



[Français](#)

Nutrient Management Act, 2002

ONTARIO REGULATION 300/14

GREENHOUSE NUTRIENT FEEDWATER

Consolidation Period: From July 24, 2015 to the [e-Laws currency date](#).

Last amendment: [234/15](#).

Legislative History: [+]

This is the English version of a bilingual regulation.

CONTENTS [-]

PART I

APPLICATION AND INTERPRETATION

- [1.](#) Application
- [2.](#) Multiple requirements under Regulation
- [3.](#) Definitions

PART II

GENERAL

- [4.](#) Prescribed material
- [5.](#) Compliance with GNF strategy
- [6.](#) Compliance with GNF plan
- [7.](#) Determination of farm unit
- [8.](#) Transportation, general rules
- [9.](#) Transportation between agricultural operations
- [10.](#) Transportation between farm units
- [11.](#) Prohibition, mixing

PART III

REGISTRATION OF GREENHOUSE OPERATIONS

- [12.](#) Registration
- [13.](#) Reporting, updating following registration
- [14.](#) Cessation of registration
- [15.](#) Renewal of registration
- [16.](#) Updates to registration information
- [17.](#) Requirement to prepare GNF document, GNF record

PART IV

GNF STRATEGIES FOR GREENHOUSE OPERATIONS

- [18.](#) Requirement to prepare and submit GNF strategy
- [19.](#) Application and cessation of GNF strategy
- [20.](#) Preparation and contents
- [21.](#) Operational change, new GNF strategy required
- [22.](#) Annual review and update of GNF strategy

PART V

PLANNING BY AGRICULTURAL OPERATIONS: LAND APPLICATION AND STORAGE OF GNF

- [23.](#) Determination of GNF plan areas and GNF application areas
- [24.](#) Requirement to prepare and submit GNF plan
- [25.](#) Application and cessation of GNF plan
- [26.](#) Preparation and contents of GNF plans
- [27.](#) Approval of GNF plan

- 28. Request to apply CM2 GNF to land
- 29. Activities requiring amendment to GNF plan
- 30. Amendment of approval by Director
- 31. Annual review and update
- 32. Changes to GNF plan
- 33. Suspension of approval
- 34. Revocation of approval
- 35. Land application schedule
- 36. Record of land application

PART VI

LAND APPLICATION STANDARDS

- 37. Definitions
- 38. GNF land application, general prohibitions
- 39. Restrictions, maximum sustained slope and runoff potential
- 40. Depth to ground water restrictions
- 41. Depth to bedrock restrictions
- 42. Setback from top of bank of surface water
- 43. Restricted period
- 44. Direct flow application systems

PART VII

STORAGE, SITING AND CONSTRUCTION

- 45. Storage, general rules
- 46. Capacity for storage at greenhouse operations
- 47. Storage at existing facility
- 48. Storage at new or expanded facility
- 49. Construction and expansion, general requirements
- 50. Construction and expansion, if operation is subject to GNF strategy, GNF plan
- 51. Construction or expansion of drainage system
- 52. Site characterization study
- 53. Design and construction
- 54. Concrete quality
- 55. Installation of liners
- 56. GNF transfer systems, design and construction
- 57. GNF transfer systems, prohibited use

PART VIII

SAMPLING AND ANALYSIS

- 58. Categories of parameters
- 59. Sampling and analysis obligations, general
- 60. Greenhouse operations, GNF or test solution
- 61. Agricultural operations, GNF
- 62. Agricultural operations, soil

PART IX

LAND APPLICATION RATES

- 63. Application of Part
- 64. Plant available nitrogen, etc.
- 65. Restrictions, land application from October 1 to May 15
- 66. Plant available phosphorus
- 67. Plant available nitrogen
- 68. Boron
- 69. Sodium
- 70. Regulated metals

PART X

TRAINING AND QUALIFICATIONS

- 71. Nutrient management practices

PART XI
RECORDS

<u>72.</u>	Duty to keep records
<u>73.</u>	Copy of licences and certificates
<u>Table 1</u>	Regulated metal content of cm1 gnf
<u>Table 2</u>	Regulated metal content of cm2 gnf
<u>Table 3</u>	Regulated metal content (see subsection 28 (1) and section 70)

PART I
APPLICATION AND INTERPRETATION

Application

1. (1) This Regulation applies in respect of,

- (a) the management of GNF by means of a sewage works at a greenhouse operation that is registered under this Regulation;
- (b) all subsequent management of GNF following its management by means described in clause (a); and
- (c) the management of test solution.

(2) Despite clause (1) (a), sections 7, 12 and 18 apply in respect of a greenhouse operation that is not registered under this Regulation.

(3) Despite clause (1) (b), this Regulation does not apply with respect to the management of GNF once it is placed in a vehicle used to transport it to a destination other than an agricultural operation.

(4) Despite subsection (1), this Regulation, other than Part VIII, does not apply in respect of the management of a sample of GNF that is taken for the purpose of analysis at a laboratory.

Multiple requirements under Regulation

2. (1) If the application of this Regulation results in more than one rate of land application of nutrients, the lowest rate of land application prevails.

(2) If the application of this Regulation results in more than one setback with respect to the land application of nutrients, the greatest setback prevails.

Definitions

3. (1) In this Regulation,

“agricultural source materials” means any of the following treated or untreated materials, other than compost that meets the requirements for Category AA, A or B compost in Part II of the Compost Standards or a commercial fertilizer, if they are capable of being applied to land as nutrients:

1. Manure produced by farm animals, including associated bedding materials.
2. Runoff from farm animal yards and manure storages.
3. Washwaters from agricultural operations that have not been mixed with human body waste.
4. Organic materials produced by intermediate operations, within the meaning of the general regulation, that process materials described in paragraph 1, 2 or 3.
5. Anaerobic digestion output, if,
 - i. the anaerobic digestion materials were treated in a mixed anaerobic digestion facility,
 - ii. at least 50 per cent, by volume, of the total amount of anaerobic digestion materials were on-farm anaerobic digestion materials, and
 - iii. the anaerobic digestion materials did not contain sewage biosolids or human body waste.

6. Regulated compost as defined in subsection 1 (1) of Ontario Regulation 106/09 (Disposal of Dead Farm Animals) made under the Act; (“matières de source agricole”)

“anaerobic digestion materials” has the same meaning as in subsection 1 (1) of the general regulation; (“matières destinées à la digestion anaérobie”)

“anaerobic digestion output” has the same meaning as in subsection 1 (1) of the general regulation; (“matières issues de la digestion anaérobie”)

“closed circulation system” means a system that,

- (a) circulates nutrient solution for the purpose of delivering and applying the solution to plants at a greenhouse operation, without allowing the solution to come into contact with land as defined in subsection 1 (1) of the *Environmental Protection Act* or surface land that is enclosed in a building, and
- (b) returns the nutrient solution that is not consumed by the plants to the system for reuse or else allows for the solution to be removed from the system; (“système en circuit fermé”)

“CM1 GNF” means GNF in which the content of a regulated metal does not exceed,

- (a) the concentration in aqueous material set out opposite the regulated metal in Column 2 of Table 1, or

(b) the concentration in non-aqueous material set out opposite the regulated metal in Column 3 of Table 1; (“SNS TM1”)

“CM2 GNF” means GNF in which the content of a regulated metal exceeds the concentration described in clause (a) or (b) of the definition of “CM1 GNF” in respect of the regulated metal but does not exceed,

(a) the concentration in aqueous material set out opposite the regulated metal in Column 2 of Table 2, or

(b) the concentration in non-aqueous material set out opposite the regulated metal in Column 3 of Table 2; (“SNS TM2”)

“commercial fertilizer” means a fertilizer or supplement, as each of those terms is defined in the *Fertilizers Act (Canada)*, that is regulated under that Act, subject to subsection (3); (“engrais commercial”)

