

# Vermont Agency of Agriculture, Food & Markets

## General Permit for Medium Farm Operations

Effective Date: February 13, 2012 through February 12, 2017

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Secretary  
VT Agency of Agriculture, Food & Markets

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Authorized Signature

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Vermont Agency of Agriculture, Food & Markets  
**General Permit for Medium Farm Operations**

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## **Subchapter I. DEFINITIONS**

**25-year 24-hour Rainfall Event:** means the maximum 24-hour precipitation event with a probable recurrence interval of once every 25 years, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States", May 1961 and subsequent amendments, or equivalent regional or state rainfall probability information developed therefrom.

**AAPs:** means the Vermont Accepted Agricultural Practice Regulations adopted pursuant to 6 V.S.A. Chapter 215.

**AFO:** means an animal feeding operation.

**Animal Feeding Operation:** means a lot or facility which has animals (other than aquatic animals) that have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period, and crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility where animals are confined.

Two or more individual farms qualifying as an AFO which are under common ownership and which adjoin each other or use a common area or system for the disposal of animal waste, shall be considered to be a single AFO if the combined number of livestock or domestic fowl resulting qualifies as a medium farm as defined herein.

**Agency:** means the Vermont Agency of Agriculture, Food and Markets.

**Animal Type:** means livestock or domestic fowl type.

**Barnyard or Feedlot:** means an area, either earthen or improved, where animals are confined by fences, other structures, or topography, where the confined animals are primarily sustained by supplemental feed because vegetative cover is sparse.

**Certified Nutrient Management Planner:** means an individual certified through the completion of the USDA/NRCS nutrient management certification process who creates, reviews, and modifies NMPs.

**Conservation Practice:** means a specific treatment used to address specific natural resources needs and can be structural, vegetative, or land management.

**Cropland:** means land devoted to row crop, perennial production, or pasture production.

**Dirty Water:** means precipitation or other water which has moved in, over or through a barnyard, manure, or other nutrient or pathogen laden matter, so that they have become co-mingled.

**Discharge:** means the placing, depositing, or emission of waste directly into surface water.

**Domestic Fowl:** means laying-hens, broilers, ducks, and turkeys.

**Existing MFO:** means an AFO meeting the definition of a MFO at the time the General Permit is issued.

**Groundwater:** means water below the land surface in a zone of saturation, but does not include surface waters.

**Land Application Area:** means land under the control of an AFO owner or operator, whether it is owned, rented, or leased, excluding the production area, to which wastes from the production area is or may be applied.

**Livestock:** means cattle, swine, sheep, horses, or other animal types as deemed by the Secretary.

**MFO:** means a Medium Farm Operation.

**Medium Farm Operation:** means an AFO which houses:

- (i) 200 to 699 mature dairy cows, whether milked or dry;
- (ii) 300 to 999 youngstock or heifers;
- (iii) 300 to 999 veal calves;
- (iv) 300 to 999 cattle or cow/calf pairs;
- (v) 750 to 2,499 swine weighing over 55 pounds;
- (vi) 3000 to 9,999 swine weighing less than 55 pounds;
- (vii) 150 to 499 horses;
- (viii) 3,000 to 9,999 sheep or lambs;
- (ix) 16,500 to 54,999 turkeys;
- (x) 9,000 to 29,999 laying hens or broilers with a liquid manure system;

- (xi) 25,000 to 81,999 laying hens without a liquid manure handling system;
- (xii) 1,500 to 4,999 ducks with a liquid manure handling system;
- (xiii) 10,000 to 29,999 ducks without a liquid manure handling system;  
or,
- (xiv) any other animal type and number that the Secretary may deem

**New MFO:** means an AFO meeting the definition of a MFO after the General Permit is issued.

**NRCS:** means United States Department of Agriculture (USDA) Natural Resources Conservation Service.

**Nutrient Management:** means managing the amount, form, placement, and timing of plant nutrient applications to obtain optimum forage and crop yields, minimize the entry of nutrients into waters of the state and groundwater, and optimize economic use of nutrients generated on and off the farm.

**Nutrient Management Plan:** means the system by which animal waste generation, storage, and use is handled for the purpose of obtaining optimum forage and crop yields including the relating management aspects of fertilizer nutrients, conservation practices, animal mortalities, clean water, chemical handling, waste and soil testing, and record keeping.

**NMP:** means nutrient management plan.

**Pasture:** means perennial vegetation used for the grazing, which is not a barnyard or feedlot.

**Permit Decision:** means a decision by the Secretary to issue a General Permit or permits, to issue a subsequent General Permit or permits, or to require a small farm to obtain an Individual Animal Waste Permit in order to continue in operation.

**Permittee:** means a person or business that has received a MFO General or Individual Permit.

**Person:** means:

- (a) an individual, partnership, corporation, association, unincorporated organization, trust or other legal or commercial entity, including a joint venture or affiliated ownership; or
- (b) a municipality or state agency; or
- (c) individuals and entities affiliated with each other for profit, consideration or any other beneficial interest derived from agricultural land management.

**Person Aggrieved:** means a person who alleges an injury to a particularized interest where the injury is attributable to an act or decision by the Secretary under subchapter 5 of chapter 215 of title 6 and the injury can be redressed by the environmental court or the Supreme Court.

**Production Area:** means areas of an MFO of intensive use for the confinement of animals, storage of raw materials, input and outputs, waste containment and storage. It includes barnyards and feedlots, egg washing and processing facilities, areas used for the storage, handling, treatment and disposal of mortalities, and any other areas of intensive farm related use by animals, people and vehicles.

