

Vermont Agency of Agriculture, Food and Markets  
Required Agricultural Practices Regulations  
For  
The Agricultural Non-point Source Pollution Control Program

**Introduction:**

In accordance with 6 V.S.A. §§ 4810a and 4810, these regulations are intended to establish statewide requirements designed to improve water quality in the State and to assure practices on all farms eliminate adverse impacts to water. The *Required Agricultural Practices Regulations* are farm management techniques that will conserve and protect natural resources, maintain the health and productivity of soils and protect the State's waters from nutrient loading associated with farming activities. Persons engaged in farming who are in compliance with these practices shall be presumed to not have a discharge of agricultural pollutants to waters of the State.

**Applicability:**

*Required Agricultural Practices Regulations* (RAPs) are standards to be followed in conducting agricultural activities in this state. These standards shall address activities which have a potential for causing pollutants to enter the groundwater and surface waters of the state, including dairy and other livestock operations plus all forms of crop and nursery operations and on-farm or agricultural fairground (registered pursuant to 20 V.S.A. § 3902), livestock and poultry slaughter and processing activities. The RAPs are practices for farmers to implement in order to control pollutants from entering groundwater and surface waters of the state when engaged in animal waste management and disposal, soil amendment applications, and crop production and management.

**Section I: General**

**1.1 Purpose:** The *Required Agricultural Practices Regulations* are farm and land management practices that will control and reduce agricultural non-point source pollution and subsequent nutrient losses from farm fields and production areas to surface and ground waters of the State.

**1.2 Authority:** 6 V.S.A. §1(a)(10), 6 V.S.A. Chapter 215 (Agricultural Water Quality), including 6 V.S.A. §§4810 and 4810(a), and Act 64 of the Vermont General Assembly (2015 session).

**1.3 Enforcement:**

Violations of these Rules are subject to enforcement by the Secretary and the Attorney General under the provisions of 6 V.S.A. §§ 4991-4996, and additional remedies available to the state under other applicable Vermont law including 32 V.S.A. §3756(i) (removal of parcels of land from current use for non-compliance). These rules do not in any way prevent the ANR or Attorney General from taking appropriate enforcement action for verifiable violations of the state's Water Pollution Control statutes and regulations.

## **Section 2: Definitions:**

2.00 Agency means the Vermont Agency of Agriculture, Food and Markets the Secretary of the Vermont Agency of Agriculture, Food and Markets and his or her designees.

2.01 Agricultural Product means any raw agricultural commodity, as defined in 6 V.S.A. Chapter 1 §21(6), that is produced on the farm and includes products prepared from the raw agricultural commodities principally produced on the farm.

2.02 ANR means the Vermont Agency of Natural Resources, the Secretary of the Vermont Agency of Natural Resources and his or her designees.

2.03 Buffer zone means an area of perennial vegetation between the edge of row or annual cropland and the top of the bank of the adjoining surface water or intermittent waters.

2.04 Cover crop means a temporary vegetative crop established for the purpose of reducing erosion, runoff and providing organic matter in annual cropland.

2.05 Cropland means, for the purposes of these rules, land devoted to the production, cultivation, harvesting and management of row crops and annual crops.

2.06 Custom manure applicator means a person who is engaged in the business of applying manure or other nutrients to land, except commercial fertilizer, and who charges or collects other consideration for the service including full time employees of a person engaged in the business of applying manure or nutrients to land.

2.07 Farm means a parcel or parcels of land owned or leased by a person and devoted primarily to farming as defined in section 2.08 if the lessee controls the leased lands to the extent they would be considered as part of the lessee's own farm. Indicators of control include whether the lessee makes day to day decisions concerning the cultivation or other farming related use of the leased lands and whether the lessee works the land for farming during the leased period.

2.08 Farming means:

- (a) the cultivation or other use of land for growing food, fiber, Christmas trees, maple sap, or horticultural and orchard crops; or
- (b) the raising, feeding or management of livestock, poultry, fish or bees; or
- (c) the operation of greenhouses; or
- (d) the production of maple syrup; or
- (e) the on-site storage, preparation and sale of agricultural products principally produced on the farm; or
- (f) the on-site storage, preparation, production, and sale of fuel or power from agricultural products or wastes principally produced on the farm; or
- (g) the raising, feeding, or management of four or more equines owned or boarded by the farmer, including training, showing, and providing instruction and lessons in riding, training, and the management of equines.

2.09 Farm Structure means: a structure that is used by a person for farming including a silo, a building to house livestock or raise horticultural or agronomic plants, or customarily used to carry out the agricultural practices defined in Section 3.2 of these rules. It includes a barnyard or waste management system, either of which is created from an assembly of materials including the supporting fill necessary for structural integrity, but excludes a dwelling for human habitation. A farm structure also must be used by a person who can demonstrate the minimum threshold criteria as found in Section 3.1 of these rules.

2.10 Floodplain means the land in the community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the National Flood Insurance Program maps.

