LARGE FARM OPERATIONS RULES

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Subchapter 1 Authority

These Large Farm Operations (LFO) Rules are adopted under the express authority of 6 VSA Chapter 215 Subchapter 3 Section 4852. The Secretary is given authority under 6 VSA Chapter 215 (a)(10) to adopt rules pursuant to 3 VSA Chapter 25, for the implementation of the provisions of 6 VSA Chapter 215, Subchapter 4.

Subchapter 2 Declaration of Purpose

These Rules establish procedures and standards for the preparation and review of large farm operations permit applications, the issuance of permits for the operation the expansion of large farms, the construction of new buildings, or the expansion of existing buildings for large farm operations in Vermont. These Rules also establish procedures and standards for permit amendments, permit compliance, and permit enforcement.
The original LFO Rule framed how a farmer should apply for a LFO Permit. In this 2007 Rule revision, the Agency has added to the framework of these rules direction on maintaining the facility once permitted.

The LFO program is designed to achieve the legislative and administrative purposes of 6 VSA Chapter 215. The Vermont Agency of Agriculture, Food, and Markets intends that these Rules will also prescribe criteria that will cause a Vermont LFO to be managed in a manner which achieves at least a functionally equivalent technical standard as required by federal Concentrated Animal Feeding Operations (CAFO) regulations.

These Rules apply to all large farm operations in Vermont. Large farm operations are required to comply with these Rules, the farm's Large Farm Operations permit, and any additional conditions or requirements as specified by the Secretary in accordance with state law.

These Rules shall also apply to all large farm operations that meet the definition of a Large Farm, but are not yet permitted.

Subchapter 3 Definitions

For the Purposes of These Rules:

25 year, 24 hour rain 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 there from.

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

AAPs: means Vermont's Accepted Agricultural Practice Regulations adopted pursuant to Title 6, Chapter 215.

AFO: means an animal feeding operation.

Adjacent Barns: means two or more barns owned by the same person that are on a single parcel of land.

Agency: means the Vermont Agency of Agriculture, Food, and Markets; also means AAFM.

Animal Feeding Operation: means a lot or a facility which has 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.

Animal Type: means livestock or domestic fowl type.

Applicant: means a person applying for, or required to apply for, a LFO permit under Vermont law.

Barn: means a structure used for livestock or domestic fowl housing.

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

Common Border: means land parcels upon which barns owned by the same person are located when the land parcels abut each other (those divided by a road are

considered abutting). “Roads” include town roads, state roads, and US roadways. Barns separated by a parcel of land owned by a third person do not share a common border.

Common Waste Disposal System: means a shared waste management system for the storage, treatment, or the land application of waste from farms owned by the same person.

Common Waste Storage System: means shared manure storage lagoons, pits, or other structures, owned or leased by a single farming entity (individual or owners within a corporation), which is/are located adjacent to or on the LFO barn site.

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

Construction: means any activity which requires a LFO permit or permit amendment prior to building a new barn, or expanding an existing barn, or expanding an existing permitted barn which has the capacity to increase the number of livestock or domestic fowl housed, and regulated by 6 VSA Chapter 215 Subchapter 3, Regulation of Large Farm Operations at a farm.

Cropland: means land devoted to row crop, 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: for the purpose of these LFO Rules, means the placing, depositing, or emission of waste directly into surface water.

Domestic Fowl: means laying-hens, broilers, ducks, turkeys, and any other number and type of fowl that the Secretary may deem to fit this category.

Expansion: means a type of LFO activity which requires a LFO permit or amendment in order to increase the number of animals or domestic fowl of an existing farm operation. An expansion may occur with or without construction:

(a) when the number of animals or domestic fowl are below the threshold defined in the LFO law and an expansion is proposed which would cause the farm operation to have the potential to meet or exceed the LFO threshold; or

(b) when the existing number of animals or domestic fowl is at or above the threshold defined in the LFO law and an expansion is proposed, which could cause the farm to meet or exceed the permitted number of animals or domestic fowl.

Facility: see LFO Facility.

Farm: means the LFO facility, cropland, and non-cropland included in one or more parcels of land.

Groundwater: For the purpose of these Rules, means water below the land in a zone of saturation, but does not include surface water.

Groundwater Quality Standards: means the primary and secondary groundwater quality standards listed in Appendix One of the Groundwater Protection Rule and Strategy adopted by the Secretary of Natural Resources in accordance with 10 V.S.A. Chapter 48.

LFO: means Large Farm Operation(s).

LFO Facility: means the production area, the barns, the land devoted to waste storage and other agricultural structures, including those created as waste management systems constructed to prevent direct discharges to waters of the state or to prevent groundwater from exceeding state groundwater quality standards, designed, adapted, or used to operate a farm in which the barn or barns are designed to house more than:

700 mature dairy animals, whether milked or dry; or
700 bulls; or
1000 cattle, cow/calf pairs, young stock, or heifers; or
1000 veal calves; or
2500 swine weighing over 55 pounds; or
10,000 swine weighing less than 55 pounds; or
500 horses; or
10,000 sheep or lambs; or
55,000 turkeys; or
30,000 laying hens with a liquid manure handling system; or
82,000 laying hens without a liquid manure handling system;
125,000 chickens other than laying hens without a liquid manure handling system; or
5000 ducks with a liquid manure handling system; or
30,000 ducks without a liquid manure handling system; or

any other animal type and number that the Secretary may deem to fit this category if:

1. Such livestock or domestic fowl are confined:

for more than 45 days; and
in an area where vegetation is not sustained during the growing season; and

2. Such livestock or domestic fowl are in a barn or adjacent barns owned by the same person; or

3. The barns, collectively designed to house the threshold number of livestock or domestic fowl, owned by the same person, share a common border or

4. The barns, owned by the same person, which have the potential to collectively house the threshold number of livestock or domestic fowl, share a common waste disposal system; or,

5. If any barns, owned by any person, where the threshold number of livestock or domestic fowl are collectively housed, share a common waste disposal system or fields.

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

Livestock: means cattle, mature cows, cow/calf pairs, young stock, heifers, bulls, swine, sheep, or horses, or any other number and type of livestock that the Secretary may deem to fit this category.

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

New Large Farm Barn: means new barn construction on a site or parcel where no animal housing structures exist. Also called NLFB.

Non-cropland: means woodland or other areas where crop or pasture production does not occur.

Nutrient Management: means managing the amount, form, placement, and timing of application of plant nutrients for the purpose of obtaining optimum forage and crop yields, minimizing entry of nutrients into waters of the state and groundwater, and optimizing 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 management aspects of fertilizer nutrients, conservation practices, animal mortalities, clean water, waste and soil testing, and record keeping. Also called NMP.

Operating: means a type of activity which requires a permit for large farm activities regulated by 6 VSA Chapter 215 Subchapter 3.

Pasture: means a confined area of perennial vegetation used for the grazing and confinement of animals.

Permittee: means a person that has received a LFO 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.

Production Area: means those parts of a LFO facility that include the animal confinement area, the waste storage area, the waste containment areas, an egg washing or egg processing facility, the raw materials storage area, and any area used in the handling, treatment, or storage of mortalities.

Secretary: means the Secretary of the Agency of Agriculture, Food, and Markets.