**Ruling:** means a determination by the Secretary, after notice and an opportunity to be heard by a medium farm, that a medium farm is required to apply for and to obtain an Individual Animal Waste Permit in order to continue in operation, and a determination by the Secretary to deny an application by a medium farm for coverage under an Individual Animal Waste Permit.

**Secretary:** means the Secretary of the Agency of Agriculture, Food & Markets.

**Small Farm Operation:** means an AFO which houses fewer animals than meets the animal threshold of the MFO general permit.

**Vermont Water Quality Standards:** means the standards and criteria adopted by the Vermont Water Resources Board, pursuant to 10 V.S.A. Chapter 47 section 1252 (e).

**Waste:** means, for the purposes of this permit, spoiled feed, manure, milkhouse waste, washwater, leachate, used bedding, carcasses, barnyard runoff, or other dirty water.

**Waste Management System:** means an on-farm waste management program and conservation practices which include, but are not limited to, a combination of:

1. an adequately sized waste storage facility, field stacking, composting, leachate control system, and milkhouse waste system;
2. contracts which transfer the ownership of wastes generated at a production area to another party for management in a manner determined by the Secretary; and/or,
3. a nutrient management plan (NMP) for all wastes to be applied in compliance with these Rules.

**Waste Storage Facility:** means an impoundment made for the purpose of storing agricultural waste by constructing an embankment, excavating a pit or dugout, fabricating an in-ground or above-ground structure, or any combination thereof.

**Waters of the state:** means, for the purpose of this permit, all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs and all bodies of surface waters, artificial or natural, which are contained within, flow through or border the state or any portion of it.

## **Subchapter II. GENERAL PERMIT AREA AND COVERAGE**

### **A. General Permit Geographic Area**

The Medium Farm General Permit is designed to require that Medium Farms in the state of Vermont generating animal waste do not have a direct discharge of waste to the waters of the state and operate in accordance with a nutrient management plan. Unless otherwise given notice by the Agency, all medium farms in the state of Vermont are required to operate under the coverage of this General Permit.

### **B. General Permit Coverage**

1. The following animal feeding operations shall seek coverage under the Medium Farm General Permit:
  - a) An existing animal feeding operation (AFO) meeting the definition of a Medium Farm Operation (MFO);
  - b) A new animal feeding operation (AFO) meeting the definition of a Medium Farm Operation (MFO); and,
  - c) Farming operations currently below the Medium Farm Operation threshold intending to increase animals numbers to more than those defined by the MFO definition. Coverage under the MFO General Permit shall be sought prior to meeting the defined limit.

### **C. Eligibility for Coverage under this Permit**

1. Unless exempted from coverage in accordance with Sections D or F below, an animal feeding operation meeting the following three conditions must seek coverage under the MFO General Permit:
  - a) It stables or confines, or intends to confine, the number of animals that fall within any of the ranges as defined by the MFO definition.
  - b) It has animals (other than aquatic animals) that have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period;

- c) Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility where animals are confined; and,

#### **D. Application for Coverage**

1. The owner or operator of a small farm may seek coverage under the Medium Farm General Permit by certifying to the Secretary, in a manner specified by the Secretary, that the small farm complies with the requirements and conditions of this General Permit.
2. Medium Farm Operations seeking coverage under this General Permit shall:
  - a) Submit a Notice of Intent to Comply (NOIC) with the conditions of this General Permit within 60 days of the effective date of the General Permit; and,
  - b) Comply with the requirements and conditions of the Medium Farm Operation General Permit.
3. Prior to increasing the animal numbers to more than the minimum threshold for livestock defined by the MFO definition, a farm operation shall submit a NOIC certifying that the farm is in compliance with the conditions of this General Permit.
4. A farm that fails to submit a NOIC and maintains animal numbers greater than those defined by the MFO definition may be required by the Secretary to reduce animals numbers below the thresholds defined as an MFO.
5. Upon filing of a NOIC with the General Permit, the Agency will post on its official website the fact that the farm has sought coverage. The Agency shall post the farm name and town.

***(see Appendix A: Notice of Intent to Comply)***

#### **E. Limitations on Coverage**

1. The following activities are prohibited under the coverage of this MFO General Permit:
  - a) Operation of a production area in a manner to cause a discharge to waters of the state, or to violate state groundwater standards.

2. The following situations may not be covered by the MFO General Permit requirements:
  - a) MFOs that have been notified by the Agency to apply for an Individual Permit;
  - b) MFOs that transfer all of their wastes to another person or discharge to a permitted waste disposal system; and,
  - c) Farming operations that operate under a MFO Individual Permit.

#### **F. Transfer of a MFO permit**

1. A MFO may transfer General Permit coverage with the sale or lease of a farm only with written notification. Written notification shall be made by the original permittee to the Agency within 10 days of that transaction. Written notification shall include a statement signed by the new owner or lessee which indicates that the new owner or lessee understands and agrees to comply with the conditions of the transferred MFO permit.
2. The new owner or lessee shall notify the Secretary in writing within 30 days of that transaction, describing any proposed changes in operation or facilities. No increase in number of animal type is allowed to occur without a full review of the operation by the Agency.