2.11 Floodway means the channel of a watercourse and adjacent land areas which are required to carry and discharge a one-hundred year flood within a regulated flood hazard area without substantially increasing flood heights. Floodways are depicted on the National Flood Insurance Maps on file with the Town Clerk.

2.12 Fluvial Erosion Hazard (FEH) Zone means a corridor within which structures and investments are most likely to be at a high to extreme risk of loss due to the erosion associated with channel slope adjustments. FEH Zones are delineated by the Agency of Natural Resources through stream geomorphic assessments, mapped as part of the FEMA flood hazard program, and adopted through municipal plans and zoning ordinances pursuant to 24 V.S.A. §4424.

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

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

2.15 Intermittent Waters means waters in conveyances where the presence of water is not continuous and may occur periodically and infrequently such as during and immediately following a rain or snowmelt event. Intermittent waters include, but are not limited to, ditches, swales, channels or other water diversion features.

2.16 Livestock means: Cattle, cow/calf pairs, youngstock, heifers, bulls, swine, sheep, goats, at least 4 horses or any other number and type of domestic animal as designated by the secretary including domestic fowl such as laying hens, broilers, ducks, turkeys or any other type of fowl as designated by the Secretary.

2.17 Manure means livestock waste in solid or liquid form that may also contain bedding, spilled feed, water, milhouse waste or soil.

2.18 Nonpoint Source Pollution means wastes that reach surface water or groundwater indirectly or in a diffuse manner as a result of farming or agricultural practices.

2.19 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, including lessors and lessees.

2.20 Pesticides are any substance produced, distributed or used for preventing, destroying, or repelling any insects, rodents, nematodes, fungi, weeds, or other forms of plant or animal life or viruses, except viruses on or in living humans or other animals, which the Secretary shall declare to be a pest or any substance produced, distributed or used as a plant regulator, defoliant or desiccant.

2.22 Principally Produced means that more than 50% (either by volume or weight) of raw agricultural products grown or produced as a result of farming that are stored, prepared or sold at the farm, are grown or produced on the farm.

2.23 Production Area means those areas of a farm where animals, agricultural inputs or raw agricultural products are confined, housed, stored, or prepared whether within or without structures including barnyards, raw materials storage areas, heavy use areas, fertilizer and pesticide storage areas, and waste storage and containment areas. Production areas include egg washing or egg processing facilities, milkhouses, raw agricultural commodity preparation or storage or any area used in the storage, handling, treatment, or disposal of mortalities.

2.24 River Corridor means the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance of natural restoration of a dynamic equilibrium condition and for minimization of fluvial erosion hazards, as delineated by the Agency of Natural resources in accordance with river corridor protection procedures.

2.25 Small Farm means:

(a) a parcel or parcels of land on which 10 or more acres are used for farming;

(b) that house no more than the number of animals specified under section 4857 of Title 6 and at least the following numbers and types of livestock:

20 dairy cows milked or dry; or

30 youngstock or heifers; or

30 veal calves; or

30 cattle or cow/calf pairs; or

75 swine weighing over 55 pounds; or

300 swine weighing less than 55 pounds; or

15 horses; or

300 sheep, lamb, goats or small ruminants; or  
1,650 turkeys; or  
900 laying hens or broilers with a liquid manure handling system; or  
2,500 laying hens or broilers without a liquid manure handling system; or  
150 ducks with a liquid manure handling system; or  
1,000 ducks without a liquid manure handling system; or  
Any other animal type or number as designated by the secretary or,

(c) that are used for the preparation, tilling, fertilization, planting, protection, irrigation, and harvesting of crops for sale; or

(d) that the Secretary has designated, on a case by case basis after an opportunity for a hearing, as a small farm required to comply with certification requirements pursuant to section 4871 of Title 6 regardless of livestock type or number based on the farms' management, agricultural inputs used by the farm, tillage practices used by the farm and the associated actual or potential water quality impacts.

2.26 Surface water means all rivers, streams, 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.

2.27 Wastes include sediments, minerals (including heavy metals), plant nutrients, pesticides, organic wastes (including livestock manure, mortalities, compost, feed and crop debris), waste oils, pathogenic bacteria and viruses, thermal pollution, silage runoff, untreated milkhouse waste, wash water, production area runoff, and any other waste compound or material which is determined by the Secretary or the Secretary of ANR to be harmful to the waters of the State, or other wastes as defined in 10 V.S.A. Section 1251 (12).

2.28 Waste Management System means an on-farm waste management program and conservation practices which may include a combination of:

1. An adequately sized waste storage structure or facility, field stacking, composting, leachate control system, and milkhouse waste or other raw commodity waste system;
2. contracts which transfer the ownership of wastes generated at a production area to another party for management consistent with law, as determined by the Secretary; and/or,
3. a nutrient management plan (NMP) for all wastes generated or managed by the farm that is in compliance with these Rules.

2.29 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.

2.30 Waters of the State, for the purposes of this rule, include surface waters and groundwater as applied.

2.31 Water supply means a drinking water source that intersects the water table and provides water through pipes or other conveyances and includes drilled wells, dug wells, driven point wells and natural springs.