VT Water Quality Standards: means the standards and criteria adopted by the Natural Resources Board, pursuant to 10 VSA Chapter 47 Section 1252 (e).

Waste: For the purposes of these LFO Rules, waste includes spoiled feed, manure, milkhouse waste, washwater, leachate, used bedding, agricultural litter, carcasses, barnyard runoff, or dirty water.

Waste Management Structure: Means components, practices and other facilities used for storage, composting, and stacking manure.

Waste Management System: means a 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 milk house 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 to be appropriate; and/or

3. a nutrient management plan (NMP) for all wastes to be applied compliance with these Rules.

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

Waste Storage System: means manure storage lagoons, pits, fields, or other farm waste management structures.

Waters of the State: For the purposes of these LFO Rules, means 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 4 Activities that Trigger the Requirement to Obtain a LFO Permit

A. The following large farm construction or operation activities require a Large Farm Operation permit from the Agency:

1. The construction or expansion of a barn designed to house more than the number of animals or domestic fowl listed under the definition of Large Farm in subchapter 3 above; or

2. The construction or expansion or operation of any number of barns owned by the same person which are located on a contiguous parcel of land and which are designed to house more than the number of animals or domestic fowl listed under the definition of Large Farm in subchapter 3 above; or

3. The construction or expansion or operation of any number of barns owned by the same person which are located on parcels of land which share a common border (such as abutting lands or lands separated by a road), and which barns are designed to house more than the number of animals or domestic fowl listed under the definition of Large Farm in subchapter 3 above; or

4. The construction or expansion or operation of any number of barns owned by the same person which share a common waste management system (such as manure storage, land application areas or methane digestion systems) and which barns are designed to house more than the number of animals or domestic fowl listed under the definition of Large Farm in subchapter 3 above.

B. For barn construction and for farm operation, the Agency will process a single LFO permit for persons who apply for or are required to obtain a LFO permit.

C. An LFO permit which authorizes construction shall expire within two years (twenty-four months) from the date of issuance. If construction is not substantially completed within 24 months, the permittee shall apply for a permit amendment to extend the authorized construction period.

D. A permit or amendment to a previously issued LFO permit is not required to replace an existing barn in use for livestock or domestic fowl production at its existing capacity.

Subchapter 5 Applications and Review

A. How to Apply for a LFO Permit

1. An applicant shall apply for a LFO permit in writing to the Secretary, on a form provided by the Agency, and shall, at a minimum, provide supporting documentation describing or including the following:

a. The name of the owner and operator;
b. The LFO facility location and mailing address;

c. A topographic map of the geographic area in which the LFO is located showing the latitude and longitude of the entrance to production area or proposed production area;

d. The existing barn structures, any proposed new barn proposed barn expansions, or other structures or improvements. Include a sketch which identifies the layout of existing and proposed barns, bunkers, lagoons, pits, etc. The number of animals and their weights shall be identified along with an indication of which barn each group is raised in, and into which waste storage facility each group's waste is stored. If any changes to existing farm structures are proposed, these changes shall be identified on the sketch, and a short explanation of the changes shall be included;

e. Identify and describe any siting and setback considerations for new large farm barns, where appropriate;

f. The existing type of waste management structures or systems, and any proposed waste management structures systems expansions, or modifications, including the total capacities of each waste storage facility;

g. The existing number and types of all livestock or domestic fowl in the operation, and any proposed increase in number of livestock or domestic fowl, and whether the barns are in open confinement or housed under roof;

h. The farm's nutrient management plan;

i. A certification from NRCS or a professional engineer licensed in the state of Vermont, that all waste storage facilities or other conservation practices designed and constructed to control wastes at the LFO facility meet NRCS

standards and specifications contained in the Vermont NRCS Field Office Technical Guide Section IV, as amended, or meet an equivalent standard;

j. A plan to manage the proposed operations for odor, noise, traffic, insects, flies and other pests;

k. How a minimum of 180 days worth of waste storage or management shall be met;

l. The estimated amounts of waste generated per year (tons or gallons) and the planned destination thereof;

m. The estimated amounts of waste transferred to other persons per year (tons or gallons); and,

n. The total number of acres under control of the permittee available for land application of wastes.

B. Application Review Process

1. Administrative Coordination for Applications for Construction of a New Large Farm Barn:

a. Upon receipt by the Agency of a signed permit application form and the information required above for construction of a new large farm barn, the Secretary shall consult at this stage with the Secretary of the Agency of Natural Resources regarding the administrative completeness of the application.

b. When all application contents have been submitted to the satisfaction of the AAFM and to the Secretary of the Agency of Natural Resources, the application will be considered to be administratively complete, and a full review of the application will commence.

c. Also upon receipt by the Agency of a signed permit application form and the information required above for construction of a new large farm barn, the Secretary shall initiate establishing an Advisory Group to assist in reviewing a complete application, by notifying and requesting participation of:

i. the Secretary of Natural Resources or his or her duly authorized representative;

ii. a farmer appointed by the Office of the Governor; and

iii. a representative appointed by the legislative body of the municipality in which the proposed LFO facility would be located. Such representative shall be appointed by the legislative body but need not be a resident of the municipality.

d. The Secretary's notice shall provide the name and location of the proposed barn, and shall state that the request for appointments is being made early in the process.

e. The Secretary will notify the appointees directly at the point in time when the Advisory Group has established a meeting date, and will invite them to assist the Agency in reviewing the application at that time.

f. The Advisory Group shall meet as determined by the Secretary to review the application, and provide recommendations to the Secretary.

g. The Secretary may establish the advisory group pursuant to this subsection upon receipt of a permit application for expansion of an existing barn under this subchapter.

2. Public Informational Meeting for LFO Applications for Construction of a New Large Farm Barn and for Expansions

a. The Agency shall conduct a public informational meeting for LFO projects which propose a new barn construction.

b. The Agency may conduct a public informational meeting for LFO projects which propose a barn expansion, if the barn is already subject to permitting requirements.

c. Public informational meetings shall only be scheduled and held after the Secretary has notified the applicant that the application has been deemed administratively complete.

d. After having been notified by the Secretary that the application is administratively complete, the applicant shall initiate the newspaper notice.

e. The applicant shall find a location for the informational meeting and schedule the public informational meeting after coordinating with the Agency. Informational meetings shall be held in handicapped accessible locations, in the municipality where the proposed LFO project is located.

f. The applicant shall coordinate public notification of the LFO project and the public informational meeting by issuing a notice through a local daily newspaper that has been approved by the Secretary.

g. The applicant shall use and modify the sample notice found in Appendix A. Other forms of notice shall be approved in advance by the Secretary.

h. The published advertisement shall be at least two (2) columns wide by three (3) inches high.

i. The notice shall appear in the local daily newspaper once, at least 14 days prior to the public informational meeting.

j. The purpose of the public informational meeting shall be to provide an opportunity for the public to learn about the proposed project.

k. The public may submit written comments to the Agency about a proposed LFO project for five (5) business days after a public informational meeting.

l. The Secretary may use an abbreviated notice process if holding a discretionary meeting.

