each manifest must be retained at the facility and must be made available to department staff upon request. *(Solid Waste Management Board; 329 IAC 10-36-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-9 Open burning**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 9. Open burning of solid waste is prohibited at a restricted waste site Type III and a construction/demolition site. Burning of solid waste must occur only in an incinerator permitted under 329 IAC 11 and operating in compliance with all applicable air

pollution control requirements. *(Solid Waste Management Board; 329 IAC 10-36-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-10 Diversion of surface water**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 10. A restricted waste site Type III and a construction/demolition site must not deposit solid waste in standing or ponded water except for that water resulting from precipitation directly upon the working face. *(Solid Waste Management Board; 329 IAC 10-36-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-11 Cover; general provisions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 11. (a) Cover for a restricted waste site Type III and a construction/demolition site must be soil of Unified Soil Classification ML, CL, MH, CH, or OH or other suitable material approved by the commissioner to provide an adequate level of environmental protection.

(b) Cover must be applied and maintained at a restricted waste site Type III and a construction/demolition site in accordance with the applicable requirements of this rule and 329 IAC 10-37. Other provisions for cover may be approved by the commissioner if it can be demonstrated that an alternate cover or site design will provide an adequate level of environmental protection. *(Solid Waste Management Board; 329 IAC 10-36-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-12 Cover; restricted waste site type III and construction/demolition sites**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 12. (a) A restricted waste site Type III must apply and compact no less than six (6) inches of intermediate cover annually over all exposed solid waste regardless of weather conditions.

(b) A construction/demolition site must apply no less than six (6) inches of cover weekly over all exposed solid waste regardless of weather conditions. *(Solid Waste Management Board; 329 IAC 10-36-12; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-13 Dispersal control**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 13. (a) Notwithstanding the cover requirements of this rule and 329 IAC 10-37 for a restricted waste site Type III, if the facility operation is found to be in violation of fugitive dust rules of the air pollution control board or if the commissioner documents evidence of visible waste deposits carried by wind or surface water beyond the site property boundary, the restricted waste site Type III must complete the following:

(1) Apply daily cover.

(2) Submit a plan to control dispersal.

(b) Application of daily cover must continue until a dispersal control plan is approved by the commissioner. *(Solid Waste Management Board; 329 IAC 10-36-13; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1913; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR*

*1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-14 Grading and soil stabilization**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 14. (a) Cover material applied as required in sections 11 through 13 of this rule and 329 IAC 10-37 must be continuously maintained, including application and compaction of additional cover as needed to maintain required depth.

(b) A grass or ground cover crop must be established and maintained continuously as soon as weather permits and seasonal conditions are suitable on any portion of the restricted waste site Type III or construction/demolition site that has received final cover except where other provisions for land use have been approved by the commissioner.

(c) A restricted waste site Type III and a construction/demolition site must be graded to promote surface water drainage and to prevent the ponding of water on previously filled areas.

(d) Vegetation must be cleared only as necessary. *(Solid Waste Management Board; 329 IAC 10-36-14; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1914; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-15 Surface leachate control**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 15. (a) Any leachate on the surface of a restricted waste site Type III and a construction/demolition site must be immediately managed or controlled to prevent off-site migration.

(b) Any surface movement of leachate past a point fifty (50) feet outside of the solid waste boundary is prohibited except as specified in the facility permit. *(Solid Waste Management Board; 329 IAC 10-36-15; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1914; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-16 Leachate disposal**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 16. Any discharge or disposal of collected leachate must be in accordance with applicable local, state, and federal laws and rules. *(Solid Waste Management Board; 329 IAC 10-36-16; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1914; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-17 Prohibition on accepting municipal waste by a construction/demolition site**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 17. (a) Prior to accepting a shipment of municipal waste from a transfer station located inside or outside of Indiana, a construction/demolition site must receive a copy of the manifest and must review the manifest to determine whether the items listed under 329 IAC 11-15-3 are included on the manifest.

(b) A construction/demolition site must not knowingly accept a shipment of municipal waste from a transfer station located inside or outside of Indiana if:

(1) the municipal waste is not accompanied by a manifest that contains the information required under 329 IAC 11-15-3; or

(2) the construction/demolition site has received notice from the department that the commissioner has issued an order under IC 13-20-6-3 *[IC 13-20-6-3 was repealed by P.L.154-2005, SECTION 17, effective July 1, 2005.]* or IC 13-20-6-4 that

suspends the waste transfer activities within Indiana of the transfer station or operator that is listed on the manifest accompanying the shipment of municipal waste.

(c) Subsection (b)(2) does not apply unless the department has sent a notice by certified mail, return receipt requested, to the construction/demolition site that the commissioner has suspended the waste transfer activities of the transfer station or operator listed on the manifest. The notice must contain the following:

(1) The name of the operator or transfer station subject to the commissioner's order to suspend waste transfer activities.

(2) The date on which the waste transfer activities are suspended under the commissioner's order.

(3) The acknowledgement number issued to the operator under IC 13-20-6-4 if applicable.

(4) The location of the transfer station if the order applies to a transfer station.

(d) Subsection (b)(2) does not apply after the department has notified a suspended transfer station or operator that they may resume waste transfer activities in Indiana. The notice to the formerly suspended transfer station or operator must contain the date in which waste transfer activities may resume. A copy of this notice must be sent by the department, via certified mail, return receipt requested, to each construction/demolition site that was sent the applicable notice under subsection (c). *(Solid Waste Management Board; 329 IAC 10-36-17; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1914; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-18 Violations**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 18. (a) A construction/demolition site that knowingly accepts a shipment of municipal waste in contravention to section 17(b) of this rule violates this rule.

(b) Acceptance of a shipment of municipal waste is not a violation of this rule if:

(1) the construction/demolition site did not receive a notice under section 17(c) of this rule that the department suspended the waste transfer activities of a transfer station or operator listed on the manifest; or

(2) the construction/demolition site did not receive a notice under section 17(d) that the department allowed the waste transfer activities of a transfer station or operator listed on the manifest to resume.

*(Solid Waste Management Board; 329 IAC 10-36-18; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1914; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-36-19 Definitions**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-11-2-148; IC 13-11-2-254; IC 13-19-3-3; IC 13-22; IC 13-30-2; IC 16-41-16-4; IC 36-1-2-23; IC 36-9-30

Sec. 19. As used in sections 17 and 18 of this rule, the following definitions apply:

(1) "Manifest" means the form used for identifying the quantity, origin, and operators involved in a shipment, and the destination of municipal solid waste during its transportation.

(2) "Municipal waste", as defined in IC 13-11-2-133, means any garbage, refuse, industrial lunchroom or office waste, and other material resulting from the operation of residential, municipal, commercial, or institutional establishments, and community activities. The term does not include the following:

(A) Hazardous waste regulated under:

(i) IC 13-22-1 through IC 13-22-8 and IC 13-22-13 through IC 13-22-14; or

(ii) the federal Solid Waste Disposal Act, 42 U.S.C. 6901 et seq., in effect on January 1, 1990.

(B) Infectious waste as defined in IC 16-41-16-4.

(C) Wastes that result from the combustion of coal and that are referred to in IC 13-19-3-3.

(D) Materials that are being transported to a facility for reprocessing or reuse.

(E) As used in this subdivision, "reprocessing or reuse" does not include either of the following:

(i) Incineration.

(ii) Placement in a landfill.