**Section 3 Required Agricultural Practices Activities:**

3.1 Persons engaged in farming and the agricultural practices as defined in Section 3.2 of these rules, and who meet the minimum threshold criteria for applicability of these rules as found in Section 3.1(a) – (d), shall be presumed to be meeting *Required Agricultural Practices* and presumed to not have a discharge to waters of the state and groundwater as long as the farm also complies with the conditions and restrictions contained in Sections 4,5,6,7 and 9 of these rules. Farms meeting these minimum thresholds may construct farm structures, consistent with these rules, and are considered by the Secretary as being exempt from the requirement to obtain a municipal permit as set forth in 24 V.S.A. § 4413(d):

- (a) farms that are required to be permitted or certified by the Secretary, consistent with the requirements of 6 V.S.A. Chapter 215 and these rules; or
- (b) farms that have produced an annual gross income from the sale of agricultural products of \$2,000 or more in an average year and are managed, owned or leased by a person who has filed a Form 1040 Schedule F income tax statement in at least one of the past two years; or
- (c) any farming operation, whether the \$2000 annual gross income or 1040 F filing threshold is met, that is used for the raising, feeding, and management of at least the following number of adult animals on a farm that is no less than 4.0 contiguous acres in size:
  - four equines;
  - five cattle, cows or American bison;
  - fifteen swine;
  - fifteen goats;
  - fifteen sheep;
  - fifteen cervids;
  - fifty turkeys;
  - fifty geese;
  - one-hundred laying hens;
  - two-hundred and fifty broilers, pheasant, Chukar partridge, or Coturnix quail;
  - three camelids;
  - four ratites (ostriches, rheas, and emus);
  - thirty rabbits;
  - one hundred ducks;
  - one-thousand pounds of cultured trout;
  - or other livestock types, ages, and numbers as may be designated by the Secretary based on the farm’s potential to generate nutrients or other associated livestock wastes; or
- (d) any farm with a prospective business or farm management plan, approved by the Secretary, describing how the farm will meet the threshold requirements of this section.

3.2 The agricultural practices on farms that meet the minimum thresholds set forth in section 3.1 that are governed by these regulations include:

- (a) The confinement, feeding, fencing, and watering of livestock;
- (b) The storage and handling of livestock wastes and by-products principally produced on the farm consistent with the provisions of Section 3.1(c);
- (c) The collection of maple sap principally produced from trees on the farm and/or production of maple syrup from sap principally produced on the farm;
- (d) The preparation, tilling, fertilization, planting, protection, irrigation and harvesting of crops on the farm;
- (e) The ditching and subsurface drainage of farm fields and the construction of farm ponds;
- (f) The stabilization of farm fields adjacent to banks of surface water;
- (g) The construction and maintenance of farm structures, farm roads and associated infrastructure;
- (h) The on-site storage, preparation, production and sale of fuel or power from agricultural products or wastes principally produced on the farm;
- (i) The on-site storage, preparation and sale of agricultural products principally produced on the farm from raw agricultural commodities principally produced on the farm;
- (j) The on-site storage of agricultural inputs for use on the farm including, but not limited to, lime, fertilizer, pesticides, compost and other soil amendments and the equipment necessary for operation of the farm;
- (k) The management of livestock mortalities produced on the farm.

#### **Section 4 Small Farm Certification**

4.10 Small farms, as defined in Section 2.25, shall certify compliance with these Rules and shall do so in a manner prescribed by the Secretary.

- (a) Small farms shall annually certify compliance according to a schedule and form established by the Secretary.
- (b) Small farms shall certify that the farm is in compliance with all *Required Agricultural Practices Regulations*.

(c) Small farms required to certify shall notify the Secretary of any changes in ownership or land base, including changes in leased land of the farm within 30 days. Each notification of change in ownership or land base shall include certification of compliance with these Rules.

(d) Small farms that meet the acreage threshold but do not manage livestock, generate or use livestock manures or other livestock wastes shall annually notify the Secretary of the same but shall not be required to certify compliance according to these Rules unless specifically required by the Secretary due to actual or potential water quality impacts of the small farm.

(e) Small farms certified under this section shall meet training requirements as established in Section 4.12.

(f) Small farms certified under this section shall be inspected within 10 years of initial certification and at intervals thereafter deemed appropriate by the Secretary based on potential impacts to water quality from the small farm.

#### 4.12 Required Farm Operator Training

(a) Small farms required to certify under Section 4.10, permitted Medium Farm Operations, and permitted Large Farm Operations shall obtain water quality training as approved by the Secretary. Training shall provide information regarding:

- i) The prevention of discharges;
- ii) The mitigation and management of stormwater runoff;
- iii) Statutory and regulatory requirements of the operation of a large, medium or small farm and financial resources available to assist in compliance;
- iv) Land application of manure or nutrients and methods or techniques used to minimize the runoff of land applied manure to waters of the state;
- v) Weather and soil conditions that increase the risk of runoff of manure or nutrients to waters of the state;
- vi) Standards for nutrient management and requirements for nutrient management planning.