“compacted soil liner” means a liner composed of hydraulically secure soil that is compacted to 95 per cent of modified Proctor density at the optimum moisture content to meet a maximum saturated hydraulic conductivity of not more than 1×10^{-9} metres per second; (“revêtement de sol compacté”)

“Compost Standards” has the same meaning as in subsection 1 (1) of the general regulation; (“Normes de qualité du compost”)

“concrete” has the same meaning as in subsection 1 (1) of the general regulation; (“béton”)

“controller” means, when used in respect of an agricultural operation, a person who owns or manages the operation; (“responsable”)

“crop residue” means the unharvested portion of a crop left on the surface of the soil of land after the harvest of a crop grown on the land; (“résidus de culture”)

“earth” has the same meaning as in subsection 1 (1) of the general regulation; (“terre”)

“externally generated GNF” means, in respect of a farm unit or an agricultural operation on a farm unit, GNF that is generated at a greenhouse operation that is subject to this Regulation and located on a different farm unit; (“SNS produites à l'externe”)

“farm unit” means an area of land determined to be a farm unit under section 7; (“unité agricole”)

“general regulation” means Ontario Regulation 267/03 (General) made under the Act; (“règlement général”)

“GNF” or “greenhouse nutrient feedwater” means material that is generated when nutrient solution, other than a test solution, is removed from a closed circulation system at a greenhouse operation; (“SNS” ou “solution nutritive de serre”)

“GNF application area” means an area of land determined to be a GNF application area under section 23; (“zone d'épandage de SNS”)

“GNF Management Protocol” means,

(a) the document entitled “Greenhouse Nutrient Feedwater Management Protocol”, prepared by the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment and Climate Change, dated June 1, 2015 and available on a website of the Government of Ontario, and

(b) the GNF Management Table; (“Protocole de gestion des SNS”)

“GNF Management Table” means the document of that name, as amended from time to time, prepared by the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment and Climate Change and available on a website of the Government of Ontario; (“Tableau de gestion des SNS”)

“GNF plan” means a nutrient management plan prepared under Part V for the management of GNF and other nutrients; (“plan SNS”)

“GNF plan area” means an area of land determined to be a GNF plan area under section 23; (“zone assujettie à un plan SNS”)

“GNF Sampling and Analysis Protocol” means the document entitled “GNF Sampling and Analysis Protocol”, prepared by the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment and Climate Change, dated November 21, 2014 and available on a website of the Government of Ontario; (“Protocole d'échantillonnage et d'analyse des SNS”)

“GNF strategy” means a nutrient management strategy prepared under Part IV for the management of GNF; (“stratégie SNS”)

“GNF transfer system” means all surge tanks, pipes and surfaces that come into contact with GNF during the movement of GNF to a permanent GNF storage facility or a portable storage tank, but does not include a permanent GNF storage facility, a portable storage tank or vehicles that are used to transport GNF; (“système de transfert de SNS”)

“greenhouse operation” means an agricultural operation that includes one or more greenhouses used for growing plants within an area enclosed by walls and a roof; (“exploitation serricole”)

“ground level” means, in relation to a well, the lowest surface grade within a perimeter of two metres of the well; (“niveau du sol”)

“hydraulically secure soil” has the same meaning as in subsection 1 (1) of the general regulation; (“sol sûr en termes de conductivité hydraulique”)

“hydrologic soil group” has the same meaning as in subsection 1 (1) of the general regulation; (“groupe hydrologique de sols”)

“incorporation” means the mixing of GNF into the surface of the soil by tillage with a minimum depth of soil disturbance of 10 centimetres; (“incorporation”)

“independent carrier” means, in respect of GNF, an individual who transports the GNF and who is not a controller or an employee of an agricultural operation located on the farm unit on which the GNF was generated or of an agricultural operation located on the farm unit on which the GNF is received; (“transporteur indépendant”)

“injection” means the placement of GNF below the surface of the soil; (“injection”)

“liner” has the same meaning as in subsection 1 (1) of the general regulation; (“revêtement”)

“liquid agricultural source material” means agricultural source material that has a dry matter content of less than 18 per cent or a slump of more than 150 millimetres using the Test Method for the Determination of “Liquid Waste” (Slump Test) set out in Schedule 9 to Regulation 347 of the Revised Regulations of Ontario, 1990 (General – Waste Management) made under the *Environmental Protection Act*; (“matières liquides de source agricole”)

“living crop” has the same meaning as in subsection 1 (1) of the general regulation; (“culture vivante”)

“maximum sustained slope” has the same meaning as in subsection 1 (1) of the general regulation; (“pente soutenue maximale”)

“mixed anaerobic digestion facility” has the same meaning as in subsection 1 (1) of the general regulation; (“digesteur anaérobie mixte”)

“municipal well” has the same meaning as in subsection 1 (1) of the general regulation; (“puits municipal”)

“non-agricultural source materials” means any of the following materials, other than compost that meets the requirements for Category AA or A compost in Part II of the Compost Standards or a commercial fertilizer, if the materials are intended to be applied to land as nutrients:

1. Pulp and paper biosolids.
2. Sewage biosolids.
3. Anaerobic digestion output, if less than 50 per cent, by volume, of the total amount of anaerobic digestion materials that were treated in the mixed anaerobic digestion facility were on-farm anaerobic digestion materials.
4. Any other material that is not from an agricultural source and that is capable of being applied to land as a nutrient; (“matières de source non agricole”)

“nutrient solution” means a solution of nutrients and water for growing plants; (“solution nutritive”)

“nutrient unit” or “NU” means, when used in respect of GNF, a unit of the amount of nutrients in the GNF, as determined in accordance with this Regulation, the GNF Management Protocol and the GNF Sampling and Analysis Protocol, that gives the fertilizer replacement value of the lower of 43 kilograms of nitrogen as nutrient or 55 kilograms of phosphate as nutrient; (“unité nutritive”, “NU”)

“on-farm anaerobic digestion materials” has the same meaning as in subsection 1 (1) of the general regulation; (“matières provenant d'une exploitation agricole”)

“permanent GNF storage facility” means, subject to subsection (5), a permanent structure or part of a permanent structure that is capable of storing a depth of GNF that is greater than 100 millimetres; (“installation permanente d'entreposage de SNS”)

“phosphate” means P_2O_5 ; (“phosphate”)

“potash” means K_2O ; (“potasse”)

“professional engineer” has the same meaning as in subsection 1 (1) of the general regulation; (“ingénieur”)

“professional geoscientist” has the same meaning as in subsection 1 (1) of the general regulation; (“géoscientifique professionnel”)

“pulp and paper biosolids” has the same meaning as in subsection 1 (1) of the general regulation; (“biosolides de papetières”)

“regulated metal” means a metal set out in Column 1 of Table 1; (“métal réglementé”)

“rigid plastic” means a material manufactured from resins that are either high density linear polyethylene (HDPE) or high density cross-linked polyethylene (HDXLPE); (“plastique rigide”)

“sewage biosolids” has the same meaning as in subsection 1 (1) of the general regulation; (“biosolides d'égouts”)

“sewage works” has the same meaning as in subsection 1 (1) of the *Ontario Water Resources Act*; (“station d'épuration des eaux d'égout”)

“surface water” has the same meaning as in subsection 2 (1) of the general regulation; (“eau de surface”)

“synthetic liner” has the same meaning as in subsection 1 (1) of the general regulation; (“revêtement synthétique”)

“test solution” means a nutrient solution that has been removed from a closed circulation system for analysis at a laboratory for the purposes of this Regulation; (“solution pour analyse”)

“top” has the same meaning as in subsection 1 (1) of the general regulation; (“haut”)

“transport” includes, when used in respect of GNF, movement of the GNF through pipelines, unless otherwise specified; (“transport”)

“unsaturated soil” means soil that has a water content that is less than 100 per cent of the total pore space or is at a negative soil water pressure, as determined in accordance with the GNF Management Protocol; (“sol non saturé”)

“vegetated buffer zone” has the same meaning as in subsection 1 (1) of the general regulation; (“zone tampon de végétation”)

“well” has the same meaning as in subsection 1 (1) of the general regulation. (“puits”) O. Reg. 300/14, s. 3 (1), 74 (1, 2); O. Reg. 234/15, s. 1 (1).