(see ***Appendix E: Notice of Transfer of Operation/Ownership***)

#### **G. Termination of a MFO permit**

1. A farm that subsequently maintains animal numbers lower than as defined by the MFO definition may terminate coverage under the general permit by submitting a completed Notice of Termination to the Agency for its review and approval.

(see ***Appendix B: Notice of Termination***)

2. If a farm submits a Notice of Termination and subsequently increases animal numbers to more than those defined by the MFO definition, the farm shall submit a new NOIC certifying that the farm is in compliance with the conditions of this General Permit.
3. A permitted farm that does not submit a Notice of Termination is required to comply with the terms and conditions of this General Permit.

## **J. Transitioning from a Medium Farm to a Large Farm Operation**

1. Medium Farm Operations that plan on increasing animal numbers or building a barn with the intent to repopulate above what is allowed in the MFO definition shall be considered a Large Farm Operation and must receive a LFO permit prior to barn construction.
2. Prior to increasing animal numbers or repopulating a barn, these farms must follow the rules and procedures outlined in the Large Farm Operation Regulations outlined in Subchapter 4.
3. If an owner or operator fails to identify their intent to transition into a Large Farm before they repopulate as required by the Agency, then coverage under the LFO Permit may be denied and the farm in question may be required to reduce animal numbers to the MFO animal threshold until all permit requirements for the LFO individual permit are met and approved by the Agency.

## **Subchapter III. EFFLUENT LIMITATIONS AND STANDARDS CONDITIONS**

### **A. Effluent Limitations and Standards for the Production Area**

1. There shall be no discharge of wastes from a production area to the waters of the state.
2. Mortalities (i.e., dead animals) shall not be disposed of in a liquid manure, stormwater, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities.
3. Clean water shall be diverted, as appropriate, from the production area.
4. Animals confined within the production area shall not have direct contact with waters of the state.
5. Chemicals and other contaminants handled on-site shall not be disposed of in any manure, compost, other wastes, or stormwater storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
6. Fertilizer storage facilities shall be protected from weather and accidental leakage or spillage.

## **B. Standards for the Land Application Area**

1. A MFO that land applies wastes must develop a NMP in accordance with Subchapter IV, section D of this General Permit.
2. The land application of all nutrients shall correspond to rates specified in the NMP.
3. Manure, compost, plant nutrients, soil amendments, milkhouse waste, washwater, leachate, used bedding, carcasses, barnyard runoff, or other dirty water shall not be land applied between December 15 and April 1 unless the Secretary grants an exemption.
4. Manure, compost, other wastes or nutrient sources shall not be:
  - a) Spread, piled, or stored over bedrock outcrops;
  - b) Spread in such a way as to run off the intended site during application; or,
  - c) Spread in diversions, grassed waterways, drainage ditches or in such a manner as to enter surface water.
5. Manure, compost, or other wastes spread on row cropland that is subject to annual overflow from adjacent surface waters shall be incorporated within 48 hours. This regulation shall not apply to no-till land and land planted to cover crop.

## **C. General Standards Applicable to all MFOs**

1. Completion Schedule for all Technical Standards Applicable to MFOs
  - a. Existing MFOs shall have an updated field-by-field Nutrient Management Plan available on the farm upon filing a NOIC for this general permit.
  - b. New MFOs shall have conservation practices to prohibit discharges from the production area and a nutrient management plan to manage wastes prior to commencing operation of a farm with livestock numbers defined under a MFO.
2. Conservation practices shall be in place to assure that there are no discharges of wastes from the production area to waters of the state.

3. The production area, cropland, and non-cropland shall be managed in compliance with all applicable AAPs.
4. All animals present in a production area, pasture and cropland shall be managed under the provisions of this permit and in compliance with all applicable AAPs.
5. All land-applied wastes shall be applied at rates according to a NMP developed by a certified nutrient management planner or the permittee.
6. All wastes generated shall be stored so as not to generate runoff from a 25-year, 24-hour rainfall event. Freeboard for waste storage structures must be in compliance with the standards set forth in VT NRCS conservation practice standard for waste storage facilities (313)
7. The MFO shall be managed in accordance with the provisions of the nutrient management plan developed pursuant to Subchapter IV of this General Permit.
8. The MFO shall implement erosion and sediment control practices for land clearing, field drainage, ditching, or other field maintenance activities to prevent adverse water quality impacts to surface water, groundwater, and to prevent movement of sediment across property boundaries.

#### **D. Groundwater Protection Criteria**

1. Farm operations shall be conducted so that wastes, as that term is defined in the AAP Rules, do not reach or exceed the primary or secondary groundwater standards as established by the Secretary of the Agency of Natural Resources in the Groundwater Protection Rule and Strategy. Where monitoring indicates that wastes, as that term is defined in the AAP Rules, have reached or exceeded an enforcement standard in groundwater, the Secretary may require corrective modifications to the NMP, the waste management system, or other corrective actions as needed.
2. The Secretary may conduct groundwater quality monitoring to assess the impact of agricultural practices and farm operations on the quality of drinking water and groundwater.
3. The Secretary may conduct groundwater sampling:
  - a) At sites selected by the Secretary where well owners have volunteered or agreed to participate in the sampling program;

- b) At sites upon the request of a well owner;
- c) At sites selected by the Secretary based on the results of other sampling data or the existence of vulnerable site characteristics;
- d) At sites with activities or operations permitted or regulated by the Secretary; and,
- e) At sites where the Secretary has received a complaint from a well owner in the vicinity of an agricultural operation that the operation has contaminated the drinking water or groundwater of the well owner.