(b) Large Farm Operations, Medium Farm Operations and certified Small Farm Operations shall obtain 4 hours of training approved by the Secretary at least every 5 years.

(c) The Secretary may approve training offered by other entities upon request of the entity providing the training. All requests for approved training shall be provided to the Secretary at least 60 days prior to the scheduled training dates.

## **Section 5 Required Agricultural Practices; conditions, restrictions, and operating standards**

### **5.1 Direct Discharges:**

(a) Farms subject to regulation under these Rules shall not create any direct discharge of wastes from a production area or waste management system into the surface waters of the State through a discrete conveyance such as, but not limited to, a pipe, ditch, or conduit without a permit from the Secretary of ANR.

### **5.2 Nutrient, Agricultural Inputs and Waste Storage**

(a) Production areas, barnyards, animal holding areas, manure storage areas and feed storage areas shall utilize runoff and leachate collection systems, diversion, or other management strategies in order to prevent the direct discharge of wastes to surface water, intermittent waters or indirect discharges to groundwater.

(b) All agricultural wastes including chemicals, petroleum products, containers, and carcasses shall be properly stored, handled and disposed of, so as to prevent adverse surface and groundwater quality impacts.

(c) Waste storage facilities and waste management systems:

- i) Waste management systems shall be managed and maintained so as to prevent structural failures including the management of vegetation, animal activity, drainage systems and all mechanical systems associated with the proper function of the waste management system. Vegetation shall be managed such that the waste storage facility may be observed for structural integrity, leaks or overflows at all times.
- ii) At least 1.0 feet of freeboard shall be maintained in waste storage facilities at all times.
- iii) The Secretary may require a waste storage facility to meet, and certify, standards for waste storage facilities established by the USDA Natural Resource Conservation Service in order to prevent direct discharges of wastes to surface water, intermittent waters or the indirect discharge of wastes to groundwater.

(d) All waste storage facilities constructed, expanded or modified after July 1, 2006 shall be designed and constructed according to USDA Natural Resource Conservation Service standards and specifications or an equivalent standard certified by a professional engineer licensed in the State of Vermont.

(e) Field stacking of manure on unimproved sites:

- i) Stacking or storage of manure or other wastes is prohibited on lands in a floodway or otherwise subject to flooding.
- ii) Manure stacking sites shall meet the following minimum setback distances:
  - a) 200 feet from property lines or domiciles;
  - b) 200 feet from surface waters;

- c) 200 feet from private water supplies;
  - d) 200 feet from any public water supply well;
  - e) 100 feet from ditches, swales, diversions or other conveyances to surface waters;
  - iii) Field stacks shall not be placed in the same location more than once every 4 years;
  - iv) Field stacks cannot remain in one location for more than 180 days;
  - v) Field stacks shall not be located in areas of concentrated runoff such as water diversions or swales;
  - vi) Other site specific standards may be approved upon petition to the Secretary but in no case shall unimproved manure stacking sites be located less than 100 feet from a private water supplies or surface water:
- (f) Fertilizer shall be stored consistent with the Vermont Fertilizer and Lime regulations Section XIII.
- i) Fertigation and chemigation equipment shall be operated only with an adequate anti-siphon device between the system and the water source.
- (g) Pesticides shall be used in accordance with Title 6 V.S.A. Chapter 87 Control of Pesticides and all regulations promulgated thereunder.

### **5.3 Nutrient Management Planning**

- (a) All Certified Small Farm Operations as defined in Section 2.25, and all permitted Medium and Large Farm operations managing agricultural fertilizers, manure or other agricultural wastes for use as nutrient or soil amendment purposes pursuant to these Rules shall implement a field by field nutrient management plan consistent with the requirements of the USDA/NRCS Nutrient Management Practice Code 590.
- (b) For all other farming operations subject to these rules all sources of nutrients shall be accounted for when determining recommended application rates of manure or other nutrients for all crops. Recommendations and applications may be adjusted based on manure testing and/or leaf analysis. Nutrient applications shall be consistent with current university recommendations and standard agricultural practices.
- (c) For all other farming operations subject to these rules all fields receiving mechanical application of manure or other wastes shall be soil sampled at least once in every 3 years. Sources of nutrients including manure shall be sampled and analyzed annually. Plans and the records of soil analyses, manure application, manure or other waste analyses shall be maintained on the farm for a period of 5 years and be provided to the Secretary upon request.

### **5.4 Soil Health Management Recommendations; Cover Crop Requirements**

- (a) Soil management activities that increase organic matter, reduce compaction, promote biological activity, reduce erosion and maintain nutrient levels are recommended in order to provide long term sustainability of agricultural soils. Practices that promote these goals include

reduced tillage, avoiding tillage and traffic on wet soils, addition of organic matter using manure, green manures and compost, sod and legume rotations and the use of cover crops.

(b) Cropland shall be cultivated in such a manner that results in an average soil loss less than or equal to the soil loss tolerance (T) for the prevalent soil type as calculated through application of the Revised Universal Soil Loss Equation 2, or through the application of similarly accepted models.