3. Establishing an Advisory Group when the Secretary receives an application for construction of a new large farm barn.

a. Upon receipt by the Secretary of a permit application for construction of a new large farm barn under this subchapter, the Secretary shall establish an Advisory Group to assist in reviewing the application. The advisory group shall consist of, in addition to the Secretary, the Secretary of Natural Resources or his or her duly authorized representative, a farmer appointed by the governor, and a representative appointed by the legislative body of the municipality in which the proposed LFO facility would be located. Such representative shall be appointed by the legislative body but need not be a resident of the municipality. The Secretary may

establish the advisory group pursuant to this subsection upon receipt of a permit application for expansion of an existing barn under this subchapter.

b. The Secretary may convene an Advisory Group when the Secretary receives an application for expansion of an existing large farm barn.

c. When the Secretary receives an application for construction of a new large farm barn, the Secretary shall notify the Secretary of Natural Resources, the Office of the Governor, and the municipality where the large farm barn is proposed. The Secretary's notice shall provide the name and location of the proposed barn. The notice shall include the Secretary's request for an appointee of the Secretary of Natural Resources, a farmer appointee from the Office of the Governor, and an appointee from the governing board of the municipality in which the facility is proposed to be located.

d. The Secretary's notice shall include a request that the appointments be made upon announcement from the Secretary that the application has been deemed administratively complete. The Secretary will notify the appointees directly at the point in time when the Advisory Group has established a meeting date.

e. When the Secretary does deem the application to be administratively complete and has established a meeting date, the Secretary shall contact the members of the Advisory Group to invite them to assist the Agency in reviewing the application.

f. The Advisory Group will meet as determined by the Secretary to review the application and provide recommendations to the Secretary.

4. Application Review Process, Communicating with the Applicant

a. The Secretary shall notify applicant in writing as to whether the two agencies have determined the application to be administratively complete or administratively incomplete. If the application has been determined to be administratively incomplete, the letter shall set out what components are missing.

b. An incomplete application shall not be deemed complete until the identified items or components are submitted.

c. The Secretary shall request from the Secretary of Natural Resources assistance in making a written determination whether the applicant has established that there are no unpermitted discharges to waters of the state that would require a federal CAFO permit under the Clean Water Act.

d. Title 6 Chapter 215 §4851 (c) states that the Agency has 45 business days to review an application once it is fully complete.

e. The formal 45 business day application review period will not start until the Agency determines that the application has been considered administratively complete, the application review advisory group has met and provided feedback (where required by statute), and the public informational meeting has been held. The day after the application is deemed complete is day 1 of the statutory 45 business day review period.

f. In the absence of a permit determination by the Agency within 45 business days, the applicant=s permit is awarded by default.

i. A permit awarded by default requires the permittee, upon request by the Secretary or Secretary's designee, to demonstrate: compliance with AAPs; compliance with adopted LFO Rules; compliance with LFO statutory criteria; and to demonstrate that the LFO facility will be managed consistent with a well managed, similarly sized farm of the same animal type; and that there will be no discharge to waters of the state and groundwater impacts will meet state groundwater quality standards; and

ii. A permit awarded by default can be amended, conditioned, or revoked by the Secretary.

iii. A permit awarded by default shall not preclude a farm from being required to obtain other permits.

g. The options available to the Secretary for application determinations are to: approve as is; approve with conditions; or deny.

h. The Agency is not required to meet the provisions of Title 6 Chapter 215 Subchapter 3, Section 4851 (c), regarding the 45 business day review period for applications submitted for LFO permits, when the number of animals or domestic fowl at the existing operation are below the LFO permit threshold requirement, and a farmer chooses to apply for a permit.

Subchapter 6 Management and Design Standards

A. General Operational and Maintenance Standards Applicable to LFOs

1. The permittee shall ensure that all structures and practices shall be operated and maintained in accordance with the requirements and recommendations detailed in the appropriate practice code in Vermont NRCS Field Office Technical Guide Section IV, or an equivalent standard as recommended in writing by the permittee's hired professional engineer licensed in the state of Vermont.

2. The permittee shall ensure that adequate waste management structures are managed to assure that there are no direct discharges of wastes from the LFO facility to waters of the state or to prevent groundwater from exceeding state standards.

3. The permittee shall operate and maintain the waste storage facility to prevent direct discharges to waters of the state or to prevent groundwater from exceeding state standards by removal of material to avoid overtopping, and to create space for the ongoing generation of waste.

4. The permittee shall ensure that the LFO facility, cropland, and non-cropland will be managed in compliance with all applicable AAPs and these Rules.

5. The permittee shall ensure that all wastes which are land applied, are applied according to a nutrient management plan which meets the requirements of these Rules.

6. The permittee shall ensure that the LFO facility shall not generate odors of a type different than, or in excess of those from a well managed similar sized farm of the same animal type using a similar waste management system. The Agency will use the technical components of the American Society of Agricultural Engineers published Standards and Engineering Practices Data, ASAE EP379.1 DEC96, AControl of Manure Odors@ as the standard when addressing livestock or domestic fowl manure odor issues.

7. The permittee shall ensure the LFO facility shall not create noise disturbances in excess of those from a well managed similar sized farm of the same animal type.

8. The permittee shall ensure the LFO facility shall not generate traffic flows and frequency at a greater level than those from a well managed similar sized farm of the same animal type.

9. The permittee shall ensure that the LFO facility will not generate or breed flies, insects, or other pests above a level where adult flies, insects, or other pests moving off the farm premises are in excess of those from a well managed similar sized farm of the same animal type.

10. The LFO shall implement erosion and sediment control conservation practices when land clearing, field drainage, ditching, or other field preparation or improvement activities, to prevent movement of sediment to waters of the state, groundwater, or across property boundaries.

11. All storage of compost and the resulting leachate shall be managed to prevent a discharge to waters of the state and to prevent groundwater from exceeding state groundwater quality standards, and in accordance with the NMP.

12. Compost and compost leachate shall be collected and spread on land in accordance with a NMP and without causing a discharge to waters of the state or to cause groundwater to exceed state groundwater quality standards, and in accordance with the NMP.

B. Specific LFO Structural Design Standards

1. All structural components of the following aspects of a LFO waste management system shall be described in the permit application, and shall meet the following conditions:

a. Any 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 shall meet or exceed the standards of the Vermont NRCS Field Office Technical Guide Section IV, or an equivalent standard as certified by the permittee's engineer licensed to practice in Vermont.

b. LFOs shall have a waste storage facility capable of holding waste generated in 180 consecutive days. An alternative to providing 180 days worth of storage is developing a manure management program 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 consistent with these Rules.

c. 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 leachate runoff must be contained in such a way as to prevent a discharge to waters of the state.

d. 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.

e. Mortalities shall be managed in such a way as to prevent a discharge to surface waters or to cause groundwater to exceed state groundwater quality standards.

