

Adopt Env-Sw 408.08, cited and to read as follows:

PART Env-Sw 408 PERMIT-EXEMPT FACILITIES

Env-Sw 408.08 Food Waste Drop-Off Facilities. Subject to Env-Sw 408.02, no permit shall be required for collection, storage, and transfer of source-separated food waste, provided that:

- (a) The facility stores no more than one cubic yard, or 200 gallons, at any time;
- (b) Food waste is stored in closed containers designed to prevent the dispersal of odors, release of leachate, and attraction of birds, insects, rodents, and other vectors;
- (c) Waste collection and storage areas are inspected at least once daily during the facility's routine operating hours;
- (d) Food waste is stored no longer than 7 days from date of receipt; and
- (e) Food waste is transferred to an authorized facility for processing or disposal.

Readopt with amendment Env-Sw 600, eff. 7-1-14 (Document #10596), to read as follows:

CHAPTER Env-Sw 600 COMPOSTING FACILITY REQUIREMENTS

Statutory Authority: RSA 149-M:7

PART Env-Sw 601 APPLICABILITY

Env-Sw 601.01 Applicability.

- (a) The rules in this chapter shall apply to processing/treatment (P/T) facilities, as defined in Env-Sw 104, that produce compost from solid waste, hereinafter referred to as composting facilities.
- (b) The requirements in this chapter shall apply as the complement of the P/T requirements in Env-Sw 500.

PART Env-Sw 602 PERMITTING REQUIREMENTS

Env-Sw 602.01 Permit Required.

- (a) A permit issued pursuant to the solid waste rules shall be required for construction, operation, and closure of a composting facility, unless exempt pursuant to Env-Sw 302.03 or Env-Sw 608.
- (b) The type of permit required shall be as specified in Env-Sw 302.

Env-Sw 602.02 Permit Application Requirements. The applicant for a composting facility permit shall prepare the application in accordance with:

- (a) Env-Sw 314 for a standard permit;
- (b) Env-Sw 313 for an emergency permit;
- (c) Env-Sw 312 for a research and development permit; or
- (d) Env-Sw 311 for a permit-by-notification.

PART Env-Sw 603 SITING REQUIREMENTS

Env-Sw 603.01 Applicability.

- (a) The siting requirements in this part shall apply to all composting facilities, except:
- (1) Facilities that hold a permit issued under RSA 149-M prior to the 2022 effective date of this chapter;
 - (2) Permit-exempt facilities identified in Env-Sw 302.03 or Env-Sw 608;
 - (3) Permit-by-notification facilities having an active life of 90 days or less;
 - (4) Research and development permit facilities by Env-Sw 312.02(b); and
 - (5) Emergency permit facilities as provided by Env-Sw 313.02(b).

(b) The siting requirements in this part shall apply as the complement of siting requirements in Env-Sw 1003 for all facilities, Env-Sw 1102 for facilities having an active life longer than 90 days, Env-Sw 1203 for permit-by-notification facilities and Env-Sw 503.

Env-Sw 603.02 Siting Requirements.

(a) A composting facility's waste collection, storage, and processing areas including areas used for feedstock mixing and active composting, shall be sited in compliance with the following:

- (1) At least 75 feet from a private drinking water supply well;
- (2) At least 75 feet from surface waters and wetlands; and
- (3) On a surface that is at least 2 feet above the seasonal high water table.

(b) A composting facility's waste collection, storage, and processing areas, including areas used for feedstock mixing and active composting, shall be located at least 2 feet above bedrock or sand and gravel deposits, unless the facility uses an impermeable surface under such collection, storage, and processing areas.

(c) A composting facility shall not be sited within the sanitary protective area of a public water system well, as defined in Env-Dw 301.30, reprinted in Appendix C.

PART Env-Sw 604 DESIGN REQUIREMENTS

Readopt with amendment Env-Sw 604.01(b), eff. 7-1-14 (Document #10596), to read as follows:

Env-Sw 604.01 Applicability.