(2) REVOKED: O. Reg. 300/14, s. 74 (3).

(3) For the purposes of the definition of “commercial fertilizer” in subsection (1), a commercial fertilizer does not include a fertilizer or supplement that is exempt from the *Fertilizers Act* (Canada) and the *Fertilizers Regulations* (Canada) made under that Act under section 3 of those regulations.

(4) For the purposes of this Regulation, the percentage of land covered by crop residue is the percentage determined in accordance with the method set out in the GNF Management Protocol.

(5) For the purposes of the definition of “permanent GNF storage facility” in subsection (1),

(a) a permanent GNF storage facility may include,

- (i) a structure made of earth, and
- (ii) a surge tank that is directly connected to a permanent GNF storage facility without backflow protection or directly connected to a portable storage tank without backflow protection; and

(b) a permanent GNF storage facility does not include,

- (i) a direct flow application system used to deliver GNF to crops, or
- (ii) a GNF transfer system. O. Reg. 234/15, s. 1 (5).

(6) For the purposes of this Regulation, unless otherwise indicated, any mixture resulting from the mixing of GNF with liquid agricultural source materials, as permitted under section 11, is GNF.

PART II
GENERAL

Prescribed material

4. For the purposes of the definition of "nutrient management strategy" in section 2 of the Act, GNF is a prescribed material.

Compliance with GNF strategy

5. (1) A controller of a greenhouse operation in respect of which a GNF strategy is required shall ensure that GNF managed at the greenhouse operations that are required to be subject to that strategy is managed in accordance with the strategy.

(2) If a GNF strategy is required in respect of a greenhouse operation, no person shall manage GNF at that operation except in accordance with the GNF strategy.

Compliance with GNF plan

6. (1) A controller of an agricultural operation in respect of which a GNF plan is required shall ensure that GNF managed within the GNF plan area in respect of which the GNF plan is required is managed in accordance with the approved GNF plan.

(2) No person shall manage GNF within a GNF plan area in respect of which a GNF plan is required except in accordance with the approved GNF plan.

(3) In this section, a reference to the approved GNF plan includes any update made to the GNF plan that has been approved by the Director or is otherwise authorized by this Regulation.

Determination of farm unit

7. The controllers of all agricultural operations who wish their operations to be subject to this Regulation or whose operations are subject to this Regulation shall determine the boundaries of the land that constitutes the farm unit or farm units on which their operations are located and have discretion to do so, subject to the following rules:

1. Subject to paragraph 2, an area of land used for an agricultural operation, part of an agricultural operation or more than one agricultural operation may constitute a single farm unit for the purposes of this Regulation only if the area is of sufficient size to manage the GNF that is generated on the land, stored on the land and applied to the land in such a way as to avoid an adverse effect within the meaning of subsection 18 (3) of the Act.
2. For a greenhouse operation to be included in a farm unit, the entire greenhouse operation must be located within the boundaries of the farm unit.
3. For a farm unit to include land on which GNF is generated or stored or to which GNF is applied, the farm unit must include all land acquired under a single transfer as defined in the *Land Registration Reform Act* by the current owner of the land on which the GNF is generated or stored or to which GNF is applied, as the case may be.
4. Despite paragraph 3, a farm unit does not include,
 - i. any part of land used for an agricultural operation that is not subject to this Regulation, and
 - ii. any part of land subject to an environmental compliance approval issued in respect of an activity mentioned in subsection 27 (1) of the *Environmental Protection Act* or subsection 53 (1) of the *Ontario Water Resources Act* with respect to the storage and land application of materials.
5. A part of a farm unit on which GNF is generated may be located at any distance from the land to which GNF is applied within the farm unit.

Transportation, general rules

8. (1) No person shall transport or permit the transport of GNF by pipeline to a destination other than an agricultural operation.

(2) GNF may be transported to any agricultural operation without regard to distance.

(3) The following rules apply in respect of the transportation of GNF, both within an agricultural operation and between agricultural operations, whether on the same farm unit or not:

1. No person shall transport or permit the transport of GNF except by way of one of the following:
 - i. A vehicle that has a leakproof tank.
 - ii. An above ground direct flow application system.
 - iii. A permanent underground pipeline installation that is designed by a professional engineer and subjected to a general review by a professional engineer once installed and before use to ensure that it was installed according to the design.
2. No person other than one of the following shall transport GNF by vehicle:
 - i. A controller or employee of,
 - A. an agricultural operation located on the farm unit on which the GNF is generated, or
 - B. an agricultural operation located on the farm unit on which the GNF is received.

ii. An independent carrier who meets the applicable requirements set out in Part X.

3. A person engaging in the business of transporting GNF shall engage the services of an independent carrier who meets the applicable requirements set out in Part X to transport the GNF.

(4) Subsection (3) does not apply in respect of the transportation of GNF by means of a GNF transfer system.

Transportation between agricultural operations

9. (1) The following rules apply in respect of the transportation of GNF between agricultural operations, whether located on the same farm unit or not:

1. No person shall transport or permit the transportation of GNF by vehicle except for GNF that consists of only one of the following:

i. GNF removed from one closed circulation system.

ii. GNF removed from one permanent GNF storage facility, which may contain GNF removed from more than one closed circulation system.

iii. GNF removed from one portable storage tank, which may only contain GNF removed from one closed circulation system or one permanent GNF storage facility described in subparagraph ii.

2. A controller of the agricultural operation providing the GNF shall prepare a document that sets out the following:

i. The volume of GNF transported and the date that it is transported.

ii. The registration number assigned by the Director under subsection 12 (6) to the farm unit of the greenhouse operation at which the GNF was generated.

iii. The name of the controller of the operation providing the GNF and of the operation receiving the GNF.

iv. The address of the operation receiving the GNF.

3. If an independent carrier is transporting the GNF, the independent carrier shall retain a copy of the document referred to in paragraph 2 in the vehicle during transportation of the GNF and shall provide a copy to a controller of the operation receiving the GNF.

4. If an independent carrier is not transporting the GNF, a controller of the operation providing the GNF shall ensure that, on or before the date of transportation, a copy of the document referred to in paragraph 2 is provided to a controller of the operation receiving the GNF.

5. A controller of the agricultural operation providing the GNF shall ensure that, on or before the date of transportation, if any results have been obtained under Part VIII in respect of the GNF, the most recent results are provided in writing to a controller of the operation receiving the GNF.

(2) This section does not apply in respect of the transportation of GNF by means of a GNF transfer system.

Transportation between farm units

10. No person shall transport or permit the transportation of GNF from a farm unit to an agricultural operation on a different farm unit unless,

(a) the farm unit from which the GNF is transported includes at least one greenhouse operation that is registered under this Regulation; and

(b) no externally generated GNF has been received in the previous 12 months on the farm unit mentioned in clause (a). O. Reg. 234/15, s. 2.

Prohibition, mixing

11. No person shall mix GNF with anything other than GNF or liquid agricultural source materials.

PART III REGISTRATION OF GREENHOUSE OPERATIONS

Registration

12. (1) If a controller of a greenhouse operation intends for GNF generated at the greenhouse operation to be applied to land at an agricultural operation and wishes for the greenhouse operation to be subject to this Regulation, the controller shall register the greenhouse operation by preparing a registration in a form specified by the Director and submitting it to the Director.

(2) Despite subsection (1), no person shall register a greenhouse operation that transports GNF by way of a pipeline to a destination other than an agricultural operation.