(3) "Operator", as defined in IC 13-11-2-148(c), means a corporation, a limited liability company, a partnership, a business association, a unit, or an individual who is a sole proprietor that is one (1) of the following:
(A) A broker.
(B) A person who manages the activities of a transfer station that receives municipal waste.
(C) A transporter.
(4) "Waste transfer activities", as defined in IC 13-11-2-254, means the participation by a:
(A) broker or transporter who is:
(i) a resident of Indiana; or
(ii) not a resident of Indiana; or
(B) transfer station that receives municipal waste located:
(i) inside Indiana; or
(ii) outside Indiana;
in the collection or transportation of municipal waste for disposal or incineration in Indiana.
*(Solid Waste Management Board; 329 IAC 10-36-19; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1915; errata filed Dec 6, 1999, 9:41 a.m.: 23 IR 813; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Jul 14, 2004, 9:15 a.m.: 27 IR 3969; errata filed Oct 7, 2004, 11:50 a.m.: 28 IR 608; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 37. Restricted Waste Site Type III and Construction/Demolition Sites; Closure Requirements

### 329 IAC 10-37-1 Performance standard

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. Owners or operators of a restricted waste site Type III and a construction/demolition site shall close the facilities in a manner that:
(1) minimizes the need for further maintenance;
(2) controls post-closure escape of waste, waste constituents, leachate, contaminated precipitation, or waste decomposition products to the ground or surface waters or the atmosphere; and
(3) at a minimum, is in compliance with applicable closure provisions and conditions imposed in the facility permit.
*(Solid Waste Management Board; 329 IAC 10-37-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1915; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-37-2 Final cover; restricted waste site Type III

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Owners or operators of a restricted waste site Type III shall apply and compact final cover of not less than two (2) feet within one (1) year of when an area is filled to its approved elevation.
(b) A restricted waste site Type III must meet the following requirements for final cover:
(1) The maximum projected erosion rate must be five (5) tons per acre per year.
(2) The final compacted cover must be as specified in subsection (a).
(3) The final cover must have a slope of not less than two percent (2%) and not greater than thirty-three percent (33%).
*(Solid Waste Management Board; 329 IAC 10-37-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1915; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-37-3 Final cover; construction/demolition sites

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) Owners or operators of a construction/demolition site shall apply no less than two (2) feet of final cover over any area in the fill within one hundred eighty (180) days when:

(1) solid waste has not been disposed for one (1) year; or

(2) any area of the construction/demolition site has been filled to its approved elevation.

(b) The construction/demolition site must meet the following requirements for final cover:

(1) The maximum projected erosion rate must be five (5) tons per acre per year.

(2) The final compacted cover must be as specified in subsection (a).

(3) The final cover must have a slope of not less than two percent (2%) and not greater than thirty-three percent (33%).

*(Solid Waste Management Board; 329 IAC 10-37-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1915; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-37-4 Closure plan**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. (a) Owners or operators of a restricted waste site Type III and a construction/demolition site shall have a written closure plan. The closure plan must be submitted with the permit application in accordance with 329 IAC 10-11 and be approved by the commissioner as part of the permit. The approved closure plan will become a condition of the permit.

(b) The closure plan, certified by a registered professional engineer, must identify the steps necessary to completely close the restricted waste site Type III or construction/demolition site at any point during its intended life in accordance with section 1 of this rule. The closure plan must include the following:

(1) A description of the steps that will be used to partially close, if applicable, and finally close the facility in accordance with section 1 of this rule.

(2) A listing of labor, materials, and testing necessary to close the facility.

(3) An estimate of the expected year of closure and a schedule for final closure. The schedule must include:

(A) the total time required to close the facility; and

(B) the time required for completion of intervening closure activities.

(4) An estimate of the cost per acre of providing final cover and vegetation. Such cost must be that which is necessary for providing the following, but must not be less than five thousand dollars ($5,000) per acre:

(A) Two (2) feet of compacted clay soil.

(B) Six (6) inches of topsoil.

(C) Vegetation.

(D) Certification of closure, including any testing necessary for such certification.

(5) The closure plan must separately identify any closure costs for items other than providing final cover and vegetation.

(6) The closure plan must list a closure cost estimate equal to the costs specified by subdivision (5) plus the product of the total area of the site permitted for filling and the cost per unit area specified by subdivision (4). Closure costs must be calculated based on the cost necessary for the work to be performed by a third party.

(7) The estimate of the cost per acre of providing final cover and vegetation must be that necessary for providing the activities as specified in the closure plan; however, the sum of the closure cost estimate and post-closure cost estimate must not be less than fifteen thousand dollars ($15,000) per acre or fraction of an acre covered by the permitted facility.

(8) If the restricted waste site Type III or the construction/demolition site utilizes the incremental closure standard, as contained in 329 IAC 10-39-2(b)(3)(B), then for each yearly period following the beginning of operation of the facility, the plan must specify the maximum area of the facility into which solid waste will have been deposited through that year of the facility's life and must delineate such areas on the copy of the facility's final contour map. The closure plan must list closure cost estimates for each year of the anticipated life of the facility equal to the costs specified by subdivision (5), plus the product of the noted maximum areas of the site and the cost per unit area specified by subdivision (4).

*(Solid Waste Management Board; 329 IAC 10-37-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1916; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1863, eff Apr 1, 2004; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-37-5 Partial closure**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. (a) Areas of a restricted waste site Type III or a construction/demolition site that have received final cover, and are graded and have established vegetation in accordance with the applicable provisions of this rule and 329 IAC 10-36 and the approved closure plan prior to closure of the facility may receive certification of partial closure.

(b) The owner or operator of a restricted waste site Type III or a construction/demolition site shall submit to the commissioner a certification signed by both the owner or operator and a registered professional engineer, that specifically identifies the closed areas and indicates that the partial closure is in accordance with the approved closure plan and the standards of this article. Certifications of partial closure must not be made for an area until the final cover has been completely provided for that area and vegetation has been established. *(Solid Waste Management Board; 329 IAC 10-37-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1916; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-37-6 Initiation of final closure**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. (a) Within fifteen (15) days after receiving the final volume of waste, the owner or operator of a restricted waste site Type III or a construction/demolition site shall initiate final closure of all areas not certified as partially closed. Final closure must occur in accordance with the approved closure plan.

(b) The owner or operator of a restricted waste site Type III or a construction/demolition site shall complete other closure activities in accordance with the approved closure plan. *(Solid Waste Management Board; 329 IAC 10-37-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1917; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-37-7 Closure certification**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. (a) As part of the final closure of a facility, the owner or operator of a restricted waste site Type III or a construction/demolition site shall submit to the commissioner the following:

(1) A certification statement, signed by both the owner or operator and a registered professional engineer, that the facility has been closed in accordance with the approved closure plan.

(2) Verification that the owner of the property on which the facility is located has recorded a notation on the deed to the facility property, or on some other instrument that is normally examined during title search, which will in perpetuity notify any potential purchaser of the property that the land has been used as a solid waste land disposal facility. At a minimum, the recording must contain the following:

(A) The general types and location of waste.

(B) The depth of fill.

(C) A plot plan, with surface contours at intervals of two (2) feet, which must indicate:

(i) final land surface water run-off direction;

(ii) surface water diversion structures after completion of the operation; and

(iii) final grading.

(D) A statement that no construction, installation of wells, pipes, conduits, or septic systems, or any other excavation must occur on the property without approval by the commissioner.