2. All aspects of the waste management system and clean water runoff shall be designed to meet or exceed the standards described in Vermont NRCS Field Office Technical Guide Section IV, or shall be designed to an equivalent standard by a professional engineer licensed in the state of Vermont.

a. Waste Storage Facility: An adequately sized waste storage facility shall be designed to hold all wastes, including clean water unless it is diverted elsewhere, generated during a minimum of 180 days for the proposed herd size, and be designed to handle a 25-year, 24-hour storm event.

b. An alternative to providing a minimum of 180 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 determined by the Secretary to assure no discharges will occur to waters of the state or to cause groundwater quality to exceed state groundwater standards, and to assure compliance with AAPs.

c. Another possible alternative to providing a minimum of 180 days worth of storage exists, if:

i. The available certified storage capacity is less than 180 days, but it is greater than 106 days, and

ii. Funding has already been secured to construct certified storage for at least 75 additional days' worth of generation. The

schedule to construct additional storage shall be defined by the Secretary and contained in a compliance schedule in the permit.

d. Field stacking of semi-solid manure may be permitted on a case-by-case basis. Field stacking of manure shall meet the criteria defined in Vermont NRCS Field Office Technical Guide, Section IV, as amended Practice Code 313, and be operated in a manner which allows no direct discharge to waters of the state or to prevent groundwater from exceeding state standards; and

e. Field stacking of semi-solid manure may be authorized by the Secretary if a portion of the waste storage structure (pit, lagoon, tankage or other contained space) is used to store whey or other wastes not generated on the farm, which then displaces an amount of manure generated by the LFO.

3. Any new construction, modifications, additions, or repairs of storage structures shall be designed in accordance with Vermont NRCS Field Office Technical Guide Section IV, as amended Practice Code 313 Waste Storage Facility - Standards and Specifications or Vermont NRCS Field Office Technical Guide Section IV, as amended, Composting Facility, or other appropriate waste storage facility(s) contained in the Vermont NRCS Field Office Technical Guide Section IV, as amended, or other equivalent standards as certified by the permittee's engineer licensed to practice in Vermont, and shall be operated in a manner which allows no direct discharge to waters of the state or to prevent groundwater from exceeding state standards;

4. For new waste storage facilities for a large swine, veal, or poultry operation, the waste storage structure shall either be:

a. Covered in such a way as to prevent precipitation from falling on to the structure; or

b. Designed in accordance with Vermont NRCS Field Office Technical Guide Section IV, as amended Practice Code 313 Waste Storage Facility - Standards and Specifications or Vermont NRCS Field Office Technical Guide Section IV, as amended, with the exception that the storm event for the design is based shall be the 100-year, 24-hour storm event for that location.

5. Plans and specifications for new or upgraded waste storage facilities or for new or upgraded runoff control systems shall be submitted to the Agency

by the permittee prior to construction. Post construction documentation shall be submitted within 60 days of project completion, or as otherwise specified by the Secretary.

C. Required Certifications for Waste Storage/Management Facilities

1. All conservation practice structures shall be affirmed to be designed to meet or exceed the standards described in Vermont NRCS Field Office Technical Guide Section IV or shall be designed by a professional engineer licensed in the state of Vermont, and shall include:

a. The adequacy of structure linings to prevent exfiltration of manure contaminants to groundwater;

b. The proximity of bedrock and the water table to the floor of the structure;

c. Scaled drawings showing location(s) of the storage unit(s) and runoff control system(s), and surface water(s), water supply well(s), property boundary(-ies), elevation(s), and other pertinent information;

d. As-built drawings, including date and materials of construction;

e. Existing storage structure=s ability to meet the criteria and specifications outlined in Vermont NRCS Field Office Technical Guide, Section IV, as amended Practice Code 313, Waste Storage Facility, or Vermont NRCS Field Office Technical Guide Section IV, as amended Practice Code 313, Waste Storage Pond, or other appropriate waste storage facility(s) contained in Vermont NRCS Field Office Technical Guide Section IV, as amended;

f. The adequacy of the system(s) to control manure runoff generated by a 25-year, 24-hour storm event for the location;

g. A full description of the system=s components, including any reference to practices specified in Vermont NRCS Field Office Technical Guide Section IV, as amended; and,

e. A full description of the management of mortalities, in such a way as to prevent a discharge to surface waters or to cause groundwater to exceed state groundwater quality standards.

2. Additional Limitations: In the event that any waste management system does not prevent discharges to waters, or does not conform to AAPs, the permit may be modified by the Secretary to require additional discharges to be eliminated and a schedule of compliance to achieve the elimination of discharges.

D. Siting and Setback Requirements for Construction of and Expansions of New Large Farm Barns and New Waste Management Systems

1. In making determinations regarding the siting of a new large farm barn and other LFO farm structures related to the application for a new large farm barn expansion for existing LFOs, the secretary shall consider the following:

a. The adjoining and neighboring land uses in the vicinity of the proposed barn, expansion, and operation;

b. The identification of any waters of the state on, or in close proximity to, the proposed barn, expansion, and operation;

c. Whether the siting of the proposed barn, expansion, and operation is designed to comply with AAPs;

d. Whether the siting of the proposed barn, expansion, and operation is designed to comply with standards established in these Rules for groundwater protection;

e. Whether the siting of the proposed barn, expansion, and operation will allow for compliance with the standards established in these Rules for:

i. Odor;

ii. Noise;

iii. Traffic;

iv. Insects;

v. Flies; and,

vi. Other pests

f. The permittee's history of compliance with these Rules.

E. Setback Requirements for Farm Structures for New and Expanded Large Farm Operations

1. Notwithstanding the provisions of the AAP Regulations for the construction of farm structures, the following minimum setbacks shall apply to all farm structures at a LFO located in a town in Vermont that has no zoning:

a. 100 feet back from the centerline of a public road, and

b. 100 feet back from any abutting property line.

2. In municipalities with zoning or municipalities without zoning, the Secretary may require a setback exceeding 100 feet from the centerline of a public road or on abutting property line if, in the Secretary's discretion or upon recommendation of the Advisory Group, such an additional setback is necessary due to:

a. Unique physical circumstances or conditions, including irregularity, narrowness, farm size or shape, or exceptional topographical or other physical conditions peculiar to the particular farm property or the abutting property.

b. The impact that odor, noise, traffic, insects, flies, and other pests from the farm property will have on the abutting property.

3. The Secretary may grant adjustments from these setback requirements if the applicant or permittee can demonstrate:

a. There are unique physical circumstances or conditions, including irregularity, narrowness, farm size or shape, or exceptional topographical or other physical conditions peculiar to the particular farm property, and that unnecessary hardship in meeting these setbacks is due to these conditions;

b. Because of these physical circumstances or conditions, there is no possibility that the farm property can be efficiently managed in strict conformity with the setback and that an adjustment is necessary;

c. Unnecessary hardship has not been created by the applicant or permittee;

d. The adjustment, if authorized, will not substantially or permanently impair the appropriate use or development of adjacent property, or be detrimental to the public welfare; and,

e. The adjustment, if authorized, will represent the minimum adjustment that will afford relief and will represent the least deviation possible from the Rules.