(3) A registration in respect of a greenhouse operation shall include,

(a) the sum, in respect of a calendar year, of,

(i) the number of nutrient units in GNF reasonably expected to be generated on the farm unit of the operation, as determined by applying the GNF Management Table, and

(ii) the number of nutrient units in externally generated GNF reasonably expected to be received on the farm unit of the operation; and

(b) other information required by the GNF Management Protocol.

(4) A registration takes effect on the day that it is received by the Director.

(5) The following rules apply if two or more of the controllers of greenhouse operations on a single farm unit wish to have the greenhouse operations registered:

1. Only one registration may be made in respect of the greenhouse operations on the farm unit.
2. A controller of each greenhouse operation to be registered must sign the registration. O. Reg. 300/14, s.12 (5); O. Reg. 234/15, s. 3.

(6) On receipt of a registration in respect of one or more greenhouse operations on a farm unit, the Director shall assign a unique registration number to the farm unit.

Reporting, updating following registration

13. (1) Following the registration of a greenhouse operation, a controller of the operation shall, no later than 60 days after the first occurrence of one of the events set out in Column 1 of Item 2 of the Table to section 60 in respect of the GNF generated at the greenhouse operation, submit to the Director the determinations required to be made under that section in respect of the event.

(2) No later than 60 days after all controllers of the greenhouse operations subject to the same registration have been required to submit determinations under subsection (1), the controllers shall submit to the Director the sum of the following in respect of a calendar year:

1. The number of nutrient units in GNF reasonably expected to be generated on the farm unit of the operations, as determined from the determinations required to be submitted under subsection (1).
2. The number of nutrient units in externally generated GNF reasonably expected to be received on the farm unit of the operations.

Cessation of registration

14. (1) If one or more controllers of the greenhouse operations subject to the same registration wish to cease the registration in respect of their greenhouse operations, their registration ceases upon receipt by the Director of written notice of the cessation signed by each of those controllers.

(2) If a registration ceases in respect of only some of the greenhouse operations, the controllers of the greenhouse operations that remain registered shall update the registration in accordance with section 16. O. Reg. 300/14, s.14 (2); O. Reg. 234/15, s. 4.

Renewal of registration

15. For a registration to remain effective, the controllers of the greenhouse operations that are subject to the registration must renew the registration by preparing and submitting to the Director a registration renewal in a form specified by the Director and in accordance with the following rules:

1. The renewal shall be submitted during the calendar year in which the fifth anniversary of the registration occurs and in each subsequent fifth year.
2. The renewal shall include,
 - i. the determinations required under Item 3 of the Table to section 60,
 - ii. the sum, in respect of a calendar year, of,
 - A. the number of nutrient units in GNF reasonably expected to be generated on the farm unit of the operations, as determined from the determinations mentioned in subparagraph i, and
 - B. the number of nutrient units in externally generated GNF reasonably expected to be received on the farm unit of the operations, and
 - iii. the information required by the GNF Management Protocol.
3. Only one renewal shall be submitted in respect of all greenhouse operations that are subject to the registration.
4. A controller of each of the greenhouse operations that is subject to the registration shall sign the renewal.

Updates to registration information

16. If information relating to a registration, as specified in the GNF Management Protocol, becomes outdated, the controllers of the greenhouse operations subject to the registration shall, within 30 days after the specified information becomes outdated, submit to the Director updated information in accordance with the GNF Management Protocol.

Requirement to prepare GNF document, GNF record

17. (1) If no GNF strategy is required in respect of greenhouse operations subject to a registration, the controllers of the greenhouse operations shall prepare a single GNF document and a single GNF record, both in accordance with and containing the information specified by the GNF Management Protocol.

(2) The controllers shall prepare an initial GNF document no later than 60 days following registration and shall update the GNF document no later than February 15 in every calendar year following the first calendar year in which the registration takes effect. O. Reg. 300/14, s.17 (2); O. Reg. 234/15, s. 5 (1).

(3) The controllers shall prepare a new GNF record no later than February 15 in every calendar year following the first calendar year in which the registration takes effect. O. Reg. 300/14, s.17 (3); O. Reg. 234/15, s. 5 (2).

PART IV
GNF STRATEGIES FOR GREENHOUSE OPERATIONS

Requirement to prepare and submit GNF strategy

18. (1) A controller of a greenhouse operation who wishes the operation to be subject to this Regulation or whose operation is subject to this Regulation shall ensure that, if the criteria set out in either of the following paragraphs is met in respect of the farm unit of the operation, a GNF strategy in respect of the operation is prepared and submitted to the Director:

1. At the time of registration, the sum included in the registration under clause 12 (3) (a) is five or more.
2. At any time after registration, the sum of the following is five or more in respect of a calendar year:
 - i. The number of nutrient units in GNF generated on the farm unit of the operation.
 - ii. The number of nutrient units in externally generated GNF received on the farm unit of the operation.

(2) Despite subsection (1), a contingency plan prepared as part of a GNF strategy is not required to be submitted to the Director.

(3) If a GNF strategy is required in respect of two or more greenhouse operations that are subject to the same registration, a single GNF strategy shall be prepared and submitted in respect of all of the operations.

(4) If a GNF strategy is required to be prepared in respect of a greenhouse operation, it shall be submitted,

- (a) if the criterion set out in paragraph 1 of subsection (1) is met, at the same time as the registration of the greenhouse operation; or
- (b) if the criterion set out in paragraph 1 of subsection (1) is not met, at any time before the criterion set out in paragraph 2 of subsection (1) is met.

Application and cessation of GNF strategy

19. Subject to the requirements set out in section 21, a GNF strategy in respect of a greenhouse operation applies to the operation on the day it is received by the Director and continues to apply unless one of the following circumstances occurs:

1. The Director receives a notice mentioned in subsection 14 (1) in respect of the operation.
2. The sum of the following, in respect of the previous calendar year, was less than five and the Director receives a notice signed by all controllers of the greenhouse operations subject to the GNF strategy, stating that this determination has been made and that all of the controllers wish for the application of the GNF strategy to cease:
 - i. The number of nutrient units in GNF generated on the farm unit of the operations.
 - ii. The number of nutrient units in externally generated GNF received on the farm unit of the operations. O. Reg. 300/14, s.19; O. Reg. 234/15, s. 6.

Preparation and contents

20. (1) A GNF strategy in respect of a greenhouse operation shall,

- (a) be prepared by a person who meets the applicable requirements set out in Part X;
- (b) be prepared in accordance with and contain the information required by the GNF Management Protocol and the GNF Sampling and Analysis Protocol;
- (c) be prepared using the information relied upon for the purposes of subsection 18 (1);
- (d) include a contingency plan described in subsection (3);
- (e) include a declaration prepared in a form specified by the Director that,
 - (i) identifies all agricultural operations on the farm unit of the greenhouse operations subject to the strategy, and
 - (ii) states that the strategy is complete, that it includes an accurate description of the greenhouse operations subject to the strategy and that it has been completed in accordance with this Regulation, the GNF Management Protocol and the GNF Sampling and Analysis Protocol; and
- (f) be signed by,
 - (i) a controller of each greenhouse operation that is subject to the strategy or an agent of each controller, and
 - (ii) the person who prepared the strategy.

(2) A GNF strategy shall, in setting out a strategy for the management of GNF at the greenhouse operations subject to the GNF strategy, account for the maximum total annual volume of GNF that it is reasonable to expect will be managed at the operations.

(3) The contingency plan shall set out a proposal for dealing with all of the following:

1. An excess of GNF, if the amount of GNF needed to be stored on the farm unit exceeds the available storage capacity.
2. Unanticipated releases of GNF from storage or during transportation or land application.
3. Inability to store, apply to land or otherwise use GNF as provided for by the other parts of the GNF strategy, as a result of weather conditions or unavailability of equipment.
4. Any other contingency that would require the handling or storage of GNF in an emergency.

