

SECTION .1400 - SOLID WASTE COMPOST FACILITIES

15A NCAC 13B .1401 REQUIREMENT FOR PERMIT

(a) No person shall construct, operate, expand, or modify a facility that produces compost from solid waste or solid waste co-composted with other wastes unless it has a currently valid permit issued by the Division for a solid waste compost facility, except as provided in Rule .1402(f) and (g) of this Section. General provisions, siting, design, application, operational, distribution, reporting, and closure requirements shall be in accordance with Rules .1402 through .1410 of this Section.

(b) Plans for a Large Type 3 or Type 4 Solid Waste Compost Facility, as defined in Rule .1402(e) of this Section, or plans for any facility located over a closed-out disposal area, shall be submitted with the permit application in accordance with Rule .0202(a)(3) of this Subchapter.

(c) Compost permits shall be issued for a period of 10 years. An application for renewal of a permit shall be submitted to the Division in accordance with Rule .1405 of this Section no less than four months prior to expiration of the existing permit.

(d) Permit modifications.

(1) The owner or operator shall submit to the Division a permit application in accordance with Rule .1405 of this Section for a major modification to the existing permit issued by the Division. For the purpose of this Section, a major modification means any of the following: a change in the property or facility operator or ownership, a change in facility type as defined in Rule .1402 of this Section, an expansion or relocation of the operations area in the existing permit, or a change to the operations or design plan such as changes in the compost method, waste receipt and handling, feedstock storage, or processing layout. A permit issued by the Division as a result of a permit modification shall be in compliance with Paragraph (c) of this Rule.

(2) The owner or operator shall not be required to submit a permit application to the Division in accordance with Rule .1405 of this Section for a change to a plan that was submitted in accordance with Rule .1405 of this Section if the Division determines that the change does not meet the definition of a major modification provided in Subparagraph (1) of this Paragraph, the change complies with the requirements of this Section, and the owner or operator submits to the Division written notice of the change, including documentation of the updated information such as revised pages or addendums to the plan. The Division shall acknowledge receipt of the change by sending written notice to the owner or operator.

(e) For purposes of this Section, "operations area" means the total area used for mixing, grinding, processing, composting, curing, and wood waste and feedstock unloading and storage. Operations area shall not include buffer areas.

(f) For purposes of the Section, "material onsite" means wood wastes, feedstocks, mixtures, and active and curing compost, but shall not include finished product.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1402 GENERAL PROVISIONS FOR SOLID WASTE COMPOST FACILITIES

(a) The provisions of this Rule shall apply to the following facilities:

- (1) facilities that produce compost or mulch from yard waste or from residues from agricultural products and processing;
- (2) vermicomposting facilities;
- (3) anaerobic digestion facilities; and
- (4) compost facilities that compost solid waste or co-compost solid waste with sludges that are not classified as a solid waste functioning as a nutrient source.

(b) Facilities that co-compost with sewage sludge shall comply with all applicable federal regulations regarding sludge management in 40 CFR 503, which is incorporated by reference including subsequent amendments and editions. Copies of the Code of Federal Regulations may be obtained from the U.S. Government Publishing Office website at www.gpo.gov at no cost.

(c) The provisions of this Section shall not apply to compost facilities that compost only wastewater treatment sludge with solid waste functioning only as a bulking agent.

(d) Solid waste compost produced outside the State of North Carolina and imported into the state shall comply with the requirements specified in Rule .1407 of this Section.

(e) Solid waste compost facilities shall be classified based on the types and amounts of materials to be composted as follows:

- (1) Type 1 facilities may receive yard and garden waste, silvicultural waste, and untreated and unpainted wood waste.
- (2) Type 2 facilities may receive pre-consumer meat-free food processing waste, vegetative agricultural waste, source separated paper, and other source separated specialty wastes that are low in pathogens and physical contaminants. Waste acceptable for a Type 1 facility may be composted at a Type 2 facility.
- (3) Type 3 facilities may receive manures and other agricultural waste, meat, post-consumer source-separated food wastes, and other source-separated specialty wastes that are low in physical contaminants but may have high levels of pathogens. Waste acceptable for a Type 1 or 2 facility may be composted at a Type 3 facility.
- (4) Type 4 facilities may receive industrial solid waste, non-solid waste sludges functioning as a nutrient source or other similar compostable organic wastes, or any combination thereof. Waste acceptable for a Type 1, 2, or 3 facility may be composted at a Type 4 facility.
- (5) In determining whether a specific waste stream listed in Subparagraphs (1) through (4) of this Paragraph is acceptable for composting, the Division shall consider the method of handling the waste prior to delivery to the facility as well as the physical characteristics of the waste. Testing for pathogens and physical contaminants shall be required if a determination cannot be made based upon prior knowledge of the waste. Test methods and constituents tested shall comply with Rule .1407(b)(2), (b)(3), (b)(5), and (b)(6) of this Section.
- (6) Small facilities.
 - (A) Small Type 1 facilities shall have an operations area less than two acres in size and shall be limited to no more than 6,000 cubic yards material onsite at any given time, including finished product.
 - (B) Small Type 2, 3, and 4 facilities shall have an operations area less than two acres in size and shall be limited to no more than 1,000 cubic yards material onsite at any given time.
- (7) Large facilities.
 - (A) Large Type 1 facilities shall have an operations area of two or more acres in size or have more than 6,000 cubic yards material onsite at any given time.
 - (B) Large Type 2, 3, and 4 facilities shall have an operations area of two or more acres in size or have more than 1,000 cubic yards material onsite at any given time.