(c) Annual croplands subject to flooding from adjacent surface waters are required to be planted to cover crops. Broadcast seeding must be completed by September 15<sup>th</sup> of each year. Seed established with drill seeders or otherwise incorporated shall be completed by October 1<sup>st</sup> of each year.

(d) Field borne gully erosion shall be managed using appropriate management strategies such as the establishment of grassed waterways, filter strips or other methods deemed appropriate by the Secretary.

### **5.5 Manure and Waste Application Standards**

(a) Manure and other wastes shall be land applied consistent with the requirements of this section unless the Secretary grants an emergency exemption because of an emergency situation such as the structural failure of a manure storage system or has granted a seasonal exemption consistent with Section 5.6. In granting an exemption, the Secretary shall determine that the manure will be spread on fields with the least likelihood of generating runoff to surface waters.

(b) Manure and other wastes shall not be spread between December 15 and April 1. The Secretary may prohibit the application of manure to land in the State between December 1 and December 15 and between April 1 and April 30 of any calendar year when the Secretary determines that due to weather conditions, soil conditions, or other limitations, application of manure to land would pose a significant potential of runoff to State waters.

(c) Manure shall not be spread on fields subject to flooding within 100 feet of the top of the bank of adjacent surface waters after October 15<sup>th</sup> or before April 15<sup>th</sup>.

(d) Manure and other wastes shall not be applied when actual or expected weather and/or field conditions are conducive to flooding, runoff, ponding or other off site movement or can be reasonably anticipated to result in flooding, runoff, ponding or other off site movement.

(e) Manure shall not be applied to fields that are:

- i) Excessive in soil test phosphorus (> 20 parts per million ) as determined by soil analysis; or
- ii) Exceed 10% slope without permanently vegetated buffers to surface waters of at least 100 feet. Manure shall not be applied within the buffer; or
- iii) Are saturated with water; or
- iv) Frozen and/or snow covered

(f) Application of manure shall not occur within 100 feet of a private water supply or 200 feet of a public water supply. The prohibition shall not apply to private water supplies that have been established inconsistent with the Department of Environmental Conservation Water Supply Rules.

(g) The following records of application shall be maintained for a period of five years and provided to the Secretary upon request:

- a) date of application
- b) field location
- c) application rate
- d) source of nutrients applied
- e) weather and field conditions at the time of application

#### **5.6 Winter Manure Spreading Exemptions:**

(a) The Secretary may approve an exemption to the seasonal winter spreading ban on a case by case basis upon written request. Requests for an exemption to the seasonal winter spreading ban shall provide:

- i) Identification and location of specific fields to be used for winter spreading
- ii) Proposed rates of application
- iii) Location of nearest surface water, wells, property boundaries and ditches
- iv) Identification of soil types, depth to groundwater and slopes
- v) Current soil test results
- vi) Phosphorus Index results
- vii) RUSLE 2 results

(b) All approvals for an exemption to the seasonal winter spreading ban shall be in writing and shall prohibit the application of manure:

- i) in areas with established channels of concentrated stormwater runoff to surface waters;
- ii) in nonharvested permanent vegetative buffers;
- iii) in a nonfarmed wetland, as that term is defined in 10 V.S.A. § 902(5);
- iv) within 200 feet of a potable water supply, as that term is defined in 10 V.S.A. § 1972(6);
- v) to fields exceeding tolerable soil loss (T); and
- vi) to saturated soils.

(c) Approvals for exemptions to the seasonal winter spreading ban shall establish requirements and conditions for the application of manure when frozen or snow-covered soils prevent effective incorporation at the time of application, require manure to be applied according to a nutrient management plan, establish the maximum amounts of manure that may be applied per acre during any one application, and establish required buffer and no application zones from surface water, wells and other water conveyances.

### **5.7 Buffer Zones and Setbacks:**

(a) A vegetative buffer zone of perennial vegetation shall be maintained between annual croplands and the top of the bank of adjoining surface waters consistent with all criteria in (i) through (vii) below.

i) adjacent surface waters shall be buffered from annual crop lands by at least 25 feet of perennial vegetation.

ii) Intermittent waters, ditches, swales, diversions and other water conveyances shall be buffered from annual crop land by at least 10 feet of perennial vegetation.

iii) application of manure or wastes is prohibited within required vegetative buffers.

iv) use of fertilizer to establish and maintain a required vegetative buffer is allowed consistent with nutrient management plan requirements and agronomic recommendations.

v) tillage shall not occur in a vegetative buffer except for the establishment or maintenance of the vegetative buffer.

vi) harvesting of the required vegetative buffer as a perennial crop is allowed.

(vii) Variances to required buffers may be considered by the Secretary on a site specific basis according to standards approved by the Secretary. Site specific buffers may be approved based on field characteristics such as field contours, soil types, slopes, proximity to water, nutrient management plan requirements and other relevant characteristics when the Secretary determines that the site specific buffers are adequately protective of surface waters.