4. In making determinations and recommendations regarding the siting of the barn and other farm structures related to the application the Advisory Group shall consider the following:

a. The animal type of the operation;

b. The number of animals proposed to be covered by the permit;

c. The number of acres included in the farm property;

d. The adjoining and neighboring land uses in the vicinity of the proposed barn and operation;

e. The identification of any waters of the state on, or in close proximity to, the proposed barn and operation;

f. Whether the siting of the proposed barn and operation is designed to comply with AAPs;

g. Whether the siting of the proposed barn and operation is designed to comply with standards established in these Rules for surface water and groundwater protection; and,

h. Whether the siting of the proposed barn and operation will allow for compliance with the standards established in these Rules for:

i. Odor ;

ii. Noise ;

iii. Traffic ;

iv. Insects;

v. Flies; and,

vi. Other pests

F. Nutrient Management Plan (NMP) Standards for Crop and Non-Cropland Areas

1. Developing a Nutrient Management Plan:

a. All LFOs shall have a field-by-field NMP developed by the Permittee or a certified nutrient management planner; and,

b. The Agency may periodically inspect NMPs and required records for the purpose of determining compliance with LFO nutrient management requirements.

2. Requirements of the Nutrient Management Plan:

a. Development and implementation of a NMP shall meet or exceed the standards of Vermont AAPs, Vermont NRCS Field Office Technical Guide Section IV, as amended Practice Code 590 for Nutrient Management, and shall also be in compliance with the following additional criteria to the extent applicable:

i. Ensure adequate storage of wastes, including procedures to ensure proper operation and maintenance of the storage facilities;

ii. Ensure proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or waste storage or treatment system that is not specifically designed to treat animal mortalities;

iii. Ensure clean water is diverted, as appropriate, from entering the production area;

iv. Prevent direct contact of confined animals within the production area with waters of the state;

v. Ensure chemicals and other contaminants handled on-site are not disposed of in any waste storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

vi. Identify appropriate site specific conservation practices to be implemented, including, as appropriate, buffers or equivalent practices to control runoff of pollutants to waters of the state or to prevent groundwater from exceeding state standards;

vii. Identify protocols for appropriate testing of waste and soil;

viii. Establish protocols to land apply waste in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the waste; and,

ix. Identify specific records that will be maintained to document the implementation of the NMP.

b. The Nutrient Management Plan shall:

i. Include all land receiving application of manure, compost, other wastes, fertilizer, or any other source of nutrients;

ii. Document adequate storage of manure, compost, and other wastes, including procedures to ensure proper operation and maintenance of the storage facilities;

iii. Document proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, waste storage, or treatment system that is not specifically designed to treat animal mortalities;

iv. Document that clean water is diverted, as appropriate, from the production area;

v. Document that confined animals within the production area do not have direct contact with waters of the state;

vi. Document that chemicals and other contaminants handled on-site are not disposed of in any manure, compost, waste, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

vii. 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 or to prevent groundwater from exceeding state standards;

viii. Document appropriate testing of manure, compost, other wastes, and soil;

ix. 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; and,

x. Document the destiny of the total annual volume of manure produced.

3. The following NMP components shall be performed, calculated, and presented on a field-by-field basis:

a. Yearly soil loss shall not exceed T (of the dominant soil type) as determined by RUSLE 2 (Revised Universal Soil Loss Equation 2), and calculations shall be conducted. If a rotation is needed to meet T, that rotation shall not exceed 10 years in length.

b. Other conservation practices shall be implemented as necessary to reduce runoff of pollutants to waters of the state or to prevent groundwater from exceeding state standards.

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 by 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 following industry standards and methodology.

g. Soil tests, at a minimum, shall include content of:

i. Available phosphorus;

ii. Reactive aluminum;

iii. pH; and,

iv. The Secretary may require that the soil be analyzed for additional parameters, based on other information received about field use, including other wastes used on the land.

h. If pertinent to monitoring or amending the annual nutrient budget, soil shall be tested for:

i. Electrical conductivity (EC); and/or,

ii. Soil organic matter.

i. Nutrient recommendations (lbs. N and P_2O_5, 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.

j. Every waste storage facility shall be sampled for nutrient content analysis prior to preparing the nutrient management plan.

k. Every waste storage facility shall be sampled for nutrient content analysis yearly and shall be representative of the waste stored.

l. A buffer zone of perennial vegetation shall be maintained between annual croplands and the top of the bank of adjoining surface waters consistent with i. through v. below, in order to filter out sediments, nutrients, pathogens, and agricultural chemicals and to protect the surface waters from erosion of stream banks due to excessive tillage.

i. Surface waters shall be buffered from croplands by at least 25 ft of perennial vegetation, measured from the top of the bank.

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.

m. No application of manure shall occur within 50 feet of a private well, unless legal documentation is provided to the Secretary that demonstrates a different isolation distance has been provided for, or when a private well is in a location that is inconsistent with state law or regulation.

n. All land receiving application of nutrients shall have a risk assessment for potential nitrogen transport into ground water using the Leaching Index.

o. 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.

p. Nutrient applications shall be consistent with results of the Vermont Phosphorus Index.

q. Conservation practices for nitrogen management shall be recommended and implemented based on the results of the Leaching Index.

r. When the Leaching Index is greater than 10 directly adjacent to a private well, the nutrient setback distance shall be increased to 100 ft.

s. 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.

t. 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.

u. All applicable records identified including test results shall be kept on-farm for a period of no less than 5 years.

v. Field applied manure and other wastes shall not:

i. Run off to waters of the state from the intended site during applications, or:

ii. Pond on the intended site at any time.

G. Production Area Standards

1. All LFOs shall implement the following:

a. Visual inspections. There must be routine visual inspections of the LFO production area. At a minimum, the following must be visually inspected:

i. Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channeling dirty storm water to the wastewater and manure storage and containment structure;

ii. Daily inspection of water lines, including drinking water or cooling water lines;

iii. Weekly inspections of the manure, litter, and process wastewater impoundments; the inspection will note the level in liquid impoundments.

b. Corrective actions. Any deficiencies found as a result of these inspections must be corrected as soon as possible.

c. Mortality handling. Mortalities shall not be disposed of in any liquid waste storage system, and must be handled in such a way as to prevent the discharge of pollutants to surface water or to prevent

groundwater from exceeding state standards, unless alternative technologies designed to handle mortalities are approved by the Secretary.

H. Waste Management Standard for Wastes Transferred to Another Manager

1. Wastes generated by the LFO facility which are transferred to another manager shall require a contract or other written agreement including sufficient detail to require no direct discharges to waters of the state or to prevent groundwater from exceeding state standards, and to require compliance with AAPs.

2. Small volumes of wastes transferred via individual buckets or trunk loads do not require a contract, but shall be tracked as part of the annual report requirements.

3. Waste transferred must be analyzed a minimum of once annually for nutrient content and organic matter. The results of the analyses are to be used in determining application rates for waste.

I. Site / Soil Design and Operations Standards

1. Manure and other wastes shall not be spread:

   a. Within buffer areas for streams, rivers, lakes, ponds, and water supply wells; and

   b. In a waterway, terrace channel or any areas where there may be a concentration of runoff.

2. Manure and other wastes spread on annual cropland that is subject to overland flow from adjacent surface water shall be incorporated within 48 hours. This restriction does not apply to no-till land, or land planted to a cover crop.

J. Groundwater Protection Criteria

1. Farm operations shall be conducted so that wastes 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 have reached or exceeded an

enforcement standard in groundwater, the Secretary may require corrective modifications to the LFO permit, the NMP, the waste management system, or other corrective actions as needed.