#### 4. Groundwater Investigation

- a) The Secretary shall conduct a groundwater investigation where the Secretary has received a complaint from a well owner in the vicinity of an agricultural operation that the operation or its agricultural practices has contaminated the drinking water or groundwater of the well owner.
- b) The Secretary shall investigate the occurrence of contamination where sampling indicates that drinking water or groundwater contains detectable concentrations of agricultural contaminants.
- c) The approaches the Secretary may utilize to identify and remediate sources of drinking water and groundwater contamination include, but are not limited to:
  - i) Conduct site visits to interview property owners and farm operators, gain an understanding of the physical characteristics of the landscape, and locate additional sites for water quality sampling;
  - ii) Communicate with farm operators and adjacent property owners to identify practices and activities that are potential sources of contamination;
  - iii) Conduct additional sampling to confirm the detection of contaminants and to determine the extent and scope of contamination at the site;
  - iv) Make recommendations for changes in activities, management practices, cropping patterns, or structural revisions designed to reduce the contamination from current activities and prevent contamination from future activities;

- v) Conduct follow up water quality sampling to determine the effectiveness of changes made or corrective actions taken;
  - vi) Seek additional investigative or consultation resources to evaluate and characterize the site to determine vulnerability to drinking water and groundwater contamination; and,
  - vii) Review testing results and site evaluations to determine if changes in water quality data are the result of changes in activities or natural site conditions.
5. Where monitoring indicates a farm operation has caused the concentration of wastes in groundwater to reach or exceed the primary or secondary groundwater quality standards as defined by the Secretary of Natural Resources in the Groundwater Protection Rule and Strategy, the farm operation shall be managed to reduce the contamination from current activities and prevent contamination from future activities.
- a) Changes in activities, management practices, cropping patterns, or structures to reduce concentration of wastes in groundwater may be implemented according to an Assurance of Discontinuance (AOD) and a compliance schedule issued to the farm operation by the Secretary.
6. The Secretary shall provide written notification of testing results to each individual well owner that participates in the sampling program.
- a) Property owners in the vicinity of farm operations and agricultural lands shall receive the test results for each well owned by them that is sampled by the Secretary.
  - b) Farm operations shall receive the test results for wells owned by the farm operation and for wells adjacent to or impacted by the crop land or facilities managed by the farm operation.
7. The Secretary may require the owner or operator of a waste storage facility to modify the facility to meet the NRCS or an equivalent standard for the facility or to implement additional management measures if the facility poses a threat to human health or the environment as established by a violation of the Groundwater Quality Standards.
8. For the purpose of making a determination that a waste storage facility poses a threat to human health or the environment, the Secretary shall pay for the initial costs to conduct groundwater monitoring. When the Secretary has made a determination that a waste storage facility poses a threat to human health or the environment, the Secretary shall provide notification to the Department of Health and the Agency of Natural

Resources. This notification shall occur within twenty-one (21) days and include the location of the facility and the name of the owner or operator. When the Secretary makes a determination that a waste storage facility no longer poses a threat to human health or the environment, the Secretary shall provide notification of the revised determination to the Department of Health and the Agency of Natural Resources.

9. When the Secretary has made a determination that a farm operation poses a threat to human health or the environment, the Secretary may require the cost of continued groundwater monitoring be paid for by the farm operation.
10. The owner or operator of a farm operation required by the Secretary to design, construct or modify a waste storage facility may apply for cost share assistance. If the Secretary lacks adequate cost share assistance funds, the requirements for the design, construction or modification of a waste storage facility shall be suspended until adequate funding is available.

Suspension of the requirements to design, construct or modify a waste storage facility does not relieve an owner or operator of a farm subject to the Medium Farm Operations Permitting Program from the remaining requirements of the MFO Program.

## **Subchapter IV. WASTE MANAGEMENT SYSTEM CONDITIONS**

### **A. Structural Design Standards**

1. Structural components of a MFO waste management system shall meet the following conditions:
  - a) Any agricultural waste storage facility constructed, upgraded, modified, or expanded after July 1, 2006 shall meet or exceed the standards of all applicable NRCS conservation practice standards or equivalent standards certified by a professional engineer licensed in the State of Vermont. A concrete slab used for agricultural waste management is not an agricultural waste storage facility.
  - b) Any agricultural waste storage facility or components of a waste management system including, but not limited to, barnyards, manure field stacking sites, leachate control systems, or runoff control systems existing as of July 1, 2006 shall not be required to meet applicable NRCS conservation practice standards or equivalent standards certified by a professional engineer licensed in the State of Vermont

provided the facility or system is not causing groundwater to exceed state groundwater standards or is causing a discharge to waters of the state.

- c) Medium Farm Operations shall have an agricultural waste storage facility capable of holding waste for 180 consecutive days. An alternative to providing 180 consecutive days worth of storage is developing a waste management system which may involve a combination of field stacking, composting, or contracts which transfer the ownership of manure to another party for management in a manner to assure compliance with the MFO Rules. Farms must follow standard operation and maintenance of agricultural waste storage facilities to ensure the availability of 180 days of storage.
  - d) Milkhouse waste systems and leachate runoff systems shall be accounted for in the design of the waste management system or in an approved structure. Milkhouse waste and silage runoff must be contained in such a way as to prevent a discharge to waters of the state.
  - e) All storage of compost and the resulting leachate shall be conducted to prevent adverse impacts to waters of the state and groundwater. Compost and compost leachate shall be collected and spread on land without creating an adverse impact to waters of the state and groundwater.
2. In the event that a component of a waste management system including but not limited to a waste storage facility, runoff control structures, barnyard, compost storage structures, and leachate collection, does not prevent discharges of wastes to waters of the state, or violates state groundwater standards, or has not been certified by NRCS or by a Vermont licensed professional engineer, or was incorrectly certified, as an acceptable structure for the intended use, a MFO may be required to meet the designed performance criteria above through a schedule of compliance and/or apply for an Individual Permit.
  3. The burden of proof that all structures meet design, construction, and operation and maintenance performance standards lies with the permittee.