(b) The final closure will be deemed adequate unless within one hundred fifty (150) days of receipt of the documentation required by subsection (a), the commissioner issues a notice of deficiency of final closure, including additional action that needs to

be taken and the timetable for the necessary additional actions. *(Solid Waste Management Board; 329 IAC 10-37-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1917; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

## Rule 38. Restricted Waste Site Type III and Construction/Demolition Sites; Post-Closure Requirements

### 329 IAC 10-38-1 Performance standard

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. Owners or operators of a restricted waste site Type III and a construction/demolition site shall maintain the facilities during the post-closure period in a manner that:

(1) minimizes the need for further maintenance;

(2) controls post-closure escape of waste, waste constituents, leachate, contaminated precipitation, or waste decomposition products to the ground or surface waters or the atmosphere; and

(3) at a minimum, is in compliance with applicable closure provisions and conditions imposed in the facility permit.

*(Solid Waste Management Board; 329 IAC 10-38-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1917; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-38-2 Post-closure duties

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 2. (a) Owners or operators of a restricted waste site Type III and a construction/demolition site have the following duties after closure of the facility:

(1) Post-closure activities must be performed in accordance with the approved post-closure plan as specified in section 3 of this rule.

(2) Inspection of the facility at least twice per year with a written report on the condition of the facility to be submitted to the commissioner.

(3) Maintenance of the minimum thickness of final cover and vegetation as required by 329 IAC 10-36 and 329 IAC 10-37.

(4) Maintenance of the final contours of the facility in accordance with the applicable standards of 329 IAC 10-36 and 329 IAC 10-37, and at a minimum, to provide that no ponding of water occurs on filled areas.

(5) Control of any vegetation on vehicular access ways to monitoring wells as required by 329 IAC 10-36-2(c).

(6) Control of vegetation at the site as necessary to enable determination of the need for slope and cover maintenance and leachate outbreak abatement.

(7) Maintenance of access control and benchmarks at the facility.

(8) If applicable, maintenance and monitoring of any water quality monitoring devices, leachate collection and treatment systems, or methane control systems.

(9) Control of any leachate at the facility as required by 329 IAC 10-36.

(b) Post-closure requirements imposed by this section must be followed for a period of thirty (30) years following the date of final closure certification in accordance with 329 IAC 10-37-7. *(Solid Waste Management Board; 329 IAC 10-38-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1917; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

### 329 IAC 10-38-3 Post-closure plan

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 3. (a) Owners or operators of a restricted waste site Type III and a construction/demolition site shall have a written post-closure plan. The post-closure plan must be submitted with the permit application in accordance with 329 IAC 10-11 and be approved if acceptable by the commissioner as part of the permit. The approved post-closure plan must become a condition of the permit. If the plan is determined to be unacceptable, the commissioner shall identify the items needed to make it complete.

(b) The post-closure plan must identify the activities that will be carried on after closure under section 2 of this rule and must include at least the following:

(1) A description of the planned maintenance activities and the frequency at which they will be performed.

(2) The name, address, and telephone number of the owner or operator with responsibility for maintaining the site after closure whom the commissioner may contact about the solid waste facility during the post-closure period.

(3) A post-closure cost estimate in accordance with 329 IAC 10-39-3. Post-closure costs must be calculated based on the cost necessary for the work to be performed by a third party. For post-closure maintenance of final cover and vegetation, the amount per acre must be ten percent (10%) of the cost calculated under 329 IAC 10-37-4(b)(4) multiplied by the total acreage of the site permitted for filling. The estimate of the post-closure cost per acre must be that necessary for providing the activities as specified in the post-closure plan; however, the sum of the closure cost estimate and post-closure cost estimate must not be less than fifteen thousand dollars ($15,000) per acre or fraction of an acre covered by the permitted facility.

*(Solid Waste Management Board; 329 IAC 10-38-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-38-4 Post-closure certification**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. When the post-closure care requirements of this rule have been completed, the owner or operator of a restricted waste site Type III or a construction/demolition site shall submit a certification statement signed by both the owner or operator and a registered professional engineer that the post-closure care requirements have been met and the facility has stabilized. The post-closure certification will be deemed adequate unless within one hundred fifty (150) days of receipt of the post-closure certification, the commissioner issues notice of the deficiency of post-closure, including actions necessary to correct the deficiency. *(Solid Waste Management Board; 329 IAC 10-38-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-38-5 Responsibility after post-closure to correct nuisance**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 5. Subsequent to the completion of post-closure, the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located shall be responsible for correcting and controlling any nuisance conditions occurring at the facility. *(Solid Waste Management Board; 329 IAC 10-38-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-38-6 Elimination of threats to human health or the environment after post-closure**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. Subsequent to the completion of post-closure, the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located shall be responsible for eliminating any threat to human health or the environment. *(Solid Waste Management Board; 329 IAC 10-38-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**329 IAC 10-38-7 Remedial action**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 7. The commissioner may proceed under IC 13-7-8.7 *[IC 13-7-8.7 was repealed by P.L.1-1996, SECTION 99, effective July 1, 1996.]* and rules adopted under IC 13-7-8.7-7(d) *[IC 13-7-8.7-7 was repealed by P.L.1-1996, SECTION 99, effective July 1, 1996.]* that require the owner or operator of a closed facility or the owner of real estate upon which a closed facility is located, or any other responsible party under IC 13-7-8.7 *[IC 13-7-8.7 was repealed by P.L.1-1996, SECTION 99, effective July 1, 1996.]*, to perform remedial action, including the installation and monitoring of ground water monitoring wells or other devices, if the commissioner determines that the closed facility is a threat to human health or the environment, due to a release of a hazardous substance from the facility into the environment. *(Solid Waste Management Board; 329 IAC 10-38-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; readopted filed Jan 10, 2001, 3:25 p.m.: 24 IR 1535; readopted filed May 14, 2007, 1:53 p.m.: 20070523-IR-329070138BFA)*

**Rule 39. Solid Waste Land Disposal Facilities; Financial Responsibility**

**329 IAC 10-39-1 Applicability**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 1. (a) This rule applies to all solid waste land disposal facilities that:

(1) are required to have a permit by 329 IAC 10-11-1; and

(2) apply for a permit after April 13, 1996, or have an operating permit in effect on April 13, 1996.

(b) The permittee for solid waste land disposal facilities regulated by this rule shall provide financial responsibility for closure and post-closure in accordance with the following:

(1) Closure and post-closure rules, including:

(A) 329 IAC 10-22 and 329 IAC 10-23;

(B) 329 IAC 10-30 and 329 IAC 10-31; or

(C) 329 IAC 10-37 and 329 IAC 10-38.

(2) Sections 2 through 5 of this rule.

(c) Solid waste land disposal facilities that have operating permits in effect must not continue to operate unless they have established financial responsibility for post-closure by choosing a financial assurance mechanism under section 3(a) of this rule and by funding the same under section 3(b) of this rule.

(d) Solid waste land disposal facilities that have operating permits in effect must not continue to operate unless they have established financial responsibility for closure by choosing a financial assurance mechanism under section 2(a) of this rule and by funding the same under section 2(b) of this rule.