2. LFO permits require sampling and analysis of on-farm water supplies. LFOs shall conduct water testing for farm drinking water supplies and for each farm water supply within 500 feet of cropland. The LFO shall also conduct testing on the water supply for each barn on an LFO production area that has a waste management system. Water supplies shall be analyzed for nitrates, chlorides, total and fecal coliform bacteria, and for soil applied pesticides, if specified by the Agency. If nitrate-N levels are greater than 5 ppm, chloride levels are greater than 250 ppm or soil applied pesticides are detected, the LFO shall conduct testing on an annual basis (or as otherwise directed by the Agency) until nitrate-N levels are less than 5 ppm, chloride levels are less than 250 ppm and soil applied pesticides are not detected.

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.

K. Groundwater Investigation

1. The permittee shall comply with the sampling and analytical requirements for on-farm water supplies. LFOs shall conduct water testing for farm drinking water supplies and for each farm water supply within 500 feet of cropland. The LFO shall also conduct testing on the water supply for each barn on an LFO production area that has a waste management system. Water supplies shall be

analyzed for nitrates, chlorides, total and fecal coliform bacteria, and for soil applied pesticides, if specified by the Agency. If nitrate-N levels are greater than 5 ppm, chloride levels are greater than 250 ppm or soil applied pesticides are detected, the LFO shall conduct testing on an annual basis until nitrate-N levels are less than 5 ppm, chloride levels are less than 250 ppm and soil applied pesticides are not detected.

2. The Secretary shall conduct a groundwater investigation where the Secretary has received a complaint from a well owner in the vicinity of an LFO that the operation or its agricultural practices has contaminated the drinking water or groundwater of the well owner.

3. The Secretary shall investigate the occurrence of contamination where sampling indicates that drinking water or groundwater contains detectable concentrations of agricultural contaminants.

4. The approaches the Secretary may utilize to identify the sources of drinking water and groundwater contamination and to require the remediation of contamination include, but are not limited to:

a. Conducting site visits to interview property owners and farm operators, to gain an understanding of the physical characteristics of the landscape, and locate additional sites for water quality sampling;

b. Communicating with farm operators and adjacent property owners to identify practices and activities that are potential sources of contamination;

c. Conducting additional sampling to confirm the detection of contaminants and to determine the extent and scope of contamination at the site;

d. Making 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;

e. Conducting follow up water quality sampling to determine the effectiveness of changes made or corrective actions taken;

f. Seeking additional investigative or consultation resources to evaluate and characterize the site to determine vulnerability to drinking water and groundwater contamination; and,

g. Reviewing 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 annual testing or surveillance monitoring indicates a large 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 LFO shall be managed to reduce the contamination from current activities and prevent contamination from future activities.

6. Changes in activities, management practices, cropping patterns, NMPs, or structures to reduce concentration of wastes in groundwater may be required to be implemented according to a permit amendment or modification, an Assurance of Discontinuance (AOD), or other enforcement action including a compliance schedule issued to the farm operation by the Secretary.

7. 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 a LFO shall receive the test results for each well owned by them that is sampled by the Secretary.

b. LFOs shall receive the test results for wells owned by the farm operation, and for wells adjacent to or impacted by the crop land or LFO facilities managed by the LFO. The LFO shall also receive test results for wells when the Secretary has received a complaint from a well owner in the vicinity of an LFO that the operation or its agricultural practices has contaminated the drinking water or groundwater of the well owner.

8. The Secretary may require the owner or operator of a LFO waste storage facility to modify the waste storage facility to meet the Vermont NRCS Field Office Technical Guide Section IV, as amended or an equivalent standard for the waste storage facility or to implement additional management measures if the waste storage facility poses a threat to human health or the environment as established by a violation of the Groundwater Quality Standards.

9. For the purpose of making a determination that a LFO 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 LFO 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 LFO facility and the name of the owner or operator. When the Secretary makes a determination that a LFO 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.

10. When the Secretary has made a determination that a LFO 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.

11. The owner or operator of a LFO, if required by the Secretary to design, construct or modify a waste storage facility, may apply for cost share assistance.

Subchapter 7 Permittee Responsibilities, Recordkeeping

A. Record Keeping for Nutrient Management Plans

1. The LFO permit shall define the frequency of testing and record development.

2. The Agency shall have access to all records that are required to be maintained by the permittee.

3. 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. 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 would otherwise no longer be acceptable for waste application; or,

iii. Any circumstances of potentially significant contamination to surface water or ground water.

4. 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:

i. A list of crops planted, planting dates, and harvest dates;

ii. A list of yields;

iii. The amount of, and the date(s) of 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.

5. Records specific to sampling all media shall describe:

a. The date, exact location, method, and time of sampling or measurement;

b. The individual who performed the sampling or measurements;

c. The date the analysis was performed;

d. The individual who performed the analysis;

e. The analytical techniques or methods used; and,

f. The results of the analyses.

6. LFO Permittees shall maintain the following records specific to land applying manure, on a field-by-field basis:

a. Expected crop yields;

b. The date(s) waste is applied to each field;

c. Weather conditions at time of application and for 24 hours prior to and following application;

d. The method used to apply the wastes;

e. Date (s) of manure application equipment inspection;

f. Test methods used to sample and analyze manure, or waste, and soil;

g. Explanation of the basis for determining manure application rates, as provided in the technical standards provided by these Rules;

h. Calculations showing the total nitrogen and phosphorus to be applied to each field, including documentation of calculations for the total amount applied, and including sources other than wastes; and,

i. All manure and other wastes that are spread shall be documented on log sheets, including each field name or number; dates of spreading; whether each field is owned or leased; gallons per acre or tons per acre of manure or waste spread each date; grade and tons per acre of commercial fertilizer applied; name of waste structure from which manure or other waste came; and last manure analysis for each waste structure.

B. Recordkeeping for the Production Area and Associated Conservation Practices

1. Routine visual inspections of the LFO facility and conservation practices are required. At a minimum, the following must be visually inspected and documented:

a. Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channeling dirty storm water to the wastewater and manure storage and containment structure;

b. Daily inspection of water lines, including drinking water or cooling water lines;

c. Weekly inspections of the manure, litter, and process wastewater impoundments; the inspection will note the level in liquid impoundments;

d. Mortality handling area(s) shall be inspected weekly to affirm that no discharge of pollutants to surface water has or can occur;

e. Waste storage facility(s) inspection shall be conducted by the permittee for cracks and corrosion. In addition, any earthen manure storage structures shall be inspected for damage, including that from frost, equipment and rodents. The inspection reports shall be maintained by the permittee and shall be made available for inspection by the Agency;

f. Composting Structure(s) Inspection shall be conducted by the permittee and shall include records of whether there was evidence of cracks and corrosion. In addition, any earthen structures shall be inspected for rodent damage. The inspection reports shall be maintained by the permittee and shall be made available for inspection by the Agency; and,

g. Corrective actions. Any deficiencies found as a result of these inspections must be corrected as soon as possible.

2. Inspection reports, at a minimum, shall include:

a. The date and names of persons performing the inspection;

b. An inspection description including the components inspected;

c. Details of what was discovered during the inspection;

d. Recommendations for repair or maintenance;

e. Any actions taken;

f. Records of the date, time, and estimated volume of any discharge to waters of the state; and,

g. A certification statement (form provided by the Agency) which is signed by the owner, verifying that all the materials included in the submittal have been reviewed by the owner.