(f) The following operations shall be exempt from the requirements of this Section:

- (1) backyard composting;
- (2) farming operations and silvicultural operations if the compost is produced from materials grown on the owner's land and re-used on the owner's land or associated farming operations and not offered to the public; and
- (3) persons receiving no more than 30 cubic yards of leaves from an offsite source on an annual basis.

(g) The following operations shall be exempt from the permitting requirements in Rule .1401 of this Section:

- (1) Small Type 1 Facilities meeting the following conditions:
 - (A) notification to the Division prior to operation and on an annual basis as to:
 - (i) the facility location;
 - (ii) the name(s) and contact information of the owner and operator;
 - (iii) type and amount of wastes received;
 - (iv) the composting process to be used;
 - (v) the intended distribution of the finished product; and
 - (vi) for new facilities only, a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within the existing zoning, if any, and that any necessary zoning approval or permit has been obtained;

- (B) the facility operates in accordance with the operational requirements as set forth in Rule .1406(1) through (11) and (16) of this Section and the setbacks in Rule .1404(a)(1) through (a)(10) of this Section;
 - (C) the facility operates in accordance with all other state or local laws, ordinances, rules, regulations or orders;
 - (D) the facility shall not be located over a closed-out disposal site; and
 - (E) safety measures shall be taken to prevent fires and access to fire equipment or fire-fighting services shall be provided.
- (2) Compost facilities meeting the following conditions:
- (A) the site receives for composting pre- and post-consumer food waste, manure, vegetative agricultural waste, yard and garden waste, land-clearing debris, untreated and unpainted wood waste, or source separated paper;
 - (B) material onsite, not including finished compost, shall not exceed 100 cubic yards at any time;
 - (C) the operations area shall be less than 1.0 acres total;
 - (D) the site operates in accordance with operational requirements as set forth in Rule .1406 of this Section and the setbacks in Rule .1404(a)(1) through (a)(10) of this Section, except that the buffer between property line and operations area shall be at least 50 feet and the buffer between the operations area and residences or dwellings not owned and occupied by the operator shall be at least 200 feet;
 - (E) the site is operated to prevent the release of particulates and odors outside of the property boundary, and the site does not attract vectors such as insects and rodents;
 - (F) for facilities producing compost that is distributed to the public or used in public areas, compost produced from the facility shall meet the pathogen testing and record keeping requirements per Rule .1407(b) and Rule .1408(a) of this Section; and
 - (G) the site operates in accordance with all applicable State or local laws, ordinances, rules, regulations, or orders.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
 Eff. December 1, 1991;
 Amended Eff. May 1, 1996;
 Readopted Eff. November 1, 2019.*

15A NCAC 13B .1403 GENERAL PROHIBITIONS FOR SOLID WASTE COMPOST FACILITIES

- (a) Neither hazardous waste nor asbestos-containing waste shall be accepted at a facility or processed into compost.
- (b) Household hazardous waste shall not be accepted by a facility, except in an area designated by facility site plans for storage, and shall not be processed into compost.
- (c) Compost made from solid waste that cannot be used pursuant to the requirements of this Rule shall be reprocessed or disposed of pursuant to the requirements of this Subchapter.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
 Eff. December 1, 1991;
 Amended Eff. May 1, 1996;
 Readopted Eff. November 1, 2019.*

15A NCAC 13B .1404 SITING/DESIGN REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

- (a) A site shall meet the requirements of this Rule at the time of initial permitting and shall continue to meet these requirements throughout the life of the permit only on the site property owned or controlled by the applicant or by the landowner(s) at the time of permitting.
 - (1) A site located in a floodplain shall not restrict the flow of the 100-year flood, reduce the temporary storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, land, or water resources.
 - (2) A 100-foot buffer shall be maintained between all property lines and compost areas for Type 3 and 4 facilities, 50-foot for Type 1 or 2 facilities.