(b) Manure and other wastes shall not be applied within 25 feet of surface water or within 10 feet of intermittent waters or applied in such a manner as to enter surface water or intermittent waters.

(c) Livestock shall not be pastured within 50 feet of a private water supply without the permission of the water supply owner

### **5.8 Animal Mortality Management and Composting:**

Animal mortalities being disposed of on the farm shall be buried or composted within 48 hours according to the following standards:

(a) Animal mortalities buried on farm property shall be sited so as to be:

(i) minimum of 150 feet from property lines and surface waters.

(ii) minimum of 3 feet above the seasonal high water table.

(iii) covered with a minimum of 24 inches of soil

(iv) 200 feet from public or private drinking water supplies

(b) Animal mortalities composted on farm property shall be sited so as to be:

(i) minimum of 150 feet from all property lines and surface waters.

(ii) not on land subject to annual overflow from adjoining surface waters.

(iii) minimum of 300 feet from neighboring residences and public buildings

(iv) minimum of 200 feet from the nearest private or public water supply not owned by the farm.

(c) All on farm, non-mortality containing composting facilities that import less than 1,000 cubic yards of food processing residuals shall meet the requirements of 5.2(d) unless, upon written request to the Secretary for a variance, other standards have been approved that reasonably protect surface water and groundwater. Importation of greater than 1,000 yards of food processing residuals or food residuals for the purposes of composting requires registration or permitting by the Vermont Department of Environmental Conservation.

### **5.9 Stabilization of Banks of Surface Waters:**

(a) The areas from the top of a bank of surface water to the edge of the surface water shall be left in their natural state except as permitted by State statute including but not limited to 10 V.S.A. Chapter 41 §1021; and for the standards applicable to the pasturing of livestock consistent with section 6.0 of these rules.

(b) Stabilization of farm field banks of surface waters, when permitted under Section 5.9(a) shall be constructed in accordance with the United States Department of Agriculture Natural Resources Conservation Service standards and specifications or other standards approved by the ANR and Agency. Wherever feasible, stabilization of farm field banks of surface waters shall recognize the need to reduce fluvial erosion hazards as defined by the ANR.

### **6.0 Livestock Exclusion Standards**

(a) Livestock shall not have access to surface water in production areas or immediately adjacent to production areas except under the following conditions:

- i) at defined livestock crossings or defined watering areas
- ii) in areas prescribed by a rotational grazing plan consistent with NRCS standards and approved by the Secretary. Approved grazing plan areas shall maintain no less than 3 inches of vegetative growth.
- iii) in areas approved by the Secretary based on site specific characteristics and management requirements.
- iv) Adequate vegetative cover shall be maintained (except at defined crossings and defined watering areas) on banks of surface waters by limiting livestock trampling and equipment damage to protect banks of surface waters from excessive erosion.

(b) Livestock shall not have access to surface water in areas outside of production areas that meet the following criteria:

- i) Unstable banks of surface waters where erosion is present.
- ii) Areas designated by the Secretary as having actual or potential threat to water quality.

### **7.0 Ground Water Quality:**

(a) Farm operations shall be conducted so that the concentration of wastes in groundwater caused by agricultural operations do not reach or exceed the primary or secondary groundwater quality

enforcement standards identified by Appendix One of the Groundwater Protection Rule and Strategy in accordance with 10 V.S.A. Chapter 48.

(b) Farm operations shall be conducted with the goal to reduce the concentration of wastes in groundwater to the preventive action levels (PALs) of the primary or secondary groundwater quality standards identified by Appendix One of the Groundwater Protection Rule and Strategy when monitoring indicates the presence of these wastes in groundwater that exceed the enforcement standard.

### **8.0 Groundwater Quality Investigations:**

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.

- (a) The Secretary may conduct groundwater sampling at sites:
  - i) selected by the Secretary where well owners or tenants have volunteered or agreed to participate in the sampling program;
  - ii) upon the request of a water supply owner or tenant;
  - iii) selected by the Secretary based on the results of other sampling data or the existence of vulnerable site characteristics;
  - iv) with activities or operations permitted, certified or regulated by the Secretary; and
  - v) where the Secretary has received a complaint from a water supply owner or tenant in the vicinity of a farm alleging that the farm has contaminated the drinking water or groundwater of the water supply.
- (b) The Secretary shall conduct a groundwater investigation where the Secretary has received a complaint from a water supply owner in the vicinity of an agricultural operation that the operation or its agricultural practices has contaminated the drinking water or groundwater of the water supply owner.
- (c) The Secretary shall conduct a groundwater investigation where sampling indicates that drinking water or groundwater contains detectable concentrations of agricultural contaminants.
- (d) The Secretary shall provide written notification of testing results to each individual water supply owner and tenant, if known, that participates in the sampling program.
  - i) Property owners in the vicinity of farm operations and agricultural lands shall receive the test results for each water supply owned by them that is sampled by the Secretary.
  - ii) Farm operations shall receive the test results for water supplies owned by the farm operation and, upon request, for water supplies adjacent to or impacted by the crop land or facilities managed by the farm operation.
- (e) The Secretary may use, without limitation, the following approaches to identify and remediate sources of drinking water and groundwater contamination:

- i) Conducting 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) Communicating with farm operators and adjacent property owners to identify practices and activities that are potential sources of contamination;
- iii) Conducting additional sampling to confirm the detection of contaminants and to determine the extent and scope of contamination at the site;
- iv) Require corrective actions such as 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) Conducting follow up water quality sampling to determine the effectiveness of changes made or corrective actions taken;
- vi) Seeking additional investigative or consultation resources to evaluate and characterize sites to determine vulnerability to drinking water and groundwater contamination; and
- vii) 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.