- (a) The design requirements in this part shall apply to all composting facilities, except:
- (1) Permit-exempt facilities identified in Env-Sw 302.03 or Env-Sw 608;
 - (2) Permit-by-notification facilities having an active life of 90 days or less;
 - (3) Research and development permit facilities as provided by Env-Sw 312.02(b); and
 - (4) Emergency permit facilities as provided by Env-Sw 313.02(b).

(b) The design requirements in this part shall apply as the complement of the design requirements in Env-Sw 1004 for all facilities, Env-Sw 1103 for facilities having an active life longer than 90 days, Env-Sw 1200 for permit-by-notification facilities and Env-Sw 504.

Env-Sw 604.02 General Design Requirements. A composting facility shall be designed to operate in conformance with Env-Sw 605.

Env-Sw 604.03 Waste Collection, Storage, and Processing Area Design Requirements.

- (a) Waste collection, storage, and processing areas shall be designed in conformance with Env-Sw 504.
- (b) Areas used for windrows and aerated static piles shall:
 - (1) Conform to the same design requirements as specified for waste stockpiles in Env-Sw 404.05; and
 - (2) Be designed to allow access by equipment on a year-round basis, including during periods of snowmelt, spring thaw, and high precipitation.

PART Env-Sw 605 OPERATING REQUIREMENTS

Env-Sw 605.01 Applicability.

- (a) The operating requirements in this part shall apply to all composting facilities, except:
 - (1) Permit-exempt facilities identified in Env-Sw 302.03 or Env-Sw 608;
 - (2) Permit-by-notification facilities having an active life of 90 days or less;
 - (3) Research and development permit facilities as provided by Env-Sw 312.02(b);
 - (4) Emergency permit facilities as provided by Env-Sw 313.03(b).
- (b) The operating requirements in this part shall apply as the complement of the operating requirements in Env-Sw 1005 for all facilities, Env-Sw 1105 for facilities with an active life longer than 90 days, Env-Sw 1204 for permit-by-notification facilities and Env-Sw 505.

Readopt with amendment Env-Sw 605.02 eff. 7-1-14 (Document #10596), to read as follows:

Env-Sw 605.02 General Operating Requirements.

- (a) A composting facility shall be operated in a manner that limits the production and off-site dispersal of odors to the greatest extent practicable.
- (b) All wastes received by the facility shall be inspected to identify and remove:
 - (1) Wastes that are not organic in nature;
 - (2) Wastes which are prohibited wastes as specified in (c) below; and
 - (3) Any other wastes having the potential to adversely affect the quality or usability of the finished compost.
- (c) A composting facility authorized pursuant to this chapter shall not receive the following types of waste:
 - (1) Asbestos;
 - (2) Construction and demolition debris;

- (3) Liquid wastes, unless amended with an approved bulking agent prior to composting;
 - (4) Infectious wastes identified in Env-Sw 904.01(a);
 - (5) Contaminated soils or absorbent media;
 - (6) Radioactive materials as defined and regulated by the New Hampshire rules for the control of radiation, He-P 2000 and He-P 4000;
 - (7) Ash from the combustion of municipal solid waste; and
 - (8) Sludge or septage as defined by RSA 485-A:2.
- (d) Putrescible wastes not incorporated into an active composting process or amended with high carbon bulking agents within 2 hours of receipt shall:
- (1) Be stored in a closed container designed to prevent the dispersal of odors, release of leachate and the attraction of birds, insects, rodents, and other vectors; and
 - (2) Not be stored at the facility longer than 7 days before being incorporated into an active composting process.
- (e) Compostable feedstocks shall be combined into a homogenous mixture that will support aerobic composting conditions.
- (f) During the active composting process, windrows, piles, or vessels shall be inspected, monitored, and actively managed to ensure that:
- (1) Aerobic composting conditions are maintained; and
 - (2) The process complies with the general operating requirements in Env-Sw 1005.01.
- (g) Temperature shall be monitored and recorded as follows:
- (1) Temperature readings shall be recorded as specified in Env-Sw 605.03; and
 - (2) For each temperature monitoring event, temperature readings shall be taken and recorded as follows:
 - a. For a windrow or aerated static pile, in at least five evenly-spaced locations along the length of the windrow or pile;
 - b. For a round pile, in at least-2 locations on opposite sides of the pile; and
 - c. For an in-vessel system, in at least 2 evenly-spaced locations per vessel, compartment, bay, or equivalent.
- (h) Prior to distribution and use, finished compost shall meet the quality requirements specified in Env-Sw 605.04, and the maturity requirements specified in Env-Sw 605.05.
- (i) Testing to verify compliance with (h) above shall be conducted:
- (1) At least once annually and when requested by the department pursuant to Env-Sw 2000; and