## **B. Design and Performance Criteria**

1. As required by Subchapter IV, section A (Structural Design Standards), the following aspects of a waste management system shall meet or exceed the design standards of the NRCS or shall be designed by a professional engineer licensed in Vermont to an equivalent standard:

- a) The adequacy of the structure lining to control exfiltration of manure contaminants to groundwater;
  - b) The adequacy of the separation distance between bedrock and the water table to the floor of the structure; and,
  - c) The adequacy of the systems to control manure runoff generated by a 25-year, 24-hour rainfall event for the location.
2. As required by Subchapter IV, section A (Structural Design Standards), the following shall accompany the design of all waste management system components:
    - a) Scaled drawings showing locations of the storage units, runoff control systems, surface waters, water supply wells, property boundaries, elevations, and other pertinent information;
    - b) Any post-construction documentation available, including date and materials of construction;
    - c) A full description of the system's components; and,
    - d) Operation and Maintenance Documents and appropriate records

### **C. Other Legal Requirements**

1. No condition of this General Permit shall release the permittee from any legal responsibility or requirements under other statutes or regulations, federal, state, or local.

### **D. Nutrient Management**

1. All MFO's shall have a field-by-field NMP developed by a certified nutrient management planner or the permittee.
2. Components of the NMP, including but not limited to RUSLE2 soil loss calculations, soil testing, nutrient recommendations, nutrient application schedules, and results of the Vermont Phosphorus Index, shall be performed, calculated, and presented on a per field basis as is consistent with standard industry practice.
3. The NMP shall meet the format and content requirements of Guidance Document 1: Components of a Model Nutrient Management Plan.

4. Development and implementation of the nutrient management plan shall exceed the standards of Vermont Accepted Agricultural Practices and meet or exceed the Vermont USDA NRCS standard for nutrient management (technical practice code 590).
5. The Agency may require the farm to submit spatial information including GIS shapefiles and aerial photography maps which may include farm identification, tract and field identification, acres and land use determinations used in developing the farm's NMP.
6. The nutrient management plan shall:
  - a) Include all land receiving application of manure, compost, other wastes, fertilizer, or any other source of nutrients;
  - b) Document adequate storage of manure, compost, and other wastes, including procedures to ensure proper operation and maintenance of the storage facilities;
  - c) Document proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, stormwater, waste storage, or treatment system that is not specifically designed to treat animal mortalities;
  - d) Document that clean water is diverted, as appropriate, from the production area;
  - e) Document that confined animals within the production area do not have direct contact with waters of the state;
  - f) Document that chemicals and other contaminants handled on-site are not disposed of in any manure, compost, waste, or stormwater storage or treatment system unless specifically designed to treat such chemicals and other contaminants;
  - g) Document site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the state;
  - h) Document appropriate testing of manure, compost, other wastes (including high and/or low flow storage ponds), and soil; and,
  - i) Document protocols to land apply manure, compost, and other wastes in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, compost, and other wastes, as appropriate.

7. Nutrient management shall meet the following conditions:
- a. Yearly soil loss shall not exceed T (of the dominant soil type) as determined by RUSLE 2 (Revised Universal Soil Loss Equation 2). If a rotation is needed to meet T, that rotation shall not exceed 10 years in length. If rotation schedule is not followed for any reason including but not limited to weather, poor cover crop establishment or improper implementation of crop rotation schedule adjustments must be made to attain soil loss reduction requirements of that field within the same ten year period.
  - b. Other conservation practices shall be implemented as necessary to reduce runoff of pollutants to waters of the state.
  - c. Fields receiving mechanical application of nutrients shall have soil tested every three years.
  - d. At least one third of all fields must have a soil test less than three years old when developing the nutrient management plan. A soil test 3-5 years old may be used for developing the nutrient management plan if application rates of nutrients will be planned at a rate no greater than the phosphorus removal rate and revised accordingly within 1 year based on current soil tests.
  - e. Soil samples shall be collected and prepared according to UVM guidance or standard industry practice.
  - f. Soil testing shall be conducted using Modified Morgan Extract for available phosphorus and aluminum
  - g. Soil tests, at a minimum, shall include content of:
    - i) Available phosphorus;
    - ii) Reactive aluminum; and,
    - iii) pH.
  - h. If pertinent to monitoring or amending the annual nutrient budget, soil shall be tested for:
    - iv) Electrical conductivity (EC); and/or,
    - v) Soil organic matter.