3. Corrective actions regarding any deficiencies found as a result of these inspections must be corrected as soon as possible by the permittee and shall be made available for inspection by the Agency.

~~4~~. The permit will include dates by which compliance reports shall be completed. Written reports shall be received by the Agency no later than 14 days after the scheduled completion date.

5. Non-compliance with a permit condition shall be reported by the Permittee to the Agency within 24 hours, or during the next business day following the observation of non-compliance. Said 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.

6. The Permittee shall notify the Agency within 48 hours, or the next working day, in the event that a spill or accidental release of any waste results in a discharge to waters of the state or to prevent groundwater from exceeding state standards.

7. The Permittee shall furnish the Agency, within a reasonable time, any other information which the Agency may request in order to determine compliance with the Annual Reporting Requirements of these Rules and of the permit. The Permittee shall also furnish the Agency, upon request, copies of records required to be kept by the Permittee.

8. Records shall be kept on the farm for a period of no less than 5 years.

C. Record Keeping for Wastes that are Transferred

1. For wastes sold or given away, the permittee shall:

a. Maintain records showing the date and amount of manure, compost, or other wastes that leave 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 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 with the Annual Report.

D. Annual Report Requirement

1. Annual reports shall be submitted by all LFO operators to the Agency no later than February 15 of each year.

2. The annual report shall include:

a. All the information required by Vermont NRCS Field Office Technical Guide Section IV, as amended Practice Code # 590, Nutrient Management, and an accounting of animals; or

i. Manure analysis: submit sample results from each waste management structure annually. This includes waste management structures on other farms, if manure or other nutrient wastes from

those farms will be land spread on fields associated with the LFO. The frequency of sampling and analysis may be reduced by written authorization from the Secretary. The laboratory analysis report shall include the moisture content of the manure and the available nitrogen, phosphorus and potassium content, calculated per ton or 1,000 gallons of manure or other nutrient waste;

ii. The number and type of livestock or domestic fowl, whether in open confinement or housed under roof;

iii. Total amount of manure and other nutrient wastes produced by the LFO;

iv. Total amount of manure and other nutrient wastes produced by other farms if the cropland and non-cropland on those farms will be used to land spread manure and other wastes from the LFO facility;

v. Estimated total pounds of total nitrogen, phosphorous, and potassium produced on the LFO facility and land applied;

vi. Estimated total pounds of total nitrogen, phosphorous, and potassium produced on the LFO facility and transferred to other managers;

vii. Estimated total pounds of total nitrogen, phosphorous, and potassium produced on other farms and used by the LFO as part of the Nutrient Management Plan;

viii. Estimated amount of total wastes transferred to another person by the LFO in the previous 12 months (tons/gallons);

ix. Total number of acres for land application covered by the nutrient management plan, including number of acres rented and number of acres owned;

x. Total number of acres under control of the LFO that were used for land application of wastes in the previous 12 months;

xi. Summary of all waste discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume;

xii. A statement indicating whether the current version of the LFO's nutrient management plan was developed or approved by a certified nutrient management planner;

xiii. For permitted operations that construct or expand, an annual reporting requirement regarding the increase in square footage added or otherwise made available for the purpose of housing animals or domestic fowl; and,

xiv. All reports required by a LFO permit shall be signed by the owner of the LFO facility operation and in the case of a corporation, a principal executive officer or a duly authorized representative having overall responsibility for operation of the LFO facility for which the permit is issued.

b. Results from water supply tests taken as required in the groundwater section of these Rules during the previous reporting period.

c. A reconciliation of the previous year's plan for managing nutrients, and how this information will be used in the next year's nutrient management plan.

Subchapter 8 Permit Amendments and Modifications

A. Revisions and Modifications to Permits or Plans

1. Prior to making a substantial change in the LFO facility or in its operation, a Permittee shall submit a letter of intent to the Secretary describing the proposed change. The Secretary will determine whether a full application is required to accommodate that change, or whether a modification to an existing LFO permit is required, or neither. The Secretary's written determination will be sent to the Permittee.

2. If LFO facility ownership has transferred, the permittee 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 animals or change in animal type is allowed to occur without a full review of the operation by the Agency.

3. Farming operations permitted pursuant to these Rules shall obtain a permit amendment prior to increasing the number of animals or domestic fowl beyond the limit established in the LFO permit.

4. In addition to the administrative enforcement remedies set forth in these Rules, the Secretary may decide to amend an existing LFO permit on his or her own initiative. Circumstances that may prompt such an initiative include, but are not limited to:

a. A determination by the Secretary that waters of the state or groundwater have not been adequately protected in accordance with these Rules. The permit amendment may include additional measures and limitations and may also include a compliance schedule;

b. A determination by the Secretary that odor, noise, traffic, insects, flies, or other pests are not managed consistent with a well managed, similar sized operation of the same animal type;

c. A determination by the Secretary that a field is no longer acceptable for spreading or spray irrigation;

d. A determination by the Secretary that the nutrient application rates in the NMP need to be adjusted;

e. A determination by the Secretary that the management of the LFO production area, cropland, or non-cropland areas violates the standards contained in these Rules; or,

f. Minor administrative errors in permits that necessitate correction in order for the permit to be accurate or reasonable.

5. Where Agency initiated modifications to the LFO permit require actions by the permittee, such actions shall be completed by the Permittee within the time frame established by the Agency.

6. For LFO permits, or for changes in permitted animal type, the Secretary may require:

a. The applicant to demonstrate that the farm shall not generate odors of a type different than, or in excess of those from a well managed similar sized farm of the same animal type using a similar waste management system. The Agency will use the American Society of Agricultural

Engineers published Standards and Engineering Practices Data, ASAE EP379.1 DEC96, AControl of Manure Odors@ as guidance when addressing livestock or domestic fowl manure odor issues;

b. The applicant to demonstrate that the LFO facility production area shall not create noise disturbances in excess of those from a well managed similar sized farm of the same animal type;

c. The applicant to demonstrate that the LFO production area shall not generate traffic flows and frequency at a greater level than those from a well managed similar sized farm of the same animal type; and,

d. The applicant to demonstrate that the LFO facility production area will not generate or breed flies, insects, or other pests above a level where adult flies, insects, or other pests moving off the farm premises are in excess of those from a well managed similar sized farm of the same animal type.

B. Transfer of Permit Ownership

1. A permittee may transfer permit ownership with the sale or lease of a LFO. Written notification shall be made by the original permittee to the Agency within 10 days of that transaction. The 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 LFO permit.

2. The Secretary may determine that a new application, or an application amendment is required to accomplish the permit transfer.

C. Relinquishment of Permits

1. A permitee may, at their own request, relinquish their LFO permit when a permittee ceases operations or when a permittee's herd or flock size falls below the threshold number of animals that would trigger the requirement to obtain a LFO permit, and when the barn that houses the animals is no longer designed to house the number of animals that would trigger the requirement to obtain a LFO permit. In order for the Secretary to agree to accept the relinquishment of an LFO permit for an operating farm, the permittee must submit a written request to do so with the Secretary, and must file a notice of intent to comply with the Agency's Medium Farm Operations general permit.