Operational change, new GNF strategy required

21. (1) If an operational change described in Column 1 of the Table to this section occurs in relation to one or more greenhouse operations that are subject to a GNF strategy, the controllers of the operations shall prepare and submit a new GNF strategy to the Director on or before the day set out opposite the change in Column 2.

(2) In the event of an operational change described in Column 1 of the Table to this section, the current GNF strategy ceases to apply on the earlier of the day on which the new GNF strategy is submitted and the day on which the new GNF strategy is required to be submitted to the Director under subsection (1).

(3) The new GNF strategy applies from the day it is received by the Director. O. Reg. 300/14, s.21 (3); O. Reg. 234/15, s. 7.

(4) For the purposes of Column 1 of Item 3 of the Table to this section, the number is the sum of the following in respect of a calendar year:

1. The number of nutrient units in GNF generated on the farm unit of the operations.
2. The number of nutrient units in externally generated GNF received on the farm unit of the operations.

TABLE
OPERATIONAL CHANGES

Item	Column 1 Operational Change	Column 2 When new GNF strategy must be submitted
1.	The commencement of either the construction of a new greenhouse or the expansion of an existing greenhouse, if the construction or expansion would increase the total volume of GNF managed at the greenhouse operations on the farm unit and result in the use of an additional permanent GNF storage facility.	Within 60 days of the change.
2.	The earlier of the following: 1. The submission of an application for a permit for the construction or expansion of a permanent GNF storage facility on the farm unit. 2. The commencement of the construction or expansion of a permanent GNF storage facility on the farm unit.	Within 60 days of the change.
3.	An increase of 25 per cent or more in the number described in subsection (4) compared to that same number as set out in the GNF strategy when it was submitted to the Director.	On or before February 15 in the calendar year following the calendar year of the change.
4.	An update of information under section 16 to reflect the addition of a greenhouse operation to a farm unit.	On or before the day on which the updated information is submitted to the Director under section 16.

Annual review and update of GNF strategy

22. (1) If a greenhouse operation is subject to a GNF strategy, this section applies to the operation in every calendar year following the first calendar year in which the GNF strategy applies in respect of the operation. O. Reg. 300/14, s.22 (1); O. Reg. 234/15, s. 8 (1).

(2) The controllers of the operations subject to the GNF strategy shall prepare records of the following, using information obtained in accordance with Part VIII, the GNF Management Protocol and the GNF Sampling and Analysis Protocol no later than February 15:

1. The volume of and the number of nutrient units in GNF generated on the farm unit of the operations in the previous calendar year.
2. The volume of and the number of nutrient units in externally generated GNF received on the farm unit of the operations in the previous calendar year.
3. The number of nutrient units in GNF and the volume of GNF applied to land within the farm unit of the operations in the previous calendar year.
4. The volume, on December 31 in the previous calendar year, of GNF stored in all permanent GNF storage facilities located on the farm unit.
5. Each date in the previous calendar year on which GNF was transported off the farm unit of the operations to an agricultural operation, and, for each date, the location to which it was transported and the volume of GNF that was transported.
6. Any events on the farm unit of the operations in the previous calendar year that resulted in the use of the contingency plan prepared as part of the strategy.
7. Each date in the previous calendar year on which GNF was transported off the farm unit of the operations to a location other than an agricultural operation, and, for each date, the location to which it was transported and the volume of GNF that was transported. O. Reg. 300/14, s.22 (2); O. Reg. 234/15, s. 8 (2).

(3) No later than February 15 in each year, the controllers of the operations subject to the GNF strategy shall prepare an updated GNF strategy as necessary to ensure that the information contained in the strategy accurately reflects what is anticipated on the farm unit during that year.

PART V
PLANNING BY AGRICULTURAL OPERATIONS: LAND APPLICATION AND STORAGE OF GNF

Determination of GNF plan areas and GNF application areas

23. (1) This section applies to a controller of each agricultural operation that is subject to this Regulation with respect to the storage or land application of GNF within a farm unit, other than a greenhouse operation at which no GNF is applied to land.

(2) A controller of an agricultural operation mentioned in subsection (1) shall determine, in accordance with subsection (3), the boundaries of the following, all of which must be located entirely within the boundaries of the farm unit of the agricultural operation:

1. One or more GNF plan areas of any size.
2. One or more GNF application areas of any size.

(3) The following rules apply for the purposes of subsection (2):

1. Any land to which GNF may be applied shall be included in a GNF application area.
2. No area of land shall be included in more than one GNF application area.
3. Each GNF application area shall be included in a GNF plan area.
4. Each GNF plan area shall include at least one GNF application area and, subject to paragraph 5, may include one or more permanent GNF storage facilities that are associated with a GNF application area located within the GNF plan area.
5. A GNF plan area shall include any permanent GNF storage facility on the farm unit if GNF from the facility is applied to land within the GNF plan area.
6. A permanent GNF storage facility may be associated with a GNF application area even if the facility is not contiguous to the GNF application area or if the facility is associated with another GNF application area that is located within the same farm unit.
7. A GNF application area must be located entirely within one GNF plan area. O. Reg. 300/14, s.23 (3); O. Reg. 234/15, s. 9.

Requirement to prepare and submit GNF plan

24. (1) A controller of an agricultural operation on a farm unit shall ensure that, before any of the criteria set out in subsection (2) are met, as determined in accordance with Part VIII, the GNF Management Protocol and the GNF Sampling and Analysis Protocol, a GNF plan in respect of each GNF plan area that is located within the farm unit is prepared, submitted to the Director and approved by the Director.

(2) The criteria mentioned in subsection (1) are the following:

1. Five or more nutrient units in GNF are applied to land within the farm unit in a calendar year.
2. Five or more nutrient units in GNF are stored on the farm unit at any one time in a calendar year.
3. Five or more nutrient units in externally generated GNF are received at the farm unit in a calendar year.

(3) If a GNF plan is required to be prepared under subsection (1),

- (a) a separate GNF plan must be submitted for each GNF plan area located within the farm unit; and
- (b) one GNF plan may be submitted in respect of more than one agricultural operation on the farm unit.

(4) Despite subsection (1), a contingency plan prepared as part of a GNF plan is not required to be submitted to the Director for approval.

(5) This section does not apply in respect of a greenhouse operation at which no GNF is applied to land.

Application and cessation of GNF plan

25. (1) A GNF plan takes effect in respect of an agricultural operation on the day that a controller of the operation receives notice of the approval of the plan, and it continues to apply, subject to the following rules:

1. If there is a change in ownership of one of the agricultural operations subject to the plan, the plan ceases to apply in respect of all of the operations, subject to subsection (2).
2. If the controllers of each of the agricultural operations subject to the GNF plan reasonably expect none of the criteria set out in subsection 24 (2) to be met on the farm unit during the current calendar year and provide written notice of this to the Director stating that the controllers no longer wish the operations to be subject to the plan, the plan ceases to apply in respect of all of the operations on the later of the day requested by the controllers in the notice and the day that the notice is received by the Director.
3. If any controller of an agricultural operation subject to the GNF plan provides written notice to the Director and to the controllers of each of the other agricultural operations subject to the plan stating that the controller no longer wishes the operation to be subject to the plan, the plan ceases to apply in respect of the operation on the later of the day requested by the controller in the notice and the day that the notice is received by the Director.

(2) Paragraph 1 of subsection (1) does not apply if, before the change in ownership occurs, the new owner provides to the Director a written notice setting out the name and contact information of the new owner.