- (3) A 500-foot buffer shall be maintained between compost areas and residences or dwellings not owned and occupied by the permittee, except that Type 1 and Small Type 2 and 3 facilities shall maintain a 200-foot buffer.
 - (4) A 100-foot buffer shall be maintained between all wells and compost areas, except monitoring wells.
 - (5) A 50-foot buffer shall be maintained between perennial streams and rivers and compost areas.
 - (6) A compost facility shall be located in accordance with 15A NCAC 02B .0200, Classification and Water Quality Standards Applicable to Surface Waters in North Carolina.
 - (7) All portions of a compost facility located over a closed-out disposal area shall be designed with a pad adequate to protect the disposal area cap from being disturbed, as defined in Part (a)(10)(C) of this Rule, and there shall be no runoff from the pad onto the cap or side slopes of the closed out area.
 - (8) A 25-foot minimum distance shall be maintained between compost areas and swales or berms;
 - (9) A site shall meet the following surface water requirements:
 - (A) a site shall not cause a discharge of materials or fill materials into waters or wetlands of the State that is in violation of Section 404 of the Clean Water Act;
 - (B) a site shall not cause a discharge of pollutants into waters of the State that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), pursuant to Section 402 of the Clean Water Act; and
 - (C) a site shall not cause non-point source pollution of waters of the State that violates the water quality standards as set forth in 15A NCAC 02B.
 - (10) A site shall meet the following groundwater and operations area pad requirements:
 - (A) a site shall not contravene groundwater standards as set forth in 15A NCAC 02L;
 - (B) the operations area of Type 1, 2, and 3 facilities shall have one of the following:
 - (i) a soil pad with a soil texture finer than loamy sand. For a Type 1 or 2 facility, the depth to the seasonal high water table shall be maintained at least 12 inches. For a Type 3 facility, the depth to the seasonal high water table shall be maintained at least 24 inches; or
 - (ii) a pad in accordance with Part (C) of this Subparagraph;
 - (C) the operations area of a Type 4 facility shall have a pad with a linear coefficient of permeability no greater than 1×10^{-7} cm/sec. The pad shall consist of one of the following:
 - (i) a non-soil pad, such as concrete and asphalt, designed and constructed to meet the weight requirements of the compost operation and to prevent infiltration of liquids to groundwater; or
 - (ii) a soil pad of at least 18 inches constructed in accordance with Rule .1624(b)(8) and Rule .1621 of this Subchapter. A 12-inch soil layer shall be maintained over the pad to protect it from damage and desiccation: and
 - (D) finished product shall be stored where the depth to the seasonal high water table is at least 12 inches below ground surface.
- (b) For Subparagraphs (a)(2) through (a)(4) and Part (a)(10)(B) of this Rule, alternative minimum buffers or requirements may be modified by the Division, based on the waste type, facility design, and regional topography, if necessary to protect public health and the environment or to prevent the creation of a nuisance.
- (c) A site shall meet the following design requirements:
- (1) a site shall not allow unauthorized public access;
 - (2) a site shall meet the requirements of Sedimentation Control (15A NCAC 04);
 - (3) a site shall meet the requirements of the Air Pollution Control Requirements (15A NCAC 02D) to minimize fugitive emissions and odors; and
 - (4) a site shall be designed to minimize odors at the property boundary by means such as expanded buffers, consideration of topography and wind patterns, or process layout design.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996; Readopted Eff. November 1, 2019.

15A NCAC 13B .1405 APPLICATION REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

One paper copy and one electronic copy of a solid waste compost facility permit application shall be submitted to the Division. The following information shall be required for an application for a permit to construct and operate a Large Type 1, Small or Large Type 2 or 3 or all Type 4 solid waste compost facilities:

- (1) the name and contact information of the facility owner and operator;
- (2) documentation of property ownership, including:
 - (a) the property owners;
 - (b) a current property deed; and
 - (c) a notarized acknowledgement letter from the landowner of use of the property as a solid waste facility if the landowner is not the facility owner or operator.
- (3) an aerial photograph or scaled drawing, at a scale of one inch to less than or equal to 400 feet, showing the area within one-fourth mile of the proposed site's boundaries with the following identified:
 - (a) the entire property owned or leased by the person proposing the facility;
 - (b) the location of all homes, wells, industrial buildings, public or private utilities, roads, watercourses, and the topography within 500 feet of the proposed facility; and
 - (c) the land use zoning of the proposed site.
- (4) a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within the existing zoning, if any, and that necessary zoning approvals or permits have been obtained;
- (5) an explanation of how the site complies with siting and design standards required by Rule .1404 of this Section;
- (6) a report indicating the following:
 - (a) the waste types, the source and estimated quantity of the solid waste to be composted including the source and expected quantity of any bulking agent or amendment (if applicable), expected recycling of bulking agent or compost, and seasonal variations in the solid waste type or quantity; and
 - (b) for facilities that use natural soils as a pad, a soil evaluation of the site conducted by a licensed soil scientist down to a depth of four feet or to bedrock or evidence of a seasonal high water table, evaluating all physical soil properties and depth of the seasonal high water table;
- (7) a site plan at a scale of one inch to less than or equal to 100 feet that delineates the following:
 - (a) the existing and proposed contours, at intervals appropriate to the topography;
 - (b) the location and elevations of dikes, trenches, and other water control devices and structures for the diversion and controlled removal of surface water;
 - (c) the designated setbacks and property lines;
 - (d) the proposed utilities and structures;
 - (e) the areas for unloading, processing, active composting, curing, and storing of material;
 - (f) the access roads and details on traffic patterns;
 - (g) the wetlands, streams, and 100-year floodplains; and
 - (h) the proposed surface and groundwater monitoring locations, if required.
- (8) an operations plan that includes the following:
 - (a) the name and contact information for the person responsible for the operation of the facility;
 - (b) a list of personnel and the responsibilities of each position;
 - (c) a schedule for operations, including days and hours that the facility will be open, preparations before opening, and procedures to be followed after closing for the day;
 - (d) special precautions or procedures for operating during wind, heavy rain, snow, freezing or other adverse conditions;
 - (e) a description of actions to be taken to minimize noise, vectors, and air borne particulates;
 - (f) a description of the use for the finished compost, the method for removal from the site, and a contingency plan for disposal or alternative use of residues or finished compost that cannot be used in the expected manner due to poor quality or change in market conditions;

- (g) contingency plan describing actions to be taken for equipment breakdown, unauthorized waste arriving at the facility, spills, and fires;
 - (h) a discussion of compliance with the operational requirements listed in Rule .1406 of this Section; and
 - (i) for Large Type 1, Large Type 2, Large Type 3, and all Type 4 facilities, include the following:
 - (i) a description of procedures for incoming material inspections;
 - (ii) a description of procedures to meet the final product sampling and analyses requirements specified in in Rule .1407 of this Section;
 - (iii) a description of procedures to meet the record keeping requirements specified in Rule .1408 of this Section; and
 - (iv) a copy of all applicable local, state, and federal permits and approvals necessary for the operation of the facility.
- (9) a report on the design of the facility, including:
- (a) the design capacity of the facility;
 - (b) a process flow diagram of the entire facility, including the type, size, and location of all equipment used in the compost process, and feedstock flow streams. The flow streams shall indicate the quantity of materials by weight and volume;
 - (c) a description and sizing of the storage facilities for feedstocks, amendments, and finished compost;
 - (d) the means for measuring, shredding, mixing, and proportioning input materials;
 - (e) the anticipated process duration, including receiving, preparation, composting, curing, and distribution;
 - (f) a description of the location of all temperature and any other type of monitoring points within the compost windrow, and the frequency of monitoring;
 - (g) a description of how the temperature control and monitoring equipment will demonstrate that the facility meets the requirements in Rule .1406(11), (12), or (13) of this Section, as appropriate for the feedstock;
 - (h) the method of aeration provided and the capacity of aeration equipment;
 - (i) a description of the method to control surface water run-on and run-off and the method to control, collect, treat, and dispose of leachate generated;
 - (j) the separation, processing, storage, and ultimate disposal of non-compostable materials, if applicable;
 - (k) a description of dust control and other air emission control measures; and
 - (l) a description of recycling or other material handling processes used at the facility.
- (10) Odor Control Plan. Operators of Large Type 2, Large Type 3, and all Type 4 facilities shall prepare, submit to the Division, and implement an odor control plan that details site specific conditions to meet the design requirement in Rule .1404(c)(4) of this Section. Existing facilities permitted prior to the readopted effective date of this Rule shall meet these requirements at the time of permit renewal. The plan shall contain the following:
- (a) an identification of all onsite potential odor sources;
 - (b) a description of onsite weather conditions that may affect odor migration, such as prevailing wind direction, topography, and seasonal variations;
 - (c) a plan to monitor onsite odor and record odor data for the odor sources with the potential to migrate offsite. Data shall include date, time, site specific conditions, weather conditions, wind direction, and characteristics and intensity of odor;
 - (d) a description of the facility's odor complaint protocol, including forms used, odor verification by operator both onsite and offsite, what the response will be, and who will be contacted;
 - (e) a description of complaint record keeping; and

- (f) a description of odor control design and operating best management practices to be used onsite, including:
 - (i) personnel training;
 - (ii) feedstock characteristics;
 - (iii) the initial mixing of feedstocks to reach targeted carbon to nitrogen (C:N) ratios and moisture levels;
 - (iv) maintenance of compost piles for moisture;
 - (v) aeration methods, frequency, and protocol;
 - (vi) leachate and liquids management;
 - (vii) weather monitoring and protocol;
 - (viii) management of airborne emissions; and
 - (ix) windrow covering;
- (11) engineering plans and specifications for the facility, including manufacturer's performance data for all equipment selected; and
- (12) documentation that the local fire protection authority has been notified of the site use.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; Amended Eff. May 1, 1996; Readopted Eff. November 1, 2019.