- (2) On the basis of representative sampling.
- (j) The following operational records, in conformance with Env-Sw 1105.06, shall be maintained and include:
- (1) Source, type, quantity, and date of materials received at the facility;
 - (2) Date of individual windrow or pile construction and breakdown, or vessel filling and emptying;
 - (3) Composition of the windrow, pile, or vessel;
 - (4) Date and time of turning or aeration;
 - (5) Temperature monitoring records, including:
 - a. Temperature readings, including units;
 - b. Date and time of temperature readings;
 - c. Location and depth of temperature readings;
 - (6) Process monitoring observations, including, but not limited to:
 - a. Moisture content; and
 - b. Odor observations;
 - (7) Records of nuisance complaints made by abutters, or other parties, and corresponding response actions taken by the facility operators;
 - (8) Date on which composted material begins and finishes curing;
 - (9) Sampling and testing records, in accordance with Env-Sw 605.04 and Env-Sw 605.05, including:
 - a. Date, time, volume, method, and type of samples taken; and
 - b. Testing results;
 - (10) Quantities of finished compost produced on an annual basis;
 - (11) Quantities of bypass waste, as defined in Env-Sw 102, removed prior to composting; and
 - (12) Quantities of residual waste, as defined in Env-Sw 104, removed after composting.

Env-Sw 605.03 Pathogen Reduction Requirements.

- (a) The composting process shall comply with the process to further reduce pathogens specified in 40 CFR 503, Appendix B, by using one of the following methods:
- (1) Using the windrow composting method, such that:

- a. The interior temperature of the windrow shall be maintained at 55°C (131°F) or higher for 15 consecutive days or longer;
- b. During the period when the interior of the windrow is maintained at 55°C (131°F) or higher, there shall be a minimum of 5 turnings of the windrow; and
- c. In turning the windrow, the exterior of the windrow shall be turned into the interior to assure that the entire contents of the windrow are exposed to the required temperature conditions;

(2) Using the aerated static pile composting method, the pile shall be insulated and the temperature throughout the contents of the pile shall be maintained at 55°C (131°F) or higher for at least 3 consecutive days; or

(3) Using the in-vessel composting method, the temperature throughout the contents of the vessel shall be maintained at 55°C (131°F) or higher for at least 3 consecutive days.

(b) Once the contents of a windrow, pile, or vessel have met the requirements specified in (a) above, the material shall be managed to prevent recontamination through contact with raw feedstocks, leachate, or compost that have not been subjected to a pathogen reduction process.

Env-Sw 605.04 Minimum Quality Requirements. Finished compost shall meet the following requirements:

- (a) The presence of heavy metals shall not exceed the ceiling concentrations specified in Table 600-1:

Table 600-1: Ceiling Concentrations for Heavy Metals

Constituent	Maximum Total Concentration (mg/kg dry weight)
Arsenic	11
Cadmium	14
Chromium	1,000
Copper	1,500
Lead	300
Mercury	7
Molybdenum	35
Nickel	200
Selenium	28
Zinc	2,500

(b) The presence of salmonella sp. shall not exceed 3 most probable number (MPN) per 4 grams of total solids (dry weight basis);

(c) The presence of fecal coliform shall not exceed 1,000 MPN per gram of total solids (dry weight basis); and

(d) The presence of man-made inert matter greater than 4mm in size shall not exceed 0.25% of total solids (dry weight basis).

Env-Sw 605.05 Maturity Requirements.

(a) Except as provided in (b) below, compost shall be deemed mature when the final carbon-to-nitrogen (C:N) ratio is less than 25:1 and the compost meets or exceeds a maturity threshold for at least one test from group A and one test from group B as specified in Table 600-2 below, with test methods conducted in

accordance with the “Test Method for Examination of Composting and Compost (TMECC),” April 2002, published by the US Composting Council, accessed as noted in Appendix B.