Preparation and contents of GNF plans

26. (1) A GNF plan for a GNF plan area shall,

- (a) be prepared by a person who meets the applicable requirements set out in Part X;
- (b) be prepared in accordance with and contain the information required by the GNF Management Protocol and the GNF Sampling and Analysis Protocol;
- (c) include a contingency plan described in subsection (2);
- (d) include a declaration prepared in a form specified by the Director that,
 - (i) identifies the agricultural operations subject to the plan,

- (ii) identifies the greenhouse operations at which the GNF to be applied to land under the plan was generated, and
- (iii) states that the GNF plan is complete, that it includes an accurate description of the agricultural operations subject to the plan and that it has been completed in accordance with this Regulation, the GNF Management Protocol and the GNF Sampling and Analysis Protocol; and

(e) be signed by,

- (i) a controller of each agricultural operation that is subject to the plan or the agent of each controller, and
- (ii) the person who prepared the plan.

(2) The contingency plan shall set out a proposal for dealing with all of the following:

1. An excess of GNF, if the amount of GNF needed to be stored on the farm unit exceeds the available storage capacity.
2. Unanticipated releases of GNF from storage or during transportation or land application.
3. Inability to store, apply to land or otherwise use GNF as provided for by the other parts of the GNF plan, as a result of weather conditions or unavailability of equipment.
4. Any other contingency that would require the handling or storage of GNF in an emergency.

Approval of GNF plan

27. (1) Upon receipt of a GNF plan, the Director shall, as he or she considers necessary for the purposes of the Act,

- (a) issue an approval of the plan, with or without the conditions described in subsection (2);
- (b) request the person who submitted the plan to provide further relevant information; or
- (c) refuse to issue an approval of the plan.

(2) The Director may, in an approval, impose conditions with respect to any matter covered by the GNF plan as the Director considers necessary for the purposes of the Act.

Request to apply CM2 GNF to land

28. (1) A controller of an agricultural operation that is required by this Regulation to be subject to a GNF plan may submit to the Director, as part of the GNF plan when the plan is submitted for approval, a request for approval to apply CM2 GNF to land where the concentration of a regulated metal in the soil exceeds the concentration set out opposite the regulated metal in Column 3 of Table 3.

(2) An approval of a request made under subsection (1) may be subject to conditions and is valid for a period specified by the Director which shall not exceed five years, unless the Director approves a request for an extension of the approval, which extension shall not exceed five years from the end of the period specified by the Director in the most recent approval.

(3) If a request for approval or an extension of an approval is made under this section, the Director shall approve the request if he or she is satisfied that the land application of the GNF would not increase the concentration of the regulated metal in the soil by a level that is measurable as determined in accordance with the GNF Sampling and Analysis Protocol.

(4) For the purposes of determining whether or not to approve a request made under this section, the Director may request that the controller provide information regarding the sampling and analysis of the CM2 GNF and the soil.

Activities requiring amendment to GNF plan

29. (1) If a GNF plan applies in respect of a GNF plan area, before a person applies GNF to land within the GNF plan area that is not identified in the plan as a GNF application area,

- (a) the GNF plan must be amended to include the GNF application area in the GNF plan; and
- (b) the amended GNF plan must be submitted to the Director for approval and approved by the Director.

(2) If a GNF plan applies in respect of a GNF plan area, before a person stores GNF in a permanent GNF storage facility that is located on the farm unit on which the GNF plan area is located and that is not identified in the GNF plan,

- (a) the GNF plan must be amended to identify the permanent GNF storage facility in the GNF plan; and
- (b) the amended GNF plan must be submitted to the Director for approval and approved by the Director.

Amendment of approval by Director

30. The Director may amend an approval to impose, amend or remove conditions at any time after the approval of a GNF plan is issued,

- (a) on his or her own initiative, if the Director considers it necessary to do so for the purposes of the Act; or
- (b) with the consent of a controller of each agricultural operation subject to the GNF plan.

Annual review and update

31. (1) If an agricultural operation is subject to a GNF plan, this section applies to the operation in every calendar year following the first calendar year in which the GNF plan applies in respect of the operation. O. Reg. 300/14, s.31 (1); O. Reg. 234/15, s. 10 (1).

(2) Subject to section 32, the controllers of the operations subject to the GNF plan shall, no later than February 15, review the plan and prepare an updated plan as is necessary to ensure that the information contained in the plan accurately reflects what is anticipated on the GNF plan area during the year. O. Reg. 300/14, s.31 (2); O. Reg. 234/15, s. 10 (2).

Changes to GNF plan

32. No person shall make changes to a GNF plan that are inconsistent with any conditions imposed in an approval of the plan.

Suspension of approval

33. The Director may suspend an approval of a GNF plan if,

- (a) the Director is of the opinion that the continuing application of the GNF plan will likely result in an adverse effect within the meaning of subsection 18 (3) of the Act due to a deficiency or an error in the plan; and
- (b) the Director has given a controller of each of the agricultural operations subject to the plan reasonable notice of the deficiency or error and the controllers have not corrected the deficiency or the error.

Revocation of approval

34. The Director may revoke an approval of a GNF plan if,

- (a) the approval was issued on the basis of false information or information that was incomplete;
- (b) the approval was issued in error or to the wrong person;
- (c) a controller of an operation subject to the plan has not complied with the approval;
- (d) the approval has been suspended; or
- (e) the controllers of each of the operations subject to the plan consent to the revocation.

Land application schedule

35. (1) A controller of an agricultural operation that is subject to a GNF plan shall, in each calendar year, ensure that a person who meets the applicable requirements set out in Part X prepares a land application schedule for each GNF application area located within the GNF plan area, in accordance with and containing the information required by the GNF Management Protocol and the GNF Sampling and Analysis Protocol.

(2) If a GNF plan is already in effect before the first application in a calendar year of GNF to a GNF application area, the land application schedule mentioned in subsection (1) shall be prepared before the first application of the GNF to the GNF application area.

(3) If a GNF plan is in effect only after the first application in the calendar year of GNF to a GNF application area, the land application schedule mentioned in subsection (1) shall be prepared before the first application of the GNF to the GNF application area following the approval of the GNF plan.

(4) Before exceeding the maximum volume of GNF to be applied to a GNF application area in a calendar year, as set out in the land application schedule, a new land application schedule shall be prepared by a person who meets the applicable requirements set out in Part X.

Record of land application

36. (1) A controller of an agricultural operation that is subject to a GNF plan shall, no later than 30 days after each application of GNF to land at the operation, ensure that a record of land application is prepared in accordance with and containing the information required by the GNF Management Protocol.

(2) The record mentioned in subsection (1) shall be prepared in respect of a land application by,

- (a) a controller of the operation; or
- (b) if a controller of the operation engages a person engaged in the business of applying GNF to land for the purposes of the land application, the holder of a licence issued under section 105 of the general regulation in respect of the business. O. Reg. 300/14, s.36 (2); O. Reg. 234/15, s. 11.

PART VI LAND APPLICATION STANDARDS

Definitions

37. (1) In this Part,

“frozen”, when used in reference to soil, means that a layer of soil with an average minimum depth of five centimetres, located within the top 15 centimetres of the soil, is consolidated by the presence of frozen moisture; (“gelé”)

“restricted period” means the period that begins on December 1 in any year and ends on March 31 in the following year; (“période d’interdiction”)

“snow-covered”, when used in reference to soil, means that there is a layer of snow on the soil with an average minimum depth of five centimetres. (“snow-covered”)

(2) In this Part, a reference to land application to a surface does not imply any restriction on later tillage.

GNF land application, general prohibitions

38. (1) No person shall apply GNF to land that,

- (a) is not a GNF application area;

(b) has a maximum sustained slope of 12 per cent or greater; or

(c) is within,

(i) 100 metres of a municipal well,

(ii) 15 metres of a drilled well that has a depth of at least 15 metres and a watertight casing to a depth of at least six metres below the ground level of the well, or

(iii) 30 metres of a well that is not a well described in subclause (i) or (ii).