(f) 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 an exceedance of the state's Groundwater Quality Standards.

(g) For the purpose of assessing whether a waste storage facility is violating the state's Groundwater Quality Standards the Secretary shall pay for the initial costs to conduct groundwater monitoring. When the Secretary has made a determination that a waste storage facility is violating the state's Groundwater Quality Standards, 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 ANR.

### **9.0 Construction of Farm Structures:**

(a) Farm structures shall not be constructed within a floodway area as presented on National Flood Insurance Maps on file with Town Clerks or within a Flood Hazard Area. Such structures may be constructed outside this area yet within the 100-year floodplain when constructed according to National Flood Insurance Program (NFIP) standards. Fences through which floodwater may flow are not structures which represent an encroachment in a floodway area.

(b) Local setbacks or no build areas within Flood Hazard Areas shall be observed unless upon written petition of the farmer the Secretary has approved other reasonable setbacks for the specific farm structure being constructed or maintained.

(c) In addition to the provisions of 9.0 (a) and (b); new structures with the exception of replacement structures built to occupy existing structural footprints shall be constructed so that a

minimum distance of 50 feet is maintained between the top of the bank of the adjoining waters and the farm structure. Such structures do not include those for irrigation, drainage, fencing, or livestock watering.

(d) Prior to construction of farm structures, the farmer must notify the zoning administrator or the town clerk in writing of the proposed construction activity. The notification must contain a sketch of the proposed structure including the setbacks from adjoining property lines and road rights-of-way.

(e) Construction of Farm Structures –Variances to municipal or local Setbacks approved by the Secretary.

i) Local setbacks or no build areas for wetlands, River Corridors and other setbacks applicable to all development in a local zoning bylaw established by the municipality shall be maintained, unless upon written request of the person, consistent with the procedures found in Appendix C, the Secretary has approved other reasonable setbacks for the specific farm structure being constructed. The secretary may consider the following in rendering a decision regarding alternative setbacks:

a) There are unique existing physical conditions or exceptional topographical or other physical constraints peculiar to the particular property that would create a hardship for the farming operation.

b) That because of such physical conditions or constraints, there is no possibility that the property can be developed in strict conformity with the provisions of these Regulations and that the authorization of an alternative setback is therefore necessary to enable the reasonable operation of the farm.

c) That the hardship has not been created by the applicant.

d) That the alternative setback, if authorized by the Secretary, will not substantially or permanently impair the appropriate use or development of adjoining property, nor be detrimental to the public health, safety and welfare.

e) That the variance, if authorized by the Secretary, will represent the minimum alternative that will afford relief and will represent the least deviation possible from these Regulations.

#### **10.0 Custom Manure Applicator Certification:**

(a) Custom applicators of manure or other farm generated organic wastes shall be certified by the Secretary.

(b) Custom manure applicators shall demonstrate knowledge of *Required Agricultural Practices Regulations* standards and the USDA/NRCS Nutrient Management Practice Code 590, including manure or other wastes application restrictions, buffer and setback requirements.

(c) Custom applicators shall demonstrate competency in methods and techniques used to minimize runoff from application sites, identification of weather or soil conditions that may

increase risk of field runoff, recordkeeping, and other information deemed pertinent by the Secretary. Knowledge and competency shall be demonstrated either through participation in required training or a written test.

(d) Certified custom manure applicators shall train all employees and seasonal workers in methods or techniques to minimize runoff to surface water, identification of weather or soil conditions that may increase the risk of runoff, and the *Required Agricultural Practices Regulations* standards and restrictions for the application of manure or other agricultural wastes.

(e) Certification shall be valid for 5 years from the date of issuance.

(f) Certified custom manure applicators shall complete 8 hours of training in each 5 year period of certification. Completion of 5 year training requirements will serve as meeting the renewal requirements for certification.

## **Appendices:**

### **A) Roles of Other State Agencies: Information**

**Public Drinking Water Supplies and Wastewater Management:** Nutrients, sediment, organic matter and microorganisms may also impact drinking water supplies derived from surface waters. Farming operations should be aware of the locations of surface drinking water source intakes and appropriately manage agricultural activities to reduce potential negative impacts. Information regarding public water supplies as well as information pertaining to wastewater systems requirements may be obtained at 802-828-1535.