(b) Compost distributed in bulk and used for agricultural crop production need not be mature as specified in (a) above, provided that the final carbon to nitrogen (C:N) ratio of the compost is less than 25:1 and the compost is otherwise suitable for the intended crop.

Table 600-2: Compost Maturity Standards

	Test	Units	Maturity Threshold	Method
Group A	Specific Oxygen Uptake	mg O ₂ per g organic matter per hour	≤ 1.5	TMECC 05.08-A
	CO ₂ Evolution	mg CO ₂ per g organic matter per day	≤ 8	TMECC 05.08-B
	Solvita® CO ₂	Index Value	≥ 5	Manufacturer's SOP
	Dewar Self Heating Test	Temp. rise (°C) over ambient	≤ 20	TMECC 05.08-D
Group B	Ammonium to Nitrate Ratio (NH ₄ -N:NO ₃ -N)	n/a	≤ 3	TMECC 05.02-C
	Total Ammonia (NH ₃ -N)	ppm, dry basis	≤ 500	TMECC 04.02-C
	Solvita® NH ₃	Index Value	≥ 4	Manufacturer's SOP
	Plant Trials	% of control	≥ 80	TMECC 05.05

Env-Sw 605.06 Off-Specification Compost.

(a) Except as provided in (b) below, compost which does not meet the quality requirements in Env-Sw 605.04 or the maturity requirements in Env-Sw 605.05 shall be:

- (1) Deemed off-specification compost not certified for distribution and use pursuant to Env-Sw 1500, and
- (2) Managed by one of the following methods:
 - a. Reprocessed to meet the requirements of Env-Sw 605.04 and Env-Sw 605.05; or
 - b. Managed as residual waste in accordance with the facility’s residual waste management plan pursuant to Env-Sw 1105.11.

(b) An off-specification compost shall be certified for distribution and use as landfill cover material pursuant to Env-Sw 1500, provided that such off-specification compost meets the performance objectives specified in Env-Sw 806.03.

PART Env-Sw 606 CLOSURE REQUIREMENTS

Env-Sw 606.01 Applicability.

(a) The closure requirements in this part shall apply to all composting facilities, except:

- (1) Permit-exempt facilities identified in Env-Sw 302.03 and Env-Sw 608;

- (2) Permit-by-notification facilities having an active life of 90 days or less;
- (3) Research and development permit facilities as provided by Env-Sw 312.02(b); and
- (4) Emergency permit facilities as provided by Env-Sw 313.02(b).

(b) The closure requirements in this part shall apply as the complement of the closure requirements in Env-Sw 1006 for all facilities, Env-Sw 1106 for facilities having an active life longer than 90 days, Env-Sw 1205 for permit-by-notification facilities, and Env-Sw 506.

Env-Sw 606.02 Closure Requirements.

(a) To comply with Env-Sw 1006.02(e), all finished compost which is certified for distribution and use shall be removed to places where it shall be used accordingly or removed to an authorized facility.

(b) To comply with Env-Sw 1006.02(b), all unfinished compost shall be removed to an authorized facility to be finished or disposed.

(c) To comply with Env-Sw 1006.02(e), no waste or compost shall remain at the site following closure under a claim of permit exemption pursuant to Env-Sw 302.03 or Env-Sw 608.

PART Env-Sw 607 PERMIT-BY-NOTIFICATION FACILITIES

Env-Sw 607.01 Purpose. The purpose of the rules in this part is to identify composting facilities eligible for a permit-by-notification pursuant to Env-Sw 311.