(2) No person shall apply GNF to land if the content of a regulated metal in the GNF exceeds,

(a) the concentration in aqueous material set out opposite the regulated metal in Column 2 of Table 2; or

(b) the concentration in non-aqueous material set out opposite the regulated metal in Column 3 of Table 2.

(3) No person shall apply GNF to land if the soil is snow-covered or frozen.

(4) No person shall apply GNF to land at a rate that causes the GNF to move across the surface of the soil more than 1.5 metres from the place where it first touches the land.

(5) If GNF is mixed with liquid manure, no person shall apply the GNF to land using a high trajectory irrigation gun capable of spraying liquid more than 10 metres, except if the GNF being applied is an aqueous solution or suspension containing more than 99 per cent water by weight.

(6) No person shall apply GNF to land without taking all reasonable steps to ensure that the GNF does not pond on the surface.

Restrictions, maximum sustained slope and runoff potential

39. (1) No person shall apply GNF to land at a rate that exceeds 130 cubic metres per hectare within a 24-hour period unless the following conditions are met:

1. The area to which the GNF is applied is subject to a GNF plan.

2. During the period that begins on May 16 in any year and ends on September 30 in the same year, the amount of GNF applied within a 24-hour period does not exceed the lower of,

i. the 24-hour maximum determined in accordance with the GNF Management Protocol, and

ii. 250 cubic metres per hectare.

3. If the maximum sustained slope of the area is greater than 4 per cent but does not exceed 8 per cent, and the soil belongs to the hydrological soil group C or D, the GNF is applied at an hourly rate that does not exceed 15 mm/hour.

4. If the maximum sustained slope of the area is greater than 8 per cent but does not exceed 12 per cent, the GNF is applied at an hourly rate that does not exceed 5 mm/hour. O. Reg. 300/14, s.39 (1); O. Reg. 234/15, s. 12.

(2) During the period that begins on October 1 in any year and ends on May 15 in the following year,

(a) no person shall apply GNF to land within 150 metres from the top of the bank of surface water, if the runoff potential of the area, as determined under subsection (4), is very high; and

(b) no person shall apply GNF to land within 150 metres from the top of the bank of surface water at a rate in excess of that determined under the Table to subsection (3), if the runoff potential of the area, as determined under subsection (4), is not very high.

(3) For the purposes of clause (2) (b), if the runoff potential of an area, as determined under subsection (4), is that set out in Column 1 of the Table to this subsection, the maximum rate within a 24-hour period for the land application of GNF to that area is the rate set out,

(a) in Column 2 opposite the runoff potential, if the GNF is applied to the surface of the land; and

(b) in Column 3 opposite the runoff potential, if the GNF is injected, incorporated within 24 hours after the end of the land application or if the land is pre-tilled no more than seven days before the application.

TABLE
MAXIMUM RATE OF LAND APPLICATION (OCTOBER 1 TO MAY 15)

Item	Column 1 Runoff potential of area of land	Column 2 Maximum rate (application to surface), in cubic metres per hectare	Column 3 Maximum rate (injection, incorporation or pre-tilled land), in cubic metres per hectare
1.	High	50	75
2.	Moderate	75	100
3.	Low	100	130

4.	Very low	130	130
----	----------	-----	-----

(4) For the purposes of this section, the runoff potential of an area of land with soil of the hydrologic soil group set out in Column 1 of the Table to this subsection is the runoff potential set out,

- (a) in Column 2, if the maximum sustained slope of the area where the GNF is applied is at least 3 per cent but less than 6 per cent;
- (b) in Column 3, if the maximum sustained slope of the area where the GNF is applied is at least 6 per cent but less than 9 per cent; or
- (c) in Column 4, if the maximum sustained slope of the area where the GNF is applied is at least 9 per cent but less than 12 per cent.

TABLE
RUNOFF POTENTIAL (OCTOBER 1 TO MAY 15)

Item	Column 1 Hydrologic soil group	Column 2 Runoff potential if maximum sustained slope is at least 3 per cent but less than 6 per cent	Column 3 Runoff potential if maximum sustained slope is at least 6 per cent but less than 9 per cent	Column 4 Runoff potential if maximum sustained slope is at least 9 per cent but less than 12 per cent
1.	A	Very low	Low	High
2.	B	Low	Moderate	High
3.	C	Moderate	High	Very high
4.	D	High	High	Very high

Depth to ground water restrictions

40. (1) In this section,

“risk level” means the level of risk of ground water contamination by CM2 GNF, as determined in accordance with subsection (2).

(2) The risk level for soil of a hydrologic soil group set out in Column 1 of the Table to this subsection is,

- (a) the level set out opposite the soil group in Column 2 of the Table, if the depth of unsaturated soil is at least 30 centimetres but not more than 60 centimetres; and
- (b) the level set out opposite the soil group in Column 3 of the Table, if the depth of unsaturated soil is more than 60 centimetres but not more than 90 centimetres.

TABLE
RISK LEVEL FOR SOIL
(GROUND WATER CONTAMINATION FROM CM2 GNF)

Item	Column 1 Hydrologic soil group	Column 2 Risk level for soil if depth of unsaturated soil at least 30 centimetres but not more than 60 centimetres	Column 3 Risk level for soil if depth of unsaturated soil more than 60 centimetres but not more than 90 centimetres
1.	A	High	Moderate
2.	B	Moderate	Low
3.	C	Low	Very low
4.	D	Low	Very low

(3) For the purposes of this section, the risk level for soil shall be determined immediately before applying GNF to the land.

(4) No person shall by any method apply CM2 GNF to land if the risk level for the soil is high.

(5) No person shall inject CM2 GNF into soil for which the risk level is moderate or low.

(6) No person shall apply CM2 GNF to the surface of land if the risk level for the soil is moderate, unless both of the following criteria are met:

1. The land is pre-tilled no more than seven days before the application.
2. The maximum rate of application is 40 cubic metres per hectare per 48 hours.

(7) No person shall apply CM2 GNF to the surface of land if the risk level for the soil is low unless at least one of the criteria set out in paragraphs 1 and 2 of subsection (6) is met.

(8) No person shall apply CM2 GNF to the surface of tile drained land if the risk level for the soil is very low unless at least one of the criteria set out in paragraphs 1 and 2 of subsection (6) is met.

(9) No person shall inject CM2 GNF into tile drained land if the risk level for the soil is very low unless the criterion set out in paragraph 2 of subsection (6) is met.

(10) No person shall apply GNF to land unless, at the time of application, there is a minimum of 30 centimetres of unsaturated soil at the surface of the soil.

Depth to bedrock restrictions

41. (1) No person shall apply GNF to land unless the depth to bedrock at the time of land application is,

(a) in the case of CM1 GNF, a minimum of 30 centimetres; and

(b) in the case of CM2 GNF, a minimum of 50 centimetres.

(2) The following rules apply in respect of the application of CM1 GNF to land for which the depth to bedrock is at least 30 centimetres but less than 50 centimetres:

1. No person shall inject the GNF.

2. No person shall apply the GNF to land during the restricted period.

3. No person shall apply the GNF to land except,

i. at a rate that is less than 40 cubic metres per hectare per 48 hours, or

ii. if the land is pre-tilled no more than seven days before the application, at a rate that does not exceed 60 cubic metres per hectare per 48 hours.

(3) The rules set out in paragraphs 1 and 3 of subsection (2) apply in respect of the application of CM2 GNF to land for which the depth to bedrock is 50 centimetres or more but less than 100 centimetres.

Setback from top of bank of surface water

42. (1) No person shall apply GNF to land in a field that contains or is adjacent to surface water unless,

(a) the land application is at a distance of 20 metres or more from the top of all banks of surface water; or

(b) subject to subsections (3) to (7), there is a vegetated buffer zone in the field that is adjacent to the surface water and that lies between the surface water and the area where the GNF is applied.