(e) Solid waste land disposal facilities that apply for permits after April 13, 1996, must provide financial responsibility as required by 329 IAC 10-11-2.5(a)(4). The documents establishing both the closure and post-closure financial responsibility must be executed by and approved by the commissioner prior to operation of the facility. In addition, the financial assurance mechanism must be funded under sections 2(b) and 3(b) of this rule prior to operation. *(Solid Waste Management Board; 329 IAC 10-39-1; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1918; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1864, eff Apr 1, 2004)*

**329 IAC 10-39-2 Closure; financial responsibility**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 2. (a) The permittee shall establish financial responsibility for closure of all the permitted acreage for the solid waste land disposal facility before waste placement, except as provided in subsection (b). The permittee shall choose from the following options:

(1) The trust fund option, including the following:
(A) The permittee may satisfy the requirements of this section by establishing a trust agreement on:
(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.
(B) All trust agreements must contain the following:
(i) Identification of solid waste land disposal facilities and corresponding closure cost estimates covered by the trust agreement.
(ii) The establishment of a trust fund in the amount determined by subsection (b) and guarantee payments from that fund either:
(AA) reimbursing the permittee for commissioner-approved closure work done; or
(BB) making payments to the commissioner for accomplishing required closure work.
(iii) The requirement of annual evaluations of the trust to be submitted to the commissioner.
(iv) The requirement of successor trustees to notify the commissioner, in writing, of their appointment at least ten (10) days before the appointment becoming effective.
(v) The requirement of the trustee to notify the commissioner, in writing, of the failure of the permittee to make a required payment into the fund.
(vi) The establishment that the trust is irrevocable unless terminated, in writing, with the approval of the:
(AA) permittee;
(BB) trustee; and
(CC) commissioner.
(vii) A certification that the signatory of the trust agreement for the permittee was duly authorized to bind the permittee.
(viii) A notarization of all signatures by a notary public commissioned to be a notary public in the state of Indiana at the time of notarization.
(ix) The establishment that the trustee is:
(AA) authorized to act as a trustee; and
(BB) an entity whose operations are regulated and examined by a federal and state of Indiana agency.
(x) The requirement of:
(AA) initial payment into the fund be made within thirty (30) days of the commissioner's approval of the trust agreement; and
(BB) any subsequent payments be made annually not later than June 15.
(2) The surety bond option, including the following:
(A) The permittee may satisfy the requirements of this section by establishing a surety bond on:
(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.
(B) All surety bonds must contain the following:
(i) The establishment of penal sums in the amount determined by subsection (b).
(ii) Provision that the surety:
(AA) will be liable to fulfill the permittee's closure obligations upon notice from the commissioner that the permittee has failed to do so; and
(BB) may not cancel the bond without first sending notice of cancellation by certified mail to the permittee and the commissioner at least one hundred twenty (120) days before the effective date of the cancellation.
(iii) Provision that the permittee may not terminate the bond without prior written authorization by the commissioner.
(C) The permittee shall establish a standby trust fund to be utilized in the event the:
(i) permittee fails to fulfill closure obligations; and
(ii) bond guarantee is exercised.
The trust fund must be established in accordance with the requirements of subdivision (1).
(D) The surety company issuing the bond must be:
(i) among those listed as acceptable sureties for federal bonds in Circular 570 of the United States Department of the Treasury; and

(ii) authorized to do business in Indiana.

(E) The surety will not be liable for deficiencies in the performance of closure by the permittee after the commissioner releases the permittee in accordance with section 6 of this rule.

(3) The letter of credit option, including the following:

(A) The permittee may satisfy the requirements of this section by establishing a letter of credit on:

(i) forms provided by the commissioner; or

(ii) other forms approved by the commissioner.

(B) All letters of credit must contain the following:

(i) The establishment of credit in the amount determined by subsection (b).

(ii) Irrevocability.

(iii) An effective period of at least one (1) year and automatic extensions for periods of at least one (1) year unless the issuing institution provides written notification of cancellation by certified mail to both the permittee and the commissioner at least one hundred twenty (120) days before the effective date of cancellation.

(iv) Provision that, upon written notice from the commissioner, the institution issuing the letter of credit will:

(AA) state that the permittee's obligations have not been fulfilled; and

(BB) deposit funds equal to the amount of the letter of credit into a trust fund to be used to ensure the permittee's closure obligations are fulfilled.

(C) The permittee shall establish a standby trust fund to be utilized in the event the:

(i) permittee fails to fulfill its closure obligations; and

(ii) letter of credit is utilized.

The trust funds must be established in accordance with the requirements of subdivision (1).

(D) The issuing institution must be an entity:

(i) that has the authority to issue letters of credit; and

(ii) whose letters of credit operations are regulated and examined by a federal or Indiana agency.

(4) The insurance option, including the following:

(A) The permittee may satisfy the requirements of this section by providing evidence of insurance on:

(i) forms provided by the commissioner; or

(ii) other forms approved by the commissioner.

(B) All insurance must include the following requirements:

(i) Be in the amount determined by subsection (b).

(ii) Provide that, upon written notification to the insurer by the commissioner that the permittee has failed to perform final closure, the insurer shall make payments:

(AA) in any amount, not to exceed the amount insured; and

(BB) to any person authorized by the commissioner.

(iii) Provide that the permittee shall maintain the policy in full force and effect unless the commissioner consents in writing to termination of the policy.

(iv) Provide for assignment of the policy to a transferee permittee.

(v) Provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure of the permittee to pay the premium. No policy may:

(AA) be canceled;

(BB) be terminated; or

(CC) fail to be renewed;

unless at least one hundred twenty (120) days before the event the commissioner and the permittee are notified by the insurer in writing.

(C) The insurer shall either be:

(i) licensed to transact the business of insurance; or

(ii) eligible to provide insurance as an excess or surplus lines insurer;

in one (1) or more states.

(5) The financial test for restricted waste sites option, including the following:

(A) This financial test is only available for restricted waste sites.

(B) If a permittee meets the criteria set forth in item (I) and either item (ii) or (iii), the permittee shall be deemed to have

established financial responsibility as follows:

(i) Less than fifty percent (50%) of the company's gross revenues are derived from waste management.

(ii) The permittee meets the following four (4) tests:

(AA) Two (2) of the following three (3) ratios are met:

(aa) A ratio of total liabilities to net worth less than two (2.0).

(bb) A ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than one-tenth (0.1).

(cc) A ratio of current assets to current liabilities greater than one and one-half (1.5).

(BB) Net working capital and tangible net worth each at least six (6) times the sum of the current closure and current post-closure cost estimates.

(CC) Tangible net worth of at least ten million dollars ($10,000,000).

(DD) Assets in the United States amounting to at least ninety percent (90%) of the permittee's total assets or at least six (6) times the sum of the current closure and current post-closure costs estimates.

(iii) The permittee meets the following four (4) tests:

(AA) A current rating for the permittee's most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's.

(BB) Tangible net worth of at least six (6) times the sum of the current closure and current post-closure cost estimates.

(CC) Tangible net worth of at least ten million dollars ($10,000,000).

(DD) Assets located in the United States amounting to at least ninety percent (90%) of the permittee's total assets or at least six (6) times the sum of the current closure and current post-closure estimates.

(C)To demonstrate the financial test has been met, the permittee shall submit the following documents to the commissioner:

(i) A form provided by the commissioner or other form approved by the commissioner, signed by the permittee's chief financial officer, demonstrating the applicable criteria have been met.

(ii) A copy of an independent certified public accountant's report examining the permittee's financial statements for the latest completed fiscal year.

(iii) A special report from the permittee's independent certified public accountant to the permittee stating the following:

(AA) The certified public accountant has compared the data that the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in the financial statements.

(BB) In connection with that procedure, no matters came to the attention of the certified public accountant that caused the certified public accountant to believe that the specified data should be adjusted.

(D) The permittee shall submit updated clause (C) documents to the commissioner within ninety (90) days after the close of each fiscal year.

(E) If at any time the permittee fails to meet the financial test, the permittee shall establish an alternate financial responsibility mechanism within one hundred twenty (120) days after the end of the fiscal year for which the year-end financial data shows that the permittee no longer meets the requirements.

(F) The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed in the independent certified public accountant's report examining the permittee's financial statements. An adverse opinion or a disclaimer of opinion will be cause for disallowance. Other qualifications may be cause for disallowance if, in the opinion of the commissioner, they indicate the permittee does not meet the requirements of this subdivision. The permittee shall choose an alternate financial responsibility mechanism within thirty (30) days after notification of the disallowance.