- i. Plant tissue sampling and testing, where used, shall be done in accordance with UVM standards or recommendations.
- i. Nutrient recommendations (lbs. N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O per acre) shall be made based on the University of Vermont "Nutrient Recommendations for Field Crops in Vermont" (and/or industry practice when recognized by the university) using current soil test results, realistic yield goals, and management capabilities. Other university recommendations for nitrogen and potassium, that are appropriate for the geographic area, may be used.
- k) Every waste storage facility including high and/or low flow storage ponds shall be sampled for nutrient content analysis prior to preparing the nutrient management plan.
- l) Every waste storage facility including high and/or low flow storage ponds shall be sampled for nutrient content analysis according to the 590 standard and shall be representative of the waste stored.
- m) A buffer zone of perennial vegetation shall be maintained between annual croplands and the top of the bank of adjoining surface waters including intermittent waterways that are determined to potentially transport significant waste or nutrients (NRCS 590 Standard) and be consistent with (1) through (5) below, in order to filter out sediments, nutrients, pathogens, and agricultural chemicals and to protect the surface waters from erosion of streambanks due to excessive tillage.
  - i) Adjoining surface waters shall be buffered from croplands by at least 25 ft of perennial vegetation.
  - ii) No manure, compost, or other wastes shall be applied within vegetative buffers.
  - iii) Use of fertilizer for the establishment and maintenance of the vegetative buffer is allowed.
  - iv) Tillage shall not occur in a vegetative buffer except for the establishment or maintenance of the buffer.
  - v) Harvesting the buffer as a perennial crop is allowed.
- n) Private wells shall be protected by a 50 ft nutrient setback. Manure application, fertilizer application, and pasturing of livestock shall not occur within 50 ft of a private well.

- o) All land receiving application of nutrients shall have a risk assessment for potential nitrogen transport into ground water using the Leaching Index.
- p) All land receiving application of nutrients shall have a risk assessment for potential phosphorus transport into waters of the state using the Vermont Phosphorus Index.
- q) Nutrient applications shall be consistent with results of the Vermont Phosphorus Index.
- r) Conservation practices for nitrogen management shall be recommended and implemented based on the results of the Leaching Index.
- s) When the Leaching Index is greater than 10 directly adjacent to a private well, the nutrient setback distance shall be increased to 100 ft.
- t) The timing and method of nutrient application shall correspond as closely as possible with plant nutrient uptake characteristics while considering cropping system limitations, weather and climatic conditions, and field accessibility.
- u) Soil amendments shall be applied, as needed, to adjust soil pH to the specific range of the crop for optimum availability and utilization of nutrients.
- v) All applicable records identified including test results shall be kept on-farm for a period of no less than 5 years.

#### **E. Maintenance and Record Keeping for Nutrient Management Plans**

1. Nutrient management plans shall be maintained according to the following standards.
  - a) An annual analysis of manure, compost, and other wastes per storage structure shall be conducted.
  - b) Soil shall be sampled and analyzed for nutrient content every three years.
  - c) Plan revision shall be performed by a certified nutrient management planner or the permittee.
  - d) The nutrient management plan shall be updated prior to a 10% or greater change that occurs with planned cropping, animal numbers,

land base, or any other variable affecting the plan. The plan shall meet all required specifications before the proposed changes are implemented and revisions to the plan shall be made by a certified nutrient management planner or the permittee.

- e) Implementation of additional conservation practices and/or application rate modifications as deemed necessary by the Secretary may be required when the following conditions exist:
    - i) A use of an unproven experimental technology;
    - ii) A determination by the Secretary that a field is no longer acceptable for manure, compost, and other waste application; or,
    - iii) Any circumstances of potentially significant contamination to surface water or ground water.
2. Records pertaining to the implementation and maintenance of the nutrient management plan shall be kept on-farm for a period of no less than 5 years and shall include:
- a) A copy of the site-specific nutrient management plan including:
    - i) Results from manure, compost, other waste, and soil sampling;
    - ii) Planned soil loss (as determined using RUSLE2); and,
    - iii) A list of fields with high or excessive Phosphorus Index results.
  - b) Yearly NMP implementation information (which may differ from planned) by field including; and,
    - i) A list of crops planted, planting dates, harvest dates, and recommended nutrient application rates;
    - ii) A list of yields;
    - iii) Record the amount of, and the date(s) of actual manure, compost, other waste, and fertilizer applications by source;
    - iv) Fertilizer application rates by formulation; and,
    - v) The date and weather conditions at the time of nutrient applications.

- c) A copy of annual reports submitted to the Agency.

**F. Requirements for the Transfer of Manure, Compost, or Other Wastes to Other Persons**

1. In cases where MFO-generated manure, compost, or other wastes is sold or given away, the permittee must comply with the following conditions:
  - a) Maintain records showing the date and amount of manure, compost, or other wastes that leaves the permitted operation;
  - b) Record the name and address of the recipient;
  - c) Provide the recipient(s) with representative information on the nutrient content of the manure, compost, or other wastes; and,
  - d) Retain records on-site for a period of 5 years.
2. All records relating to the transfer of manure, compost, or other wastes shall be submitted to the Agency upon request.

**Subchapter V. MONITORING AND REPORTING**

**A. Notice of Non-compliance**

1. The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

**B. Notice of Discharge**

1. If for any reason there is a discharge of wastes from the production area to the waters of the state, the permittee shall notify the Agency orally within 24 hours from the time that the permittee became aware of the discharge. A written Incident Report shall be provided within 5 days of the discharge. (*see **Appendix C: Incident Report***)
2. The Incident Report shall include:
  - a) Which permit condition was not met;
  - b) The cause of non-compliance;
  - c) A description of remedial actions taken; and,

- d) An estimate of the effect of the non-compliance event on the permittee's ability to meet any remaining schedule dates.
3. The Agency may waive the requirement for a written report on a case-by-case basis if the oral report has been received within 24 hours.
4. All discharge information and data will be made available to the Agency upon request.
5. The permittee shall retain copies of all records relating to any discharge under this subsection of this permit for a period of at least three years from the date of the report. This period may be extended by request of the Agency.