15A NCAC 13B .1406 OPERATIONAL REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

A person who maintains or operates a solid waste compost facility shall maintain and operate the site to conform with the practices and operational requirements of this Rule.

- (1) Plan and Permit Requirements.
 - (a) Approved plans and conditions of the permit shall be followed.
 - (b) A copy of the permit, plans, and operational reports shall be maintained on site at all times.
- (2) Erosion control measures shall be practiced to prevent on-site erosion and to control the movement of silt or contaminants from the site.
- (3) Stormwater shall be diverted from the operations area.
- (4) Leachate shall be contained on site or treated prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit may be required in accordance with 15A NCAC 02B prior to the discharge of leachate to surface waters.
- (5) Access and Security Requirements.
 - (a) Large facilities as defined in Rule .1402(e)(7) of this Section shall be secured to prevent unauthorized entry by means such as gates, chains, berms, or fences.
 - (b) An operator shall be on duty at the site at all times while the facility is open for public use, and shall prevent unauthorized access to the facility operations area.
 - (c) The access road to the site shall be of all-weather construction and maintained.
- (6) A site shall only accept those solid wastes that it is permitted to receive.
- (7) Safety Requirements.
 - (a) Open burning of solid waste shall be prohibited.
 - (b) Equipment shall be provided to control accidental fires and arrangements made with the local fire protection agency to provide fire-fighting services when needed.
 - (c) Personnel training shall be provided to ensure that all employees are trained in site specific safety, remedial, and corrective action procedures.
- (8) Reporting Fires. Fires shall be reported to the Division orally within 24 hours of the incident and in writing within 15 days of the incident.

- (9) Sign Requirements.
 - (a) Signs providing information on waste that may be received, dumping procedures, the hours during which the site is open for public use, and the permit number shall be posted at the site entrance.
 - (b) Traffic signs and markers shall be provided to direct traffic to and from the discharge area.
 - (c) Signs shall be posted stating that no hazardous waste, asbestos containing waste, or medical waste may be received at the site.
- (10) Monitoring Requirements.
 - (a) Temperature monitoring shall meet the record-keeping requirements in Rule .1408 of this Section.
 - (b) The temperature of all compost produced shall be monitored sufficiently to ensure that the pathogen reduction criteria are met. Onsite thermometers shall be calibrated annually and records of calibration shall be maintained.
- (11) Compost process at Type 1 and Type 2 facilities shall be maintained at or above 55 degrees Celsius (131 degrees F) for three days and aerated to maintain elevated temperatures.
- (12) Vector Attraction Reduction (VAR). Types 2, 3 and 4 facilities shall maintain the compost process at a temperature above 40 degrees Celsius (104 degrees F) for 14 days or longer and the average temperature for that time shall be higher than 45 degrees Celsius (113 degrees F).
- (13) Process to Further Reduce Pathogens (PFRP). The composting process shall qualify as a process to further reduce pathogens for all Type 3 and Type 4 facilities. The following shall be acceptable methods:
 - (a) the windrow composting method, in which the following requirements apply:
 - (i) aerobic conditions shall be maintained during the composting process;
 - (ii) a temperature of 131 degrees F (55 degrees Celsius) or greater shall be maintained in the windrow for at least 15 days; and
 - (iii) during the high temperature period, the windrow shall be turned at least five times.
 - (b) the static aerated pile composting method, in which the following requirements apply:
 - (i) aerobic conditions shall be maintained during the composting process; and
 - (ii) the temperature of the compost pile shall be maintained at 131 degrees F (55 degrees Celsius) or greater for at least three days.
 - (c) the within-vessel composting method, in which the temperature in the compost piles shall be maintained at a minimal temperature of 131 degrees F (55 degrees Celsius) for three days.
- (14) Putrescible feedstocks added to the compost process shall be incorporated using methods to minimize odor such as reducing mixing time or the addition of organic material.
- (15) The finished compost shall meet the classification, testing, and distribution requirements in Rule .1407 of this Section.
- (16) The amount of compost stored at the facility shall not exceed the designed storage capacity.
- (17) The site shall be operated to minimize odors at the property boundary by means such as windrow covers, maintaining design process indicator parameters, and maintaining carbon to nitrogen design ratios.
- (18) Odor Corrective Action.
 - (a) If the Odor Control Plan prepared in accordance with Rule .1405(10) of this Section has been followed and the Division determines during a site visit that offsite odors are not being minimized, the owner or operator shall submit to the Division an Odor Corrective Action Report. The report shall contain the following:
 - (i) a summary of the actions taken in the Odor Control Plan;
 - (ii) an identification of onsite odor sources, in order of severity;
 - (iii) an evaluation and identification of odorous feedstocks as they relate to odor complaints;
 - (iv) an evaluation of current operation process indicators including carbon to nitrogen (C:N) ratio, pH, moisture content, oxygen levels, temperature, porosity, and particle size;