(6) The local government financial test option, including the following:

(A) This financial test is only available for permittees that are local governments. As used in this subdivision, "local government" means a county, municipality, township, or solid waste management district.

(B) A local government permittee that satisfies the following requirements may demonstrate financial assurance up to the amount specified in clause (C):

(i) The local government permittee shall meet the following financial component requirements:

(AA) The local government permittee shall satisfy either of the following as applicable:

(aa) If the local government permittee has outstanding, rated general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, the local government permittee shall have a current rating of:

(1) Aaa, Aa, A, or Baa as issued by Moody's; or

(2) AAA, AA, A, or BBB as issued by Standard and Poor's;

on all the general obligation bonds.

(bb) The local government permittee shall satisfy the following financial ratios based on the local government permittee's most recent audited annual financial statement:

(1) A ratio of cash plus marketable securities to total expenditures greater than or equal to five-hundredths (0.05).

(2) A ratio of annual debt service to total expenditures less than or equal to two-tenths (0.20).

(BB) The local government permittee shall:

(aa) prepare the local government permittee's financial statements in conformity with generally accepted accounting principles (GAAP) for governments; and

(bb) have the financial statements audited by an independent certified public accountant or the state board of accounts.

(CC) A local government permittee is not eligible to assure the local government permittee's obligations under this subdivision if any of the following applies to the local government permittee:

(aa) The local government permittee is currently in default on any outstanding general obligation bonds.

(bb) The local government permittee has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's.

(cc) The local government permittee has operated at a deficit equal to five percent (5%) or more of total annual revenue in each of the past two (2) fiscal years.

(dd) The local government permittee receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant or the state board of accounts auditing its financial statement as required under subitem (BB). The commissioner may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the commissioner deems the qualification insufficient to warrant disallowance of use of the test.

(DD) As used in this subdivision, the following terms apply:

(aa) "Cash plus marketable securities" means all the cash plus marketable securities held by the local government permittee on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations, such as pensions.

(bb) "Debt service" means the amount of principal and interest due on a loan in a given time period, typically the current year.

(cc) "Deficit" means total annual revenues minus total annual expenditures.

(dd) "Total expenditures" means all expenditures, excluding capital outlays and debt repayment.

(ee) "Total revenues" means revenues from all taxes and fees but does not include the proceeds from borrowing or asset sales, excluding revenues from funds managed by the local government permittee on behalf of a specific third party.

(ii) The local government permittee shall meet the following public notice component requirements:

(AA) The local government permittee shall place a reference to the closure and post-closure care costs assured through the financial test into the local government permittee's next comprehensive annual financial report (CAFR) at the time of the next required local government financial test annual submittal or before the initial receipt of waste at the facility, whichever is later. Disclosure must include the following:

(aa) Nature and source of closure and post-closure care requirements.

(bb) Reported liability at the balance sheet date.

(cc) Estimated total closure and post-closure care cost remaining to be recognized.

(dd) Percentage of landfill capacity used to date.

(ee) Estimated landfill life in years.

(BB) A reference to corrective action costs must be placed in the CAFR not later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 329 IAC 10-21-13.

(CC) For the first year the financial test is used to assure costs at a particular facility, the reference may instead be placed in the facility's operating record until issuance of the next available CAFR if timing does not permit the reference to be incorporated into the most recently issued CAFR or budget.

(DD) For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with this public notice component.

(iii) The local government permittee shall meet the following record keeping and reporting requirements:

(AA) The local government permittee shall place the following items in the facility's operating record:

(aa) A letter signed by the local government permittee's chief financial officer that completes the following:

(1) Lists all of the current cost estimates covered by a financial test as described in clause (C).

(2) Provides evidence and certifies that the local government permittee meets the conditions of item (i)(AA) through (i)(CC).

(3) Certifies that the local government permittee meets the conditions of item (ii) and clause (C).

(bb) The local government permittee's independently audited year-end financial statements for the latest fiscal year (except for local government permittees where audits are required every two (2) years when unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor, who shall be an independent certified public accountant, or the state board of accounts that conducts equivalent comprehensive audits.

(cc) A report to the local government permittee from the local government permittee's independent certified public accountant or the state board of accounts based on performing an agreed upon procedures engagement relative to the:

(1) financial ratios required by item (i)(AA)(bb), if applicable; and

(2) requirements of item (i)(BB), (i)(CC)(cc), and (i)(CC)(dd).

The independent certified public accountant's or state board of accounts' report must state the procedures performed and the findings.

(dd) A copy of the CAFR used to comply with item (ii) or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(BB) The items required in subitem (AA) must be placed in the facility operating record as follows:

(aa) In the case of closure and post-closure care, either at the time of the next required local government financial test annual submittal or before the initial receipt of waste at the facility, whichever is later.

(bb) In the case of corrective action, not later than one hundred twenty (120) days after the corrective action remedy is selected in accordance with the requirements of 329 IAC 10-21-13.

(CC) After the initial placement of the items in the facility's operating record, the local government permittee shall:

(aa) update the information; and

(bb) place the updated information in the operating record;

within one hundred eighty (180) days following the close of the local government permittee's fiscal year.

(DD) The local government permittee is no longer required to meet the requirements of this item when either the local government permittee:

(aa) substitutes alternate financial assurance as specified in this rule; or

(bb) is released from the requirements of this rule in accordance with section 6 or 11 of this rule.

(EE) A local government permittee shall satisfy the requirements of the financial test at the close of each fiscal year. If the local government permittee no longer meets the requirements of the local government financial test, the local government permittee shall, within one hundred twenty (120) days following the close of the local government permittee's fiscal year, complete the following:

(aa) Obtain alternative financial assurance that meets the requirements of this rule.

(bb) Place the required submissions for that assurance in the facility's operating record.

(cc) Notify the commissioner that the local government permittee no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(FF) The commissioner, based on a reasonable belief that the local government permittee may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government permittee at any time. If the commissioner finds, on the basis of the reports or other information, that the local government permittee no longer meets the requirements of the local government financial test, the local government permittee shall provide alternate financial assurance in accordance with this rule.

(GG) The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed in the state board of accounts' annual financial audit of the local government permittee. An adverse opinion or a disclaimer of opinion is cause for disallowance. Other qualifications may be cause for disallowance if, in the opinion of the commissioner, the qualifications indicate the local government permittee does not meet the requirements of this subdivision. The local government permittee shall choose an alternate financial responsibility mechanism within ninety (90) days after notification of the disallowance.

(C) The local government permittee shall complete the calculation of costs to be assured. The portion of the closure, post-closure, and corrective action costs for which a local government permittee can assure under this subdivision is determined as follows:

(i) If the local government permittee does not assure other environmental obligations through a financial test, the local government permittee may assure closure, post-closure, and corrective action costs that equal up to forty-three percent (43%) of the local government permittee's total annual revenue.

(ii) If the local government permittee assures other environmental obligations through a financial test, including those associated with:

(AA) underground injection control (UIC) facilities under 40 CFR 144.62;

(BB) petroleum underground storage tank facilities under 329 IAC 9-8;

(CC) polychlorinated biphenyls (PCB) storage facilities under 40 CFR 761; and

(DD) hazardous waste treatment, storage, and disposal facilities under 329 IAC 3.1-14 or 329 IAC 3.1-15;

the local government permittee shall add those costs to the closure, post-closure, and corrective action costs the local government permittee seeks to assure under this subdivision. The total that may be assured must not exceed forty-three percent (43%) of the local government permittee's total annual revenue.

(iii) The local government permittee shall obtain an alternate financial assurance instrument for those costs that exceed the limits set in this clause.