### **C. General Inspection, Monitoring, and Record Keeping Requirements**

1. The permittee shall maintain a copy of the NMP and other records required to be kept by this permit at their Medium Farm Operation at all times and shall make the NMP available to the Agency upon request at reasonable times for the purpose of monitoring compliance with the conditions of this permit.
2. The permittee shall document in the NMP as soon as possible, any physical alterations or additions to the permitted facility. The permittee must insure that any change or facility expansion will not result in a discharge in violation of this permit.
3. The permittee shall furnish the Agency, within a reasonable time, any information which the Agency may request to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.

## **Subchapter VI. ANNUAL COMPLIANCE REPORTING REQUIREMENTS**

### **A. Annual Compliance Report**

1. The permittee shall submit an annual report to the Agency April 30 of each year. (*see Appendix D: Annual Compliance Report*).
2. The annual compliance report must include, but is not limited to, the following information:

- a) The number, type of animals, and length of time confined within the production area and on pasture;
- b) Estimated amount of total manure, compost, and other wastes generated by the MFO in the previous 12 months (tons/gallons);
- c) Estimated amount of total manure, compost, and other wastes transferred to other persons by the MFO in the previous 12 months (tons/gallons);
- d) Total number of acres for land application covered by the NMP;
- e) Total number of acres under control of the MFO that were used for land application of manure, compost and other wastes in the previous 12 months;
- f) Summary of any manure, compost, and other waste discharge(s) from the production area that have occurred in the previous 12 months including the date, time, and approximate volume; and,
- g) A statement indicating whether the current version of the MFO's nutrient management plan was developed by a certified nutrient management planner.

## **B. Annual Nutrient Management Report**

1. The permittee shall submit a nutrient management report to the Agency April 30 of each year. (**see Appendix F: Nutrient Management Report**). The nutrient management report must include, but is not limited to, the following information:
  - a) Tract number, field number, acreage, previous year's crop, and previous year's crop yield for each field;
  - b) HEL determination, planned soil loss (as determined using RUSLE2), and previous soil loss (as determined using RUSLE2) for each field;
  - c) Animal waste application rates by source per field;
  - d) Fertilizer application rates by formulation per field;
  - e) A copy of all waste storage facility test results; and,
  - f) A copy of all soil test results.

## **Subchapter VII. GENERAL PROVISIONS**

Permittees shall comply with all conditions of the permit. Non-compliance with permit conditions is grounds for enforcement action, permit revocation or modification, or denial of permit coverage in accordance with the MFO Rules.

This General Permit continues in force and effect until a new General Permit is issued.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit.

The Secretary may, after due notice and an opportunity for a hearing with the permittee, revoke a permit when, after investigation, the Secretary deems the permittee to be in violation of any of the terms or conditions of this General Permit.

Satisfaction of permit provisions notwithstanding, if operation pursuant to this General Permit causes a discharge to waters of the state or causes the farm operation to violate the primary or secondary groundwater standards, the Agency may require modification of the farm operation in accordance with the MFO Rules. The Agency may also require an Individual Permit in accordance with subchapter VII of the *Medium and Small Farm Operation Rules for Issuance of General and Individual Permits*.

The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, to:

- A. Enter upon the permittee's premise where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; and,
- C. Inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

**GUIDANCE DOCUMENT 1. COMPONENTS OF A MODEL NUTRIENT MANAGEMENT PLAN**

- A. In order to achieve compliance with the nutrient management requirements of this permit and the Medium Farm Operation Rules, nutrient management plans shall provide the following information in the following format:
1. A cover page including:
    - a) The name of the farm;
    - b) The date of plan preparation and year of plan;
    - c) Producer information including owner, manager, address, county, phone number, and email; and,
    - d) Planner information including planner's name, address, phone number, and email.
  2. A general description of nutrient management including:
    - a) A statement about the relationship between nitrogen and phosphorus transport and water quality impairments including information about nitrogen leaching into ground water, potential health impacts of nitrogen in drinking water, phosphorus accumulation in soils, increased potential for phosphorus transport in soluble form, and the types of water quality impairments that result from phosphorus movement into surface water bodies;
    - b) A statement describing the relationship between soil phosphorus levels and potential for phosphorus transport from the field;
    - c) A statement about the potential for phosphorus drawdown from the production and harvesting of crops; and,
    - d) A statement regarding how the nutrient management plan is intended to prevent nitrogen and phosphorus supplied for production purposes from contributing to water quality impairment.
  3. A facility description including:
    - a) A description of the farm operation, barns and other buildings, and equipment;
    - b) A description of farm goals and business objectives that takes long-term goals and available land base into consideration;