Env-Sw 607.02 Small Food Waste Composting Facilities. A facility which composts food waste shall be eligible for a permit-by-notification pursuant to Env-Sw 311, provided that the facility meets the requirements of this chapter and the following:

(a) The facility shall comply with the requirements of Env-Sw 1200 except that alternative operator training may be substituted for the operator certification requirements specified in Env-Sw 1202.05(d), provided that:

(1) Documentation verifying that each facility operator has completed alternative training is maintained in the facility's records, and

(2) The alternative training:

a. Meets the purposes stated in Env-Sw 1601.01;

b. Provides information about the basic principles of composting and how to facilitate an aerobic composting process; and

c. Provides information about monitoring and troubleshooting the compost process to minimize nuisance conditions and adverse impacts to public health, safety and the environment;

(b) The facility receives no more than 10 tons of solid waste per day, averaged monthly;

(c) The facility composts only source-separated food waste, including meat and dairy matter, in combination with any of the following;

(1) Yard waste;

(2) Farming crop residuals;

- (3) Animal manures;
 - (4) Compostable paper, packaging, containers, bags, and serveware; and
 - (5) Approved bulking agents as defined in Env-Sw 102
- (d) To facilitate aerobic composting conditions, the facility shall combine compostable feedstocks to produce a homogenous mixture that exhibits the following initial characteristics:
- (1) A carbon-to-nitrogen (C:N) ratio of at least 25:1;
 - (2) A moisture level between 50 and 60 percent; and
 - (3) A bulk density not more than 1,100 pounds per cubic yard
- (e) To limit the production and off-site dispersal of nuisance odors, the facility shall:
- (1) Incorporate incoming putrescible wastes into a sorbent, high carbon bulking agent within 2 hours of receipt, or otherwise store the waste as required by Env-Sw 605.02(d);
 - (2) Maintain aerobic conditions throughout windrows or piles;
 - (3) Cover odorous piles with a layer of finished compost, or a high carbon amendment as necessary;
 - (4) Contain and treat emissions from active aeration systems; and
 - (5) Alter the compost recipe or turning procedures as needed to alleviate odor issues;
- (f) Following the cessation of facility operations or any other trigger event for closure as provided in Env-Sw 1006, the permittee shall close the facility in accordance with Env-Sw 606, Env-Sw 1006, and Env-Sw 1205.

PART Env-Sw 608 PERMIT-EXEMPT FACILITIES

Env-Sw 608.01 Purpose. The purpose of the rules in this part is to identify composting facilities which are permit-exempt, pursuant to Env-Sw 302.03(b)(2).

Env-Sw 608.02 General Conditions for Exemption.

- (a) The composting facilities described in this part shall be exempt from obtaining a permit, subject to the following conditions:
- (1) The facility shall comply with the universal facility requirements in Env-Sw 1000; and
 - (2) All waste managed at the facility shall be actively managed.
- (b) A permit exemption shall not affect a person's obligation to obtain all requisite federal, state or local permits, licenses or approvals, or to comply with all other applicable federal, state, district or local permits, ordinances, laws or approvals or conditions pertaining to the permit-exempt activities.

Env-Sw 608.03 Generator Composting Facilities.

- (a) Subject to Env-Sw 608.02, no permit shall be required to compost any combination of the following wastes and materials at the waste generation site:
- (1) Yard waste or farming crop residuals;
 - (2) Source-separated food waste including meat and dairy matter;

- (3) Compostable paper, packaging, containers, bags, and serviceware;
 - (4) Animal manure; or
 - (5) An approved bulking agent as defined in Env-Sw 102
- (b) The facilities described in (a) above shall include:
- (1) Composting operations at a private home for food waste generated at the home;
 - (2) Composting operations at schools and other institutions, for food waste generated at the institution; and
 - (3) Farm based composting operations for food waste generated by the farm and farming crop residuals.

Env-Sw 608.04 Animal Carcass Composting Facilities Incidental to Livestock Operations.

(a) Subject to Env-Sw 608.02, no permit shall be required for a farm that raises livestock to compost animal carcasses provided that.

- (1) The carcasses are generated on the farm and incidental to the farm's routine livestock operations; and
- (2) The composting process and use of the finished compost shall be conducted in compliance with the livestock mortality composting best management practices established in the "Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire," revised July 2019 published by New Hampshire Department of Agriculture, Markets, and Food, accessed as noted in Appendix B.

(b) A farm that operates a permit-exempt animal carcass composting facility as described in (a) above may annually receive and compost up to 10 cubic yards of animal carcasses generated at another farm, provided that the carcasses being received are not classified as infectious waste under Env-Sw 904.01(a)(5) or otherwise known to be carrying an infectious disease.