(7) The local government guarantee option, including the following:

(A) A permittee may demonstrate financial assurance for closure, post-closure, and corrective action, as required by sections 2, 3, and 10 of this rule, by obtaining a written guarantee provided by a local government.

(B) The guarantor shall meet the requirements of the local government financial test in subdivision (6) and shall comply with the terms of a written guarantee as follows:

(i) The guarantee must be effective:

(AA) before the initial receipt of waste or at the time of the next required local government financial test annual submittal, whichever is later, in the case of closure and post-closure care; or

(BB) not later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of 329 IAC 10-21-13.

(ii) The guarantee must provide the following:

(AA) If the permittee fails to perform any combination of closure, post-closure care, or corrective action of a facility covered by the guarantee, the guarantor shall:

(aa) perform or pay a third party to perform any combination of closure, post-closure care, or corrective action as required under this subitem; or

(bb) establish a fully funded trust fund as specified in subdivision (1) in the name of the permittee.

(BB) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the permittee and to the commissioner. Cancellation must not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the permittee and the

commissioner as evidenced by the return receipts.

(CC) If a guarantee is canceled under subitem (BB), the permittee shall, within ninety (90) days following receipt of the cancellation notice by the permittee and the commissioner, complete the following:

(aa) Obtain alternate financial assurance under this rule.

(bb) Place evidence of that alternate financial assurance in the facility operating record.

(cc) Notify the commissioner.

(DD) If the permittee fails to provide alternate financial assurance within the ninety (90) day period under subitem (CC), the guarantor shall complete the following:

(aa) Provide alternate assurance within one hundred twenty (120) days following the guarantor's notice of cancellation.

(bb) Place evidence of the alternate assurance in the facility operating record.

(cc) Notify the commissioner.

(C) The permittee shall complete the following record keeping and reporting requirements:

(i) The permittee shall place a certified copy of the guarantee along with the items required under subdivision (6)(B)(iii) into the facility's operating record:

(AA) before the initial receipt of waste or at the time of the next required local government financial test annual submittal, whichever is later, in the case of closure and post-closure care; or

(BB) not later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(ii) The permittee is no longer required to maintain the items specified in this clause when the permittee:

(AA) substitutes alternate financial assurance as specified in this rule; or

(BB) is released from the requirements of this rule in accordance with section 6 or 11 of this rule.

(iii) If a local government guarantor no longer meets the requirements of subdivision (6), the permittee shall, within ninety (90) days, complete the following:

(AA) Obtain alternative assurance.

(BB) Place evidence of the alternate assurance in the facility operating record.

(CC) Notify the commissioner.

If the permittee fails to obtain alternate financial assurance within the ninety (90) day period, the guarantor shall provide that alternate assurance within the next thirty (30) days.

(b) Financial responsibility closure cost estimate requirements must be as follows:

(1) For purposes of establishing financial responsibility, the permittee shall have a detailed written estimate of the cost of closing the facility based on the following:

(A) The closure costs derived under:

(i) 329 IAC 10-22-2(c);

(ii) 329 IAC 10-30-4(b); or

(iii) 329 IAC 10-37-4(b).

(B) One (1) of the closure cost estimating standards under subdivision (3).

(2) As used in this section, "establishment of financial responsibility" means submission of financial responsibility to the commissioner in the form of one (1) of the options under subsection (a).

(3) The permittee shall use one (1) of the following closure cost estimating standards:

(A) The entire solid waste land disposal facility closure standard is an amount that equals the estimated total cost of closing the entire solid waste land disposal facility, less an amount representing portions of the solid waste land disposal facility that have been certified for partial closure in accordance with:

(i) 329 IAC 10-22-3;

(ii) 329 IAC 10-30-5; or

(iii) 329 IAC 10-37-5.

(B) The incremental closure standard is an amount that, for any year of operation, equals the total cost of closing the portion of the solid waste land disposal facility dedicated to the current year of solid waste land disposal facility operation, plus all closure amounts from all other partially or completely filled portions of the solid waste land disposal facility from prior years of operation that have not yet been certified for partial closure in accordance with:

(i) 329 IAC 10-22-3;

(ii) 329 IAC 10-30-5; or
(iii) 329 IAC 10-37-5.

(c) Until final closure of the solid waste land disposal facility is certified, the permittee shall annually review and submit to the commissioner the financial closure estimate derived under this section annually not later than June 15. The submittal must also include a copy of the final contour map of the solid waste land disposal facility that delineates the boundaries of all areas into which waste has been placed as of the annual review and certified by a registered professional engineer or registered land surveyor. In addition, as part of the annual review, the permittee shall revise the closure estimate as follows:

(1) For inflation, using an inflation factor derived from the annual implicit price deflator for gross national product as published by the United States Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year as follows:

(A) The first revision is made by multiplying the original closure cost estimate by the inflation factor. The result is the revised closure cost estimate.

(B) Subsequent revisions are made by multiplying the latest revised closure cost estimate by the latest inflation factor.

(2) For changes in the closure plan, whenever the changes increase the cost of closure.

(d) The permittee may revise the closure cost estimate downward whenever a change in the closure plan decreases the cost of closure or whenever portions of the solid waste land disposal facility have been certified for partial closure under:

(1) 329 IAC 10-22-3;
(2) 329 IAC 10-30-5; or
(3) 329 IAC 10-37-5.

*(Solid Waste Management Board; 329 IAC 10-39-2; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1919; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2817; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2228; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3866; errata filed Sep 8, 1999, 11:38 a.m.: 23 IR 27; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1864, eff Apr 1, 2004; filed Jul 10, 2007, 2:26 p.m.: 20070808-IR-329050167FRA)*

**329 IAC 10-39-3 Post-closure; financial responsibility**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 3. (a) The permittee shall establish financial responsibility for post-closure care for all the permitted acreage of the solid waste land disposal facility before waste placement, except as provided by subsection (b). The permittee shall choose from the following options:

(1) The trust fund option, including the following:

(A) The permittee shall establish a trust agreement on:

(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.

(B) All trust agreements must conform to the requirements detailed in section 2(a)(1)(B) of this rule, with the exception that the term "post-closure" be substituted for the term "closure".

(2) The surety bond option, including the following:

(A) The permittee shall establish a surety bond on:

(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.

(B) All surety bonds must conform to the requirements detailed in section 2(a)(2)(B) through 2(a)(2)(E) of this rule, with the exception that the term "post-closure" be substituted for the term "closure".

(3) The letter of credit option, including the following:

(A) The permittee shall establish a letter of credit on:

(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.

(B) All letters of credit must conform to the requirements detailed in section 2(a)(3)(B) through 2(a)(3)(D) of this rule, with the exception that the term "post-closure" be substituted for the term "closure".

(4) The insurance option, including the following:

(A) The permittee shall provide evidence of insurance on:

(i) forms provided by the commissioner; or
(ii) other forms approved by the commissioner.

(B) All insurance must conform to the requirements detailed in section 2(a)(4)(B) and 2(a)(4)(C) of this rule, with the exception that the term "post-closure" be substituted for the term "closure".

(5) The financial test for restricted waste sites option, including the following:

(A) This financial test is only available for restricted waste sites.

(B) If a permittee meets the criteria set forth in section 2(a)(5)(B) through 2(a)(5)(D) of this rule, the permittee shall be deemed to have established financial responsibility.

(6) The local government financial test option, including the following:

(A) This financial test is only available for permittees that are local governments. As used in this subdivision, "local government" means a county, municipality, township, or solid waste management district.

(B) If a permittee meets the criteria set forth in section 2(a)(6)(B) and 2(a)(6)(C)of this rule, the permittee shall be deemed to have established financial responsibility.