- c) A description of the farm setting and location;
  - d) The watershed the farm is located in, the watershed code, and resource concerns within the watershed.
4. An analysis of resource concerns including:
- a) A description of all farm resource concerns;
  - b) A table listing resource concerns on a per field basis; and,
  - c) Recommendations of field-specific conservation practices to mitigate resource concerns and nutrient mobility.
5. An aerial site photo detailing resource concerns such as sinkholes, streams, springs, lakes, ponds, wells, gullies, tile inlets, areas of concentrated flow, and drinking water sources, in relation to cropland and pastureland with required setbacks and buffers, and property lines (Include a map key with producer's name, the county the farm is located in, planner's name, planner's affiliation, date prepared, a scale bar, a north arrow, and a legend of features highlighted).
6. A land application map detailing all land rented or owned, field and pasture names, FSA tract and field numbers, acreages, roads, location of the farmstead, location of waste storage structures, and points of reference (Include a map key with producer's name, the County the farm is located in, planner's name, planner's affiliation, date prepared, a scale bar, a north arrow, and a legend of features highlighted).
7. A soils map detailing soil type on all land rented or owned with tract and field numbers labeled (Include a map key including producer's name, the County the farm is located in, planner's name, planner's affiliation, date prepared, a scale bar, a north arrow, and a legend of features highlighted).
8. Cropland information including:
- a) A general interpretation of soil test results;
  - b) A soil test table including date of test and nutrient content for each field (at a minimum include available phosphorus, potassium, and reactive aluminum expressed in PPM);
  - c) A cropland inventory detailing whether fields are owned, rented, or leased, field names (producer identification), FSA designation, soil type, land use designation (hayland, cropland, pasture, etc.), and planned crop rotation;

- d) An animal waste application schedule to meet recommendations, based on soil test results, animal waste test results, previous crop credits, prior bio-nutrient credits, and which is consistent with results from the Vermont Phosphorus Index and Leaching Index assessed by field, including:
  - i) Tract number, field number, and acreage;
  - ii) Crops (and % legume for hay/haylage crops);
  - iii) Waste application rate(s), form(s), and source(s);
  - iv) Amount of N, P, and K applied (lbs/acre N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O);
  - v) Timing (month and year) of application;
  - vi) Prior crop credits;
  - vii) Prior bio-nutrient credits; and,
  - viii) Tillage and time to incorporation.
- c) An explanation of yield goal determination;
- d) An explanation of application rate determination; and,
- e) An assessment of animal waste production in relation to spreadable land base.

9. General field information including:

- a) Tract and field number;
- b) Planned crop;
- c) Previous crop; and,
- d) Yield goal.

10. A nutrient budget for each field including:

- a) Nutrient recommendations (lbs. N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O per acre);
- b) Nutrients (lbs. N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O per acre) provided by recommended waste applications;

- c) Nitrogen (lbs. N) supplied by prior crop;
- d) Nutrients (lbs. N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O per acre) supplied from prior bio-nutrients;
- e) Fertilizer recommendations including application rate and fertilizer formulation;
- f) Nutrients (lbs N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O lbs/acre) provided by recommended fertilizer applications; and,
- g) A total nutrient budget calculated based on total crop needs and all nutrients provided.

11. Animal waste storage and handling including:

- a) Animal information;
  - i) Number, type, and weight of all livestock or domestic fowl at the MFO facility;
  - ii) Period of confinement for each animal; and,
  - iii) Housing and bedding type.
- b) Waste Storage;
  - i) Type of storage; and,
  - ii) Volume and density of each waste produced (manure, bedding, washwater, runoff water, whey, biosolids, etc.) as stored;
- c) Nutrient Content of Waste Storage;
  - i) A table detailing results from the sampling and testing of animal waste including type of wastes, location of waste storage, sample ID, date of test, waste density, total N, ammonium N (as a part of total N), organic N (as a part of total N), phosphorus (as P<sub>2</sub>O<sub>5</sub>), and potassium (as K<sub>2</sub>O).
- d) A list of any additional methods of managing waste including, but not limited to compost management details, such as the amount and type of material composted, leachate collection, and disposal methods;

- e) If excess nutrients exist alternatives presented for off-farm use of the animal waste and appropriate documentation provided; and,
  - f) Documentation on wastes exported including:
    - i) The amount and form of waste exported;
    - ii) The date of manure exportation with signatures from both producers acknowledging the transfer; and,
    - iii) A copy of a current waste test (less than 1 year old).
12. A copy of the results (issued from the testing laboratory) from all nutrient tests of soil, plants, water, manure, or organic by-product required and/or used in the development of the nutrient management plan;
13. Highly Erodible Land (HEL) determination;
14. A copy of all required risk assessments including but not limited to RUSLE2 soil loss calculations, a copy of the Leaching Index, and a copy of the Vermont Phosphorus Index;
15. All supporting information used to:
- a) Document adequate storage of manure, compost, and other wastes, including procedures to ensure proper operation and maintenance of the storage facilities;
  - b) Document proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, stormwater, waste storage, or treatment system that is not specifically designed to treat animal mortalities;
  - c) Document that clean water is diverted, as appropriate, from the production area;
  - d) Document that confined animals within the production area do not have direct contact with waters of the state; and,
  - e) Document that chemicals and other contaminants handled on-site are not disposed of in any manure, compost, waste, or stormwater storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
16. Procedures for annual plan updates;

17. Assistance notes (NRCS CONS-6 equivalent) showing discussions with the landowner during the development of the plan, site visits, etc.;
18. A statement that the plan was developed based on the requirements of the Vermont MFO General Permit and Rules and any applicable Federal regulations; and that a change in any of these requirements may necessitate a revision of the plan; and,
19. Guidance for implementation, operation, maintenance, and recordkeeping including blank record keeping templates as required for crop history, animal waste applications, commercial fertilizer applications, yield history, and pasture history.