**Wetlands:** Farming operations should be aware of existing rules pertaining to wetlands under state and federal jurisdiction. The Natural Resources Conservation Service, U.S. Army Corps of Engineers, and the Vermont Department of Environmental Conservation coordinate all agriculture/wetland issues in Vermont. It is strongly suggested that landowners contact the U.S. Army Corps of Engineers at 802-872-2893 and the Vermont Department of Environmental Conservation at 802-828-1535 before initiating farm related projects in or near wetlands.

**Construction of New Farm Structures:** Construction of new farm structures, specifically buildings and other farm related structures that disturb one or more acres of land must obtain authorization from the ANR before commencing with land disturbance or construction activities. Approval will be issued by ANR upon receipt of a Notice of Intent (NOI) which certifies that adequate measures for the control of erosion and sedimentation will be used during land disturbance and construction efforts. Persons needing additional information about the Construction General Permit/NOI concerning one or more acres of land disturbance are advised to contact the Water Quality Division of the Department of Environmental Conservation at 802-241-3770. Authorization by ANR is not needed for construction or land disturbance related to cultivation, irrigation, drainage and fencing.

**Flood Hazard Area and River Corridor General Permit:** An ANR General Permit for activities exempt from municipal regulation in Flood Hazard Areas and River Corridors may be required. The primary purpose for the General Permit is to fully implement the Vermont Flood

Hazard Area & River Corridor Rule (effective 3/1/2015) which requires the Agency to regulate activities exempt from municipal regulation in flood hazard areas and river corridors. These activities include state-owned and operated institutions and facilities, accepted agricultural and silvicultural practices, and power generating and transmission facilities regulated under 30 V.S.A. §§ 248 and 248a. More information can be obtained by calling 802-828-1535.

**Solid and Hazardous Waste Management:** Farming operations are advised to manage all wastes generated on the farm consistent with all applicable solid waste rules and hazardous waste rules. Information regarding the proper storage and disposal of waste oil, petroleum products and empty containers can be obtained from the Vermont Waste Management Division. On farm composting of food residuals and food processing residuals may require registration or permitting by the Vermont Department of Environmental Conservation. More information can be obtained by calling 802-828-1138.

### **C) Process for obtaining variances and exemptions**

#### **1) Farm structures/municipal setbacks: Variances**

- (a) A complete petition for an alternative setback shall include the following:
- i) The location of the parcel, and contact information where you can be reached for additional information or clarification.
  - ii) A detailed description of the farming operation and description of how you are engaged in required agricultural practices as defined in Section 2.05 Section 3.2 of the RAPs, respectively.
  - iii) An explanation of how the proposed building meets the definition of a “farm structure” as defined in Section 2.06 of the RAPs.
  - iv) A statement of the reason why less restrictive setbacks are necessary and the setback is the least deviation possible to provide relief. Please see standards below.
  - v) A copy of the zoning ordinance governing the tract on which the structure will be built outlining the setback requirements or a letter from the municipality with the required setback information.
  - vi) The name and contact information for your Town’s Zoning Administrator or Town Clerk, including an affirmative statement that the town has been notified of the Intent to Construct a Farm Structure.
  - vii) A plan of the existing structures and proposed structure(s) showing the distance to all property lines from the furthest projection of the building, including overhangs. For property lines along highway rights of way, please measure the setback appropriately as outlined in the municipal regulations.
  - viii) Name and address of the closest affected adjoining property owner and a description of each adjoining land use.
  - ix) You may also include letter(s) from adjoining landowners where applicable.
  - x) Certification that the farm is in compliance with all Required Agricultural Practices regulations.

The Secretary bases his or her decision on facts provided by the petitioner. Failure to provide information to the Secretary could result in denial of request.

(a) Public Notice and issuance requirements:

The Secretary will notify the municipality in writing by certified mail, and copy the closest affected adjoining property owner of his or her intent to consider a petition for an alternative setback. The notification shall include a description of the proposed project, submitted plan, and shall be accompanied by information that clearly states where additional information may be obtained. The Secretary will request that the notice be posted in a public place in the municipal office.

Any comments resulting from this posting or from the municipality must be received in writing at the Agency by 4:30 p.m. on the seventh (7th) business day following receipt of the notice.

(b) Standards

The Secretary may grant a petition for an alternate setback or grant a petition for an alternate setback with conditions, except as otherwise outlined in these regulations or statutorily required, when all the following standards are met:

- i) That there are unique existing physical conditions or exceptional topographical or other physical constraints peculiar to the particular property that would create a hardship for the “farming” operation.
- ii) That because of such physical conditions or constraints, there is no possibility that the property can be developed in strict conformity with the provisions of these Regulations and that the authorization of an alternative setback is therefore necessary to enable the reasonable operation of the farm.
- iii) That the hardship has not been created by the applicant.
- iv) That the alternative setback, if authorized by the Secretary, will not substantially or permanently impair the appropriate use or development of adjoining property, nor be detrimental to the public health, safety and welfare.
- v) That the variance, if authorized by the Secretary, will represent the minimum alternative that will afford relief and will represent the least deviation possible from these Regulations.

\* The Agency cannot approve alternate setbacks from state wetland regulations, nor approve construction within Highway rights of way.