- (v) an evaluation of the compost recipe calculation with C:N ratio testing that is performed by an independent laboratory for each feedstock;
 - (vi) an identification of potential offsite odor receptors based on their proximity to the odor sources and on weather patterns;
 - (vii) a description of new odor reduction methods, if proposed, and an evaluation of their feasibility, in terms of effectiveness, cost, and equipment needs;
 - (ix) an evaluation of the elimination of specific odorous feedstocks; and
 - (x) recommendations for implementing new corrective action measures for odor minimization, including a schedule.
- (b) The owner or operator shall implement the new corrective action measures for odor minimization recommended in the Odor Corrective Action Report if the Division determines that the new corrective measures will reduce odors outside of the property boundary and will comply with the requirements of this Section. The Division may require the elimination of specific odorous feedstocks if a facility fails to meet the odor minimization required by Item (17) of this Rule. The Division shall provide written notice to the owner or operator of the determination.
 - (c) The owner or operator shall develop and implement additional corrective action measures if necessary to meet the requirements of Item (17) of this Rule to minimize odors at the property boundary.
- (19) Compost Facility Training Requirements.
- (a) Facilities permitted as Large Type 1, Large Type 2, all Type 3, and all Type 4 shall have an operator, supervisor, or manager trained in accordance with the requirements in G.S. 130A-309.25. No less than one trained operator, supervisor, or manager meeting the requirements of this Sub-item shall be onsite during the facility's operating hours or available at a phone number provided in the facility permit.
 - (i) Training in accordance with G.S. 130A-309.25(c) shall be required every five years.
 - (ii) Persons who have achieved and maintain compost operator certification by the US Composting Council Certification Commission or equivalent shall be considered as having met the training requirements in G.S. 130A-309.25 for the permitted facility.
 - (b) Owners or operators shall provide annual training for facility staff, including a review of the operations plan and permit documents.
 - (c) Documentation of training required in Sub-items (a) and (b) of this Item shall be maintained at the facility and made available to the Division upon request.
 - (d) Facilities permitted before the readopted effective date of this Rule shall meet the requirements of Sub-item (a) of this Item within three years of the readopted effective date of this Rule. Facilities permitted after the readopted effective date of this Rule shall meet the requirements of Sub-item (a) of this Item within 18 months of permit issuance.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; RRC objection Eff. April 18, 1996 due to lack of statutory authority; Amended Eff. June 1, 1996; Readopted Eff. November 1, 2019.

15A NCAC 13B .1407 CLASSIFICATION, TESTING, AND DISTRIBUTION OF SOLID WASTE COMPOST PRODUCTS

(a) Compost or mulch that is produced at a Type 1 facility, is free from offensive odor, contains no sharp particles, and, for compost, has met the temperature requirements in Rule .1406(11) of this Section shall be classified Grade A and have unrestricted application and distribution. Compost analytical testing shall not be required for Type 1 compost if temperature requirements in Rule .1406(11) of this Section have been met and documented.

(b) Compost produced from Type 2, 3, and 4 facilities shall be sampled and analyzed as follows:

- (1) a composite sample of the compost produced at each compost facility shall be analyzed at intervals of every 20,000 tons of compost produced or every six months, whichever comes first, for metals and pathogens;
- (2) compost samples shall be analyzed for the metals listed in 40 CFR 503.13(b)(3), except that analysis for mercury shall not be required for Type 2 and 3 facilities, and analysis for arsenic and selenium shall not be required for Type 2 facilities. The concentration of metals in compost offered for sale or distribution to the public shall not exceed the pollutant concentration limits listed in 40 CFR 503.13(b)(3). 40 CFR 503.13 and 40 CFR 503.32 are incorporated by reference including subsequent amendments and editions. Copies of the Code of Federal Regulations may be obtained from the U.S. Government Publishing Office website at www.gpo.gov at no cost;
- (3) compost samples shall be analyzed for pathogens, either for fecal coliform or salmonella bacteria. The concentration of pathogens in compost offered for sale or distribution to the public shall not exceed the concentration limits listed in 40 CFR 503.32(a)(3);
- (4) sample collection, preservation, and analysis shall assure valid and representative results. At least three individual samples of equal volume shall be taken from each batch produced in separate areas along the side of the batch. Each sampling point shall be sampled from a depth of two to six feet into the pile from the outside surface of the pile as follows:
 - (A) metals samples shall be composited and accumulated over a six-month period or at intervals of every 20,000 tons of product produced, whichever comes first; and
 - (B) pathogens samples shall be a representative composite sample of the compost and shall be processed within a period of time required by the testing procedure;
- (5) analytical testing methods shall be in accordance with the procedures of one of the following:
 - (A) EPA publication SW-846, "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods." This document is incorporated by reference, including subsequent amendments and editions, and may be obtained free of charge at <https://www.epa.gov/hw-sw846>;
 - (B) the U.S. Department of Agriculture/U.S. Compost Council publication "Test Methods for the Examination of Composting and Compost" (TMECC). This document is incorporated by reference including subsequent amendments and editions, and may be obtained for a fee of three hundred fifty dollars (\$350.00) at <https://compostingcouncil.org/tmecc/> or a copy may be reviewed free of charge at the Division of Waste Management, Solid Waste Section office at 217 West Jones Street, Raleigh, N.C. 27603; or
 - (C) other methods that are approved by the Division as providing equivalent standards of analysis; and
- (6) the Division may decrease or increase the parameters to be analyzed or the frequency of analysis based upon monitoring data, changes in the waste stream or processing, or information regarding the potential for the presence of contaminants that are not required to be analyzed in this Paragraph.

(c) Compost produced from Types 2, 3, and 4 facilities that meet the requirements of Subparagraphs (b)(2) and (b)(3) of this Rule shall be classified Grade A compost and shall have unlimited, unrestricted distribution, except as otherwise determined by the Division based on analyses of parameters pursuant to Subparagraph (b)(6) of this Rule.

(d) The facility operator shall be responsible for meeting the requirements of the North Carolina Department of Agriculture and Consumer Services Plant Industry Division Seed and Fertilizer Section concerning the distribution of this product.

*History Note: Authority G.S. 130A-309.11;
Eff. December 1, 1991;
RRC objection Eff. April 18, 1996 due to lack of statutory authority;
Amended Eff. June 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1408 RECORDKEEPING AND REPORTING REQUIREMENTS

(a) Record Keeping: Facility owners or operators shall maintain records for no less than five years. The following records shall be available for inspection by Division personnel during the facility's normal business hours and shall be sent to the Division upon request:

- (1) daily operational records that include temperature data (length of the composting period) and quantity of material processed;
- (2) analytical results of compost testing;
- (3) the quantity, type, and source of waste received;
- (4) the quantity of waste processed into compost;
- (5) the odor management records required by Rule .1405(10) of this Section; and
- (6) the quantity of compost removed for use or disposal and the market or permitted disposal facility.

(b) Annual Reporting: An annual report for the period July 1 to June 30 shall be submitted by all facility owners or operators to the Division by August 1 of each year and shall contain:

- (1) the facility name, address, and permit number;
- (2) the total quantity in tons, with sludge values expressed in dry weight, and the type of waste received at the facility during the year covered by the report, including tons of waste received from local governments of origin;
- (3) the total quantity in tons of compost produced at the facility during the year covered by the report;
- (4) the total quantity in tons of compost removed for use or disposal from the facility during the year covered by the report;
- (5) monthly temperature monitoring to support Rule .1406 of this Section; and
- (6) the results of analytical testing required by Rule .1407 of this Section.

(c) Yearly totals of solid waste received and composted shall be reported back to the local government of origin for annual recycling reporting.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
RRC objection Eff. April 18, 1996 due to lack of statutory authority;
Amended Eff. June 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1409 ALTERNATIVE PROCEDURES, VERMICOMPOSTING, AND ANAEROBIC DIGESTION REQUIREMENTS

(a) An owner or operator of a composting facility subject to the provisions of this Section may request in writing the approval of an alternative procedure for the facility or the compost that is produced. The following information shall be submitted to the Solid Waste Section:

- (1) the specific facility for which the exception is requested;
- (2) the specific provisions of this Section for which the exception is requested;
- (3) the basis for the exception;
- (4) the alternate procedure or requirement for which the approval is sought and a demonstration that the alternate procedure or requirement provides equivalent protection of the public health and the environment; and
- (5) a demonstration of the effectiveness of the proposed alternate procedure.

The Division shall approve the request if the alternative procedure is equivalent to procedures provided in the rules of this Section and is protective of the public health and the environment.

(b) Vermicompost Facilities. This Paragraph shall be applicable to vermicompost facilities that receive solid waste as defined in G.S. 130A-290. Facilities that receive only animal manure or only municipal wastewater treatment sludge, or both, shall not be subject to this Paragraph.