Adopt Env-Sw 608.05 to read as follows:

Env-Sw 608.05 Community Composting Facilities

(a) Subject to Env-Sw 608.02, no permit shall be required for a composting facility that receives solid waste from off-site generators, provided that:

- (1) The aggregate area of the facility's waste collection, storage, and processing areas, including areas used for feedstock mixing and active composting, does not exceed 600 square feet;
- (2) The facility receives for composting no more than 5 cubic yards of solid waste during any 30 day period; and
- (3) The composting process is conducted in a manner consistent with "Community Composting Done Right: A Guide to Best Management Practices," March 2019, published by the Institute for Local Self-Reliance, accessed as noted in Appendix B.

(b) Facilities described in (a) above may compost any combination of the following:

- (1) Yard waste or farming crop residuals;
- (2) Source-separated food waste, including meat, and dairy matter;

- (3) Compostable paper, packaging, containers, bags, and serviceware;
- (4) Animal manure; or
- (5) Approved bulking agents as defined in Env-Sw 102.

Readopt with amendment Env-Sw 1503.10, eff. 7-1-14 (Document #10599), cited and to read as follows:

PART Env-Sw 1503 WASTE-DERIVED PRODUCTS CERTIFIED BY RULE

Env-Sw 1503.10 Compost.

(a) Except as provided in (b) and (c) below, compost derived from solid waste shall be deemed certified by rule for distribution and use as compost, provided it meets the quality requirements specified in Env-Sw 605.04, and the maturity requirements specified in Env-Sw 605.05.

(b) Compost derived from animal carcasses shall be used in conformance with the livestock mortality composting best management practices provided in the “Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire”, revised July 2019, published by New Hampshire Department of Agriculture, Markets, and Food, accessed as noted in Appendix B.

(c) Off-specification compost, as defined by Env-Sw 605.06, shall be managed in accordance with the provisions of that section.

Adopt Env-Sw 1503.18 to read as follows:

Env-Sw 1503.18 Woody Tailings from Compost Screening Activities. Clean woody particles resulting from screening of finished compost shall be certified for distribution and use as:

- (a) A mulch product;
- (b) A bulking agent for composting; and
- (c) An odor filtration media for use with composting systems.

APPENDIX A: STATE STATUTES IMPLEMENTED

Rule Sections	Statute(s) Being Implemented
Env-Sw 408.08, Env-Sw 600	RSA 149-M:6, III; RSA 149-M:7, II, III, V, VIII, XIV, XV; RSA 149-M:9
Env-Sw 1503.10 and Env-Sw 1503.18	RSA 149-M:7, II, V, and XV; RSA 149-M:9, XIV

APPENDIX B: INCORPORATED REFERENCE

Rule (Env-Sw)	Reference (Date/Edition)	Obtain From (Cost)
Env-Sw 605.05(a)	Test method for Examination of Composting and Compost (TMECC)(2002)	United States Composting Council https://www.compostingcouncil.org/store/ViewProduct.aspx?id=13656204 (\$450.00)

Rule (Env-Sw)	Reference (Date/Edition)	Obtain From (Cost)
Env-Sw 608.04(a)(2)	Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire: Nutrient Best Management Practices for Agriculture Nonpoint Source Pollution (2019)	New Hampshire Department of Agriculture, Markets & Food. https://www.agriculture.nh.gov/publications-forms/documents/best-management-practices-bmp-manual.pdf
Env-Sw 608.05(a)(3)	Community Composting Done Right: A Guide to Best Management Practices (2019)	Institute for Local Self-Reliance https://ilsr.org/composting-bmp-guide/
Env-Sw 1503.10(b)	Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire: Nutrient Best Management Practices for Agriculture Nonpoint Source Pollution (2019)	New Hampshire Department of Agriculture, Markets & Food. https://www.agriculture.nh.gov/publications-forms/documents/best-management-practices-bmp-manual.pdf

APPENDIX C: DEFINITION OF SANITARY PROTECTIVE AREA

Env-Dw 301.30 “Sanitary protective area” means an area in the immediate vicinity of a source within which activities are controlled to minimize the risk of groundwater contamination.