(C) If, at any time, the permittee fails to meet the financial test, the permittee shall establish an alternate financial responsibility mechanism within one hundred twenty (120) days after the end of the fiscal year for which the financial data required by this clause shows that the permittee no longer meets the requirements.

(D) The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed in the state board of accounts' annual financial audit of the permittee. An adverse opinion or a disclaimer of opinion is cause for disallowance. Other qualifications may be cause for disallowance if, in the opinion of the commissioner, the qualifications indicate the permittee does not meet the requirements of this subdivision. The permittee shall choose an alternate financial responsibility mechanism within ninety (90) days after notification of the disallowance.

(7) The local government guarantee option. If the local government guarantor and the permittee meet the requirements of section 2(a)(7)(B) and 2(a)(7)(C) of this rule, the permittee shall be deemed to have established financial responsibility.

(b) The permittee shall choose a financial responsibility mechanism, as provided in subsection (a), that guarantees funds will be available to meet the post-closure requirements of the solid waste land disposal facility, including the following:

(1) As applicable, funding must equal the amount determined under:

(A) 329 IAC 10-23-3(c)(5) and 329 IAC 10-23-3(c)(6);

(B) 329 IAC 10-31-3(b)(4); or

(C) 329 IAC 10-38-3(b)(4).

(2) Except for the trust fund mechanism, the permittee may completely fund the post-closure care amount, as determined under subdivision (1), based on the following formula and before the placement of any waste in the permitted area that is certified to receive waste:

$$\left[\left(\frac{CA + TR_A}{TP_A} \times PC_{(o)}\right) + PC_{(f)}\right] \times C = PCF$$

Where:

| | | |
|---|---|---|
| CA | = | Total of existing acres certified to receive waste and acres that received waste previously. |
| $TP_A$ | = | Total permitted acres. |
| $TR_A$ | = | Total projected acres that will be certified to receive waste within the current annual update year, which is June 15 to June 15. |
| $PC_{(f)}$ | = | Fixed post-closure costs. |
| $PC_{(o)}$ | = | All other post-closure costs but fixed post-closure costs. |
| C | = | Contingencies, which equals 1.25. |
| PCF | = | Post-closure funding. |

Fixed costs include semiannual inspections and reports, access control and benchmark maintenance, ground water monitoring and well maintenance, and methane gas monitoring and maintenance.

(3) For only the trust fund mechanism, funding may also be accomplished by making annual payments equal to the amount determined by the formula:

$$\text{Next Payment} = \frac{CE - CV}{Y}$$

Where: CE = The current total post-closure cost estimate as determined by subdivision (1).
CV = The current value of the trust fund.
Y = The number of years in the term of the original permit, which is five (5) years or less, or over the remaining life of the solid waste land disposal facility, whichever is shorter.

Annual funding must be accomplished not later than June 15 of each year.

(c) The permittee shall submit an annual update for the amount calculated under subsection (b) for inflation and for changes in the post-closure plan, which increase the costs of post-closure, not later than June 15 of each year to the commissioner regarding post-closure financial assurance until final closure certification.

(d) If the formula in subsection (b)(2) is used, the permittee shall itemize separately both the fixed costs and all other costs. *(Solid Waste Management Board; 329 IAC 10-39-3; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1922; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2235; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3871; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1870, eff Apr 1, 2004; filed Jul 10, 2007, 2:26 p.m.: 20070808-IR-329050167FRA)*

**329 IAC 10-39-4 Multiple facilities**

Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 4. A permittee may use a single financial responsibility mechanism to meet the requirements for more than one (1) solid waste land disposal facility. Evidence of financial responsibility submitted to the commissioner must include a list showing, for each solid waste land disposal facility, the following:

(1) The solid waste land disposal facility permit number, name, and address.

(2) The amount of funds available through the mechanism that must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each solid waste land disposal facility.

*(Solid Waste Management Board; 329 IAC 10-39-4; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1923; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3872)*

**329 IAC 10-39-5 Joint financial responsibility for closure and post-closure**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 5. (a) A permittee may satisfy the requirements for financial responsibility for both closure and post-closure care for one (1) or more solid waste land disposal facilities by using a trust fund, surety bond, letter of credit, or insurance.

(b) In addition to the mechanisms listed under subsection (a), a permittee of a restricted waste site may use a financial test for restricted waste sites.

(c) In addition to the mechanisms listed under subsection (a), a permittee that is a local government may use a local government financial test or local government guarantee.

(d) The mechanisms listed under this section must meet the specifications for the mechanism in sections 2 through 3 of this rule.

(e) The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial responsibility of closure and of post-closure care. *(Solid Waste Management Board; 329 IAC 10-39-5; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1924; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2236; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3873)*

**329 IAC 10-39-6 Release of financial responsibility obligations**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 6. As part of the acknowledgement of final closure and post-closure, the commissioner shall notify the permittee that the permittee is no longer required to maintain financial responsibility for closure and post-closure care once the requirements for closure and post-closure have been fulfilled. *(Solid Waste Management Board; 329 IAC 10-39-6; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1924)*

**329 IAC 10-39-7 Incapacity of permittee, guarantors, or financial institutions**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 7. (a) A permittee shall notify the commissioner by certified mail within ten (10) days after commencement of a voluntary or involuntary proceeding under bankruptcy under 11 U.S.C. 101 et seq., October 1, 1979, naming the permittee as debtor.

(b) A local government guarantor, which provides financial assurance to a permittee, shall notify the permittee and the commissioner by certified mail within ten (10) days after commencement of a voluntary or involuntary proceeding under bankruptcy under 11 U.S.C. 101 et seq., October 1, 1979, naming the local government guarantor as debtor.

(c) A permittee who fulfills the requirements of sections 1 through 5 of this rule by obtaining a trust fund, surety bond, letter of credit, insurance policy, or local government guarantee shall be deemed to be without the required financial responsibility in the event of bankruptcy of the:

(1) trustee;

(2) institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments; or

(3) local government guarantor.

The permittee shall establish other financial responsibility within sixty (60) days after such an event. *(Solid Waste Management Board; 329 IAC 10-39-7; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1924; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2236; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1871, eff Apr 1, 2004)*

**329 IAC 10-39-8 Penalty for failure to fund financial responsibility**
Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-14; IC 13-18; IC 13-20; IC 13-30; IC 36-9-30

Sec. 8. In addition to any other penalties provided for in this article or in IC 13-14 and IC 13-30, any failure to obtain, maintain, or fund any financial responsibility mechanism as required by this rule within the prescribed time limits shall be deemed to endanger human health or the environment, and shall be grounds for a proceeding to revoke the solid waste land disposal facility's permit or to order final closure of the solid waste land disposal facility. *(Solid Waste Management Board; 329 IAC 10-39-8; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1924; filed Mar 19, 1998, 11:07 a.m.: 21 IR 2820; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3873)*

**329 IAC 10-39-9 Release of funds**
Authority: IC 13-14-8-7; IC 13-15-2-1; IC 13-19-3-1
Affected: IC 13-30-2; IC 36-9-30

Sec. 9. (a) This section applies to all permittees funding financial responsibility mechanisms under this rule whether utilizing the entire facility standard (section 2(b)(3)(A) of this rule) or the incremental standard (section 2(b)(3)(B) of this rule).

(b) Permittees may request release of closure or post-closure financial responsibility funds as follows:

(1) Closure as follows:

(A) Prior to closure of the solid waste land disposal facility, if payments have been made by the permittee as a part of establishing a financial responsibility mechanism, and if the payments total more than the required amount, the permittee

may request, and the commissioner shall release the excess amount provided no refund must be made for an amount less than two thousand five hundred dollars ($2,500). Such request for release must be made no more than once a year.