- (1) The following operations shall be exempt from the requirements of this Section:
 - (A) backyard vermicomposting; and
 - (B) farming operations where the vermicompost is produced from materials grown on the owner's land and re-used on the owner's land.

- (2) Vermicompost facilities meeting the following conditions shall be exempt from the permitting requirements in Rule .1405 of this Section;
- (A) the site receives pre- and post-consumer food waste, manure, vegetative agricultural waste, yard and garden waste, untreated, unpainted, and uncontaminated wood material, source separated paper, or any combination thereof;
 - (B) no more than 100 cubic yards of material shall be onsite at any time. This volume shall include feedstock storage, processing, pre-composting, and active vermicomposting, but shall not include finished vermicompost;
 - (C) outdoor areas of the site used for feedstock storage, processing, pre-composting, or vermicomposting in open areas or open containers or bins shall meet the siting criteria and setback requirements of Rule .1404(a)(1) through (a)(10) of this Section, except that the minimum setback to the property line shall be at least 50 feet and the minimum setback to residences or dwellings not owned and occupied by the owner or operator shall be at least 200 feet;
 - (D) outdoor feedstock storage, processing, pre-composting, and vermicomposting operations areas, that are enclosed on all sides in containers or bins shall maintain a minimum setback to the property line of at least 25 feet;
 - (E) the site is operated to prevent the release of particulates and odors outside of the property boundary, and the site does not attract vectors such as insects and rodents;
 - (F) surface water shall be diverted from the operational and storage areas. Leachate shall be contained onsite and treated to meet the standards of the applicable off-site disposal method;
 - (G) for facilities producing vermicompost that is distributed to the public or used in public areas, the owner meets the pathogen testing and record keeping requirements of Rule .1407(b) and .1408(a) of this Section for a Type 3 facility; and
 - (H) the site operates in accordance with all applicable State or local laws, ordinances, rules, regulations, or orders.
- (3) A permit shall be required for vermicompost facilities that do not meet the conditions of Subparagraphs (1) or (2) of this Paragraph. A permit application for a vermicomposting facility shall include the information required by Rules .1404 and .1405 of this Section, except that Rules .1405(9)(f) through (9)(h) of this Section do not apply. Operations or parts of operations that are indoors shall be exempt from the siting requirements of Rule .1404 of this Section. Permitted vermicomposting facilities shall be subject to:
- (A) Rule .1406(1) through (9), (14), and (16) of this Section;
 - (B) Rule .1407 of this Section;
 - (C) Rule .1408 of this Section; and
 - (D) Rule .1410 of this Section.

(c) Anaerobic Digestion Facilities. This Paragraph shall be applicable to anaerobic digestion facilities that receive solid waste as defined in G.S. 130A-290. Facilities that receive only animal manure or only municipal wastewater treatment sludge, or both, shall not be subject to this Paragraph.

- (1) A solid waste management permit shall be required for the areas of the facility that manage solid waste. These areas shall include the incoming waste receiving area, the digestate handling area, and the digestate final disposition and any other areas of the operation where solid waste is exposed to the environment.
- (2) A permit application shall contain:
 - (A) the information required by Rules .1404 and .1405 of this Section, with the exception of Rule .1405(9)(f) through (9)(h). Operations or parts of operations that are in buildings enclosed on all sides shall be exempt from the siting requirements of Rule .1404 of this Section; and
 - (B) drawings of the following within the waste management areas:
 - (i) hoppers, bays, or vessels, and all other site-specific features related to solid waste management activities; and
 - (ii) for indoor operations, plan and profile drawings of the buildings with areas and features labeled.

- (3) Permitted anaerobic digestion facilities shall be subject to:
 - (A) Rule .1406(1) through (9), (14), and (16) of this Section;
 - (B) Rule .1407 of this Section for the digestate;
 - (C) Rule .1408 of this Section; and
 - (D) Rule .1410 of this Section.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; RRC objection due to lack of statutory authority Eff. April 18, 1996; Amended Eff. June 1, 1996; Readopted Eff. November 1, 2019.

15A NCAC 13B .1410 CLOSURE REQUIREMENTS

(a) When the permitted compost facility ceases operations, the owner or operator shall meet the following conditions:

- (1) all feedstock and unfinished compost materials shall be removed from the site and taken to a permitted solid waste facility within 180 days;
- (2) finished compost materials left onsite shall comply with G.S. 130A-309.05; and
- (3) the owner or operator shall notify the Division in writing upon completion of the requirements of Subparagraph (1) of this Paragraph.

(b) When a permitted compost facility has been closed in accordance with the requirements of Subparagraph (a) of this Rule, the permit shall be terminated. Future compost operations at the site shall require submittal of a new permit application in accordance with Rule .1405 of this Section.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. November 1, 2019.