Subchapter 9 Permit Violations, Compliance, Enforcement, and Appeals

A. Access to Site, Records

1. The Permittee shall allow the Secretary access to the site and records, and shall allow the Secretary to copy, at reasonable times, any records that are required under the conditions of the permit or the LFO Rules.

2. The Permittee shall allow the Secretary to inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit.

3. The Permittee shall allow the Secretary to sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances at any location.

B. Secretary's Compliance/Enforcement Determinations

1. The Secretary may seek enforcement remedies, including administrative penalties, under Sections 1, 12, 13, 15, 16, and 17 of Title 6 with regard to any person who violates the provisions of the LFO law, the LFO Rules, Vermont's AAP Regulations, or the conditions of a LFO permit.

2. The Secretary's authority to take a compliance or enforcement action does not preclude another regulatory entity from being able to execute any authority granted to it.

C. Appeals of Secretary's LFO Permit Determinations

1. Only the applicant seeking a permit who is aggrieved by the Secretary's final decision on the application, and the Secretary are parties to an LFO permit appeal in accordance with 6 V.S.A. §4855.

2. An applicant may appeal the Secretary's final permit decision to the environmental court within 30 days of the Secretary's final permit decision.

3. The notice of appeal shall be filed with the Secretary under Rule 5 of the Vermont Rules for Environmental Court Proceedings.

4. Nothing in these rules shall be construed to affect the legal rights of any person aggrieved by a permit decision of the Secretary.

D. Revocation of Permits

1. The Secretary may, after due notice and an opportunity for a hearing with the Permittee, revoke a permit issued under this Subchapter if, after investigation, the Secretary deems the permittee to be in violation of the provisions of the LFO law, the LFO Rules, Vermont's AAPs, or the conditions of a LFO permit.

2. A permittee aggrieved by the Secretary's final decision on an enforcement decision or on a permit revocation decision may appeal the decision to the Superior Court within 30 days of the final decision.

Appendix A

SAMPLE PUBLIC NOTICE

NOTIFICATION OF INFORMATIONAL MEETING
LARGE FARM PERMIT APPLICATION

Notice is hereby provided that [insert farmer name] of the [name of farm] farm in the town(s) of _____, _____, _____, and _____ Vermont has submitted an application to the Vermont Agency of Agriculture, Food, and Markets for a Large Farm Operation Permit.

The application addresses the farm=s use of nutrients on the fields, the control of runoff, the storage of manure and other wastes [, and the construction of a new barn].

An informational meeting will be held by the Vermont Agency of Agriculture, Food, and Markets on _____ [day of week], _____ [month] ___[day], 2007, at _____[time]. The meeting will be held in the _____[name of room] in the _____ [name of building] located on _____ [name of street] in _____[name of town].

The purpose of the meeting will be to provide the public an opportunity to learn about the project.

Any questions you have regarding the project or the meeting may be submitted to:

Katie Gehr
LFO Program Manager
VT AAFM
116 State Street
Montpelier, VT 05620

(802) 828-3476
(802) 828- 1410 facsimile
katie.gehr@state.vt.us

Appendix B

GUIDANCE DOCUMENT

COMPONENTS OF A MODEL NUTRIENT MANAGEMENT PLAN

In order to achieve compliance with the nutrient management requirements of this Rule, 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 LFO 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.

e. An analysis of resource concerns including:

i. A description of all farm resource concerns;

ii. A table listing resource concerns on a per field basis; and,

iii. Recommendations of field-specific conservation practices to mitigate resource concerns and nutrient mobility.

f. 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, road names, and a legend of features highlighted).

g. A land application map detailing all land rented or owned, field and pasture names, FSA tract and field numbers, acreages, roads and names, 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, road names, and a legend of features highlighted).

h. 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, road names, and a legend of features highlighted).

i. Cropland information including:

i. A general interpretation of soil test results;

ii. 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);

iii. A cropland inventory detailing whether fields are owned, rented, or leased, field names (producer identification), FSA designation, soil type, land use designation (hay land, cropland, pasture, etc.), and planned crop rotation;

iv. 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:

a) Tract number, field number, and acreage;

b) Crops (and % legume for hay/haylage crops);

c) Waste application rate(s), form(s), and source(s);

d Amount of N, P, and K applied (lbs/acre N, P_2O_5, and K_2O);

e) Timing (month and year) of application;

f) Prior crop credits;

g) Prior bio-nutrient credits; and,

h) Tillage and time to incorporation.

v. An explanation of yield goal determination;

vi. An explanation of application rate determination; and,

vii. An assessment of animal waste production in relation to spreadable land base.

j. General field information including:

i. Tract and field number;

ii. Planned crop;

iii. Previous crop; and,

iv. Yield goal.

k. A nutrient budget for each field including:

i. Nutrient recommendations (lbs. N, P_2O_5, and K_20 per acre);

ii. Nutrients (lbs. N, P_2O_5, and K_2O per acre) provided by recommended waste applications;

iii. Nitrogen (lbs. N) supplied by prior crop;

iv. Nutrients (lbs. N, P_2O_5, and K_2O per acre) supplied from prior bio-nutrients;

v. Fertilizer recommendations including application rate and fertilizer formulation;

vi. Nutrients (lbs N, P_2O_5, and K_2O lbs/acre) provided by recommended fertilizer applications; and,

vii. A total nutrient budget calculated based on total crop needs and all nutrients provided.

l. Animal waste storage and handling including:

i. Animal information;

a) Number, type, and weight of all livestock or domestic fowl at the LFO facility;

b) Period of confinement for each animal; and,

c) Housing and bedding type.

ii. Waste Storage;

a) Type of storage; and,

b) Volume and density of each waste produced (manure, bedding, wash water, runoff water, whey, biosolids, etc.) as stored;

iii. Nutrient Content of Waste Storage;

a) 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 P205), and potassium (as K20).

iv. 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;

v. If excess nutrients exist alternatives presented for off-farm use of the animal waste and appropriate documentation provided; and,

vi. Documentation on wastes exported including:

a) The amount and form of waste exported;

b) The date of manure exportation with signatures from both producers acknowledging the transfer; and,

c) A copy of a current waste test (less than 1 year old).

m. 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;

n. Highly Erodible Land (HEL) determination;

o. 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;

p. All supporting information used to:

i. Document adequate storage of manure, compost, and other wastes, including procedures to ensure proper operation and maintenance of the storage facilities;

ii. Document proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, waste storage, or treatment system that is not specifically designed to treat animal mortalities;

iii. Document that clean water is diverted, as appropriate, from the production area;

iv. Document that confined animals within the production area do not have direct contact with waters of the state; and,

v. Document that chemicals and other contaminants handled on-site are not disposed of in any manure, compost, waste, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.

q. Procedures for annual plan updates;

r. Assistance notes (NRCS CONS-6 equivalent) showing discussions with the landowner during the development of the plan, site visits, etc;

s. A statement that the plan was developed based on the requirements of the LFO Rules and any applicable Federal regulations; and that a change in any of these requirements may necessitate a revision of the plan; and,

t. 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.