(B) After beginning final closure, a permittee or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the commissioner for a minimum of ten thousand dollars ($10,000), except after final closure certification approval. However, the permittee must provide maps indicating the closure work that has been completed, and after expenditures for closures have been reimbursed, the remaining amount in the fund must be an adequate amount to complete the remainder of the closure work as required by the closure plan.

(2) Post-closure as follows:

(A) Prior to closure of the solid waste land disposal facility, if payments have been made by the permittee as a part of establishing a financial responsibility mechanism and if the payments total more than the required amount, the permittee may request, and the commissioner shall release the excess amount provided no refund must be made for an amount less than two thousand five hundred dollars ($2,500). Such request for release must be made no more than once a year.

(B) During the period of post-closure care, the commissioner may approve a release of funds by an amount of not less than two thousand five hundred dollars ($2,500) and not more than three percent) (3%) of the current balance of the trust fund, except after final post-closure certification approval, if the permittee demonstrates to the commissioner that the value of the trust fund exceeds the remaining cost of post-closure care. Provided, however, that at no time must the value of the trust fund be allowed to drop below the remaining cost of post-closure care. Such requests for release must be made no more than once a year.

(c) Within thirty (30) days after receipt of a request for release of funds under subsection (b), the commissioner shall determine whether the expenditures are justified and, if so, shall instruct the trustee to make reimbursement in such amounts as the commissioner specifies in writing. If the commissioner determines that the cost of the closure or post-closure will be significantly greater than the value of the trust fund, the commissioner may withhold reimbursement of such amounts as deemed prudent until it is determined that the permittee is no longer required to maintain the financial responsibility. *(Solid Waste Management Board; 329 IAC 10-39-9; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1924; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3873; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1871, eff Apr 1, 2004)*

**329 IAC 10-39-10 Financial assurance for corrective action for municipal solid waste landfills**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-20; IC 36-9-30

Sec. 10. (a) The owner, operator, or permittee of each MSWLF required to undertake a corrective action program for ground water impacts shall establish financial assurance for the most recent corrective action program. The owner, operator, or permittee shall choose from the following options:

(1) The trust fund option, including the following:

(A) The owner, operator, or permittee shall demonstrate financial assurance for corrective action by obtaining a trust fund on forms provided by the commissioner or in such other form as approved by the commissioner.

(B) All trust funds must conform to the requirements detailed in section 2(a)(1)(B) of this rule, with the exception that the term "corrective action" be substituted for the term "closure".

(2) The surety bond option, including the following:

(A) The owner, operator, or permittee shall demonstrate financial assurance for corrective action by obtaining a surety bond on forms provided by the commissioner or in such other form as approved by the commissioner.

(B) All surety bonds must conform to the requirements detailed in section 2(a)(2)(B) through 2(a)(2)(E) of this rule, with the exception that the term "corrective action" be substituted for the term "closure".

(3) The letter of credit option, including the following:

(A) The owner, operator, or permittee shall demonstrate financial assurance for corrective action by obtaining a letter of credit on forms provided by the commissioner or in such other form as approved by the commissioner.

(B) All letters of credit must conform to the requirements detailed in section 2(a)(3)(B) through 2(a)(3)(D) of this rule, with the exception that the term "corrective action" be substituted for the term "closure".

(4) The local government financial test option, including the following:

(A) This financial test is only available for owners, operators, or permittees that are local governments. As used in this subdivision, "local government" means a county, municipality, township, or solid waste management district.

(B) If an owner, operator, or permittee meets the criteria set forth in section 2(a)(6)(B) through 2(a)(6)(C) of this rule, the owner, operator, or permittee shall be deemed to have established financial responsibility.

(C) If, at any time, the owner, operator, or permittee fails to meet the financial test, the owner, operator, or permittee shall establish an alternate financial responsibility mechanism within one hundred twenty (120) days after the end of the fiscal year for which the financial data required by this clause shows that the owner, operator, or permittee no longer meets the requirements.

(D) The commissioner may disallow use of this test on the basis of qualifications in the opinion expressed in the state board of accounts' annual financial audit of the owner, operator, or permittee. An adverse opinion or a disclaimer of opinion is cause for disallowance. Other qualifications may be cause for disallowance if, in the opinion of the commissioner, the qualifications indicate the owner, operator, or permittee does not meet the requirements of this subdivision. The owner, operator, or permittee shall choose an alternate financial responsibility mechanism within ninety (90) days after notification of the disallowance.

(5) The local government guarantee option. If the local government guarantor and the owner, operator, or permittee meet the requirements of section 2(a)(7)(B) and 2(a)(7)(C) of this rule, the owner, operator, or permittee shall be deemed to have established financial responsibility.

(b) The owner, operator, or permittee of an MSWLF shall choose a financial responsibility mechanism that guarantees funds will be available to meet the corrective action requirements under 329 IAC 10-21-13. The owner, operator, or permittee shall provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with 329 IAC 10-21-13 and shall include the following, as applicable:

(1) Payments into the trust fund must be made annually by the owner, operator, or permittee over half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period. For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half (½) of the current cost estimate for corrective action divided by the number of years in the corrective action pay-in period. The amount of subsequent payments must be determined by the following formula:

$$\text{NextPayment} = \frac{RB - CV}{Y}$$

Where: RB = the most recent estimate of the required trust fund balance for corrective action (that is, the total costs that will be incurred during the second half of the corrective action period)

CV = the current value of the trust fund

Y = the number of years remaining in the pay-in period

The initial payment into the trust fund must be made no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(2) The surety bond must be effective no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(3) The letter of credit must be effective no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(4) The local government financial test must be effective no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(5) The local government guarantee must be effective no later than one hundred twenty (120) days after the corrective action remedy has been selected in accordance with 329 IAC 10-21-13.

(c) An owner, operator, or permittee of an MSWLF required to undertake a corrective action program for ground water impacts shall have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under 329 IAC 10-21-13. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner, operator, or permittee shall notify the commissioner that the estimate has been placed in the operating record. The owner, operator, or permittee shall do the following:

(1) Annually adjust the estimate for inflation until the corrective action program is completed in accordance with 329 IAC 10-21-13.

(2) Increase the corrective action cost estimate and the amount of financial assurance provided under subsections (a) and (b)

if changes in the corrective action program or MSWLF conditions increase the maximum costs of corrective action. The owner, operator, or permittee may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under subsections (a) and (b) if the cost estimate exceeds the maximum remaining costs of corrective action. The owner, operator, or permittee shall notify the commissioner that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record. *(Solid Waste Management Board; 329 IAC 10-39-10; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1925; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2236; filed Aug 2, 1999, 11:50 a.m.: 22 IR 3874; filed Feb 9, 2004, 4:51 p.m.: 27 IR 1872, eff Apr 1, 2004)*

**329 IAC 10-39-11 Release of financial responsibility obligations**

Authority: IC 13-14-8-7; IC 13-15; IC 13-19-3
Affected: IC 13-18; IC 13-20; IC 36-9-30

Sec. 11. As part of the acknowledgement of corrective action, the commissioner shall notify the owner, operator, or permittee that the owner, operator, or permittee is no longer required to maintain financial responsibility under 329 IAC 10-39-10 for corrective action once the requirements for corrective action have been fulfilled. *(Solid Waste Management Board; 329 IAC 10-39-11; filed Mar 14, 1996, 5:00 p.m.: 19 IR 1926; filed Feb 26, 1999, 5:45 p.m.: 22 IR 2238)*

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