(2) Subsection (1) does not apply in relation to the land application of GNF to a field if the following conditions are met:

1. There is a setback of at least three metres from the top of all banks of surface water.

2. The field is composed of soils containing more than 17 per cent organic carbon by weight, commonly known as peat, muck, bog or fen soils.

(3) For the purposes of clause (1) (b), no person shall apply GNF containing nitrogen and phosphorus to any part of land in the field, whether or not within the vegetated buffer zone, that is within 13 metres from the top of all banks of surface water.

(4) Despite subsection (3), a person may apply CM1 GNF to land within the 13 metres from the top of all banks of surface water that is not in the vegetated buffer zone if at least one of the following conditions is satisfied:

1. The GNF is injected or placed in a band below the surface of the soil.

2. The GNF is incorporated within 24 hours after the end of the land application.

3. The GNF is applied to land covered with a living crop.

4. The GNF is applied to land with crop residue covering at least 30 per cent of the soil.

(5) No person shall apply nutrients to land within the vegetated buffer zone mentioned in clause (1) (b) except for an amount of commercial fertilizer that is reasonable to establish or maintain the vegetation of the vegetated buffer zone.

(6) For the purposes of subsection (5), a person applies an amount of commercial fertilizer that is reasonable to establish or maintain the vegetation of a vegetated buffer zone if the person applies the fertilizer,

(a) in accordance with a determination, made in accordance with subsection (7), of the concentration of plant available phosphorus and plant available potassium in the soil of the vegetated buffer zone;

(b) in accordance with the Agronomy Guide for Field Crops, Publication 811, published by the Ministry of Agriculture, Food and Rural Affairs in 2009 and available on a website of the Government of Ontario; and

(c) in such a manner that the agronomic balance does not exceed zero.

(7) The determination of the concentration described in clause (6) (a) shall be made using,

(a) the results of an analysis of a sample of the soil performed in accordance with section 59; or

(b) the following concentrations:

(i) 101 milligrams of plant available phosphorus per litre of soil.

(ii) 251 milligrams of plant available potassium per litre of soil.

Restricted period

43. (1) Subject to any other applicable requirements set out in this Regulation with respect to land application, no person shall apply GNF to land during the restricted period at an agricultural operation unless all of the following conditions are met:

1. The land application at the agricultural operation is necessary because,
 - i. the amount of GNF requiring storage on the farm unit of the agricultural operation exceeds or is anticipated to exceed the storage capacity provided for by the GNF strategy that applies in respect of the greenhouse operation,
 - ii. there is an unanticipated release of the GNF from a storage on the farm unit of the agricultural operation or during transportation within the agricultural operation or between that agricultural operation and another agricultural operation,
 - iii. it is not reasonably possible to store the GNF or apply the GNF to land in accordance with any applicable GNF strategy or GNF plan because of weather conditions or unavailability of equipment, or
 - iv. there is an emergency other than one described in subparagraph i, ii or iii that makes it necessary.
2. It is not reasonably possible to use a method of disposal of the GNF other than land application.
3. The land application is not on or into a grassed waterway that provides a path of flow to surface water.
4. The land application is done in accordance with subsection (2).
5. Written advance notice of the land application is given in accordance with subsection (3). O. Reg. 300/14, s.43 (1); O. Reg. 234/15, s. 13.

(2) The following rules govern the land application of GNF during the restricted period:

1. The application shall be done,
 - i. if the land is covered with a living crop or at least 30 per cent of the surface of the land is covered with crop residue,
 - A. by injection,
 - B. by spreading and incorporation on the same day, or
 - C. by application to the surface, or
 - ii. in any other case,
 - A. by injection, or
 - B. by spreading and incorporation on the same day.
2. The setback from the top of the bank of surface water shall be 20 metres or more.
3. If the maximum sustained slope of the land is greater than 3 per cent, the GNF shall not be applied within 100 metres from the top of the bank of surface water.
4. The rate of land application shall be such that the total amount of the plant available nitrogen in the GNF, as determined in accordance with the GNF Management Protocol and the GNF Sampling and Analysis Protocol, that is applied during the restricted period does not exceed 17 kilograms per hectare.
5. No person shall apply GNF to land that meets either of the following descriptions:
 - i. The land is subject to flooding once or more every five years according to flood plain mapping provided by the municipality or conservation authority having jurisdiction over the land.
 - ii. The land is where water collects during a rainstorm or thaw and flows directly into surface water.

(3) The following rules govern the written advance notice required by paragraph 5 of subsection (1):

1. The notice shall be given by a controller of the agricultural operation in respect of which a condition mentioned in paragraph 1 of subsection (1) is satisfied to the local district office of the Ministry of the Environment and Climate Change in whose territory the land is located, not more than seven days before the start of the land application.
2. The notice shall,
 - i. identify the specific day or days on which the land application is to take place,
 - ii. include the name of the individual who will apply the GNF to land and his or her contact information,
 - iii. if the individual mentioned in subparagraph ii acts as an employee of or agent for a corporation or another individual, include that corporation's or individual's name and contact information,

- iv. state an estimate of the amount of GNF to be applied to land and of the land application rate,
- v. identify the area where the GNF will be applied to land, by lot, concession and roll number,
- vi. describe any living crop or crop residue in the area where the GNF will be applied to land,
- vii. explain why land application of the GNF is necessary and indicate what other options were considered,
- viii. include the name and contact information for the agricultural operation that provided the GNF and the registration number assigned to the farm unit of the greenhouse operation that generated the GNF,
- ix. include the name and contact information of the controller who is giving the notice, and
- x. identify the land on which the GNF to be applied is stored by lot, concession and roll number. O. Reg. 300/14, s.43 (3); O. Reg. 234/15, s. 14.

(4) For greater certainty, paragraph 5 of subsection (2) does not require a person to create flood plain mapping.

(5) If GNF is applied to land under this section, a controller of the agricultural operation shall make a record of the restricted period land application no later than 30 days following the completion of the land application, describing any actions that have been taken to avoid a similar situation from arising in the future and that will be considered in order to prevent a similar situation from arising in the future.

Direct flow application systems

44. (1) No person shall apply GNF to land or permit the land application of GNF using a direct flow application system unless the system is operated in accordance with this section.

(2) Two or more operators in voice or electronic contact with each other at all times during the land application may operate a direct flow application system if,

- (a) a first operator has a full view of the land to which the GNF is being applied; and
- (b) a second operator is close enough to the system to shut it down within one minute after being advised by the first operator of the occurrence of,
 - (i) a problem event, or
 - (ii) GNF not being applied in accordance with this Regulation or any applicable GNF plan.

(3) One operator may operate a direct flow application system if the operator has a full view of the land to which the GNF is being applied and if,

- (a) the operator is close enough to the system to shut it down within one minute after observing that an event described in subclause (2) (b) (i) or (ii) has occurred; or
- (b) the application system is,
 - (i) linked to a remote control system that allows the operator to shut down the application system within one minute after observing that an event described in subclause (2) (b) (i) or (ii) has occurred, and
 - (ii) designed to shut down automatically within one minute after it ceases to receive a signal from the remote control system.

(4) A direct flow application system may be operated without an operator if the system is designed to have the capability to,

- (a) detect problem events;
- (b) shut down automatically within one minute after detecting a problem event;
- (c) shut down automatically within one minute after ceasing to receive a signal from a remote control system that is designed to detect problem events;
- (d) remotely notify an operator whenever automatic shutdown takes place; and
- (e) when automatic shutdown takes place, remain shut down until restarted by an operator or by a person acting on the operator's behalf.

(5) An operator who is remotely notified of an automatic shutdown must, as soon as possible in the circumstances and in any event within 12 hours after being notified,

- (a) attend in person to examine the direct flow application system; or
- (b) ensure that another person attends to examine the direct flow application system on the operator's behalf.

(6) The operator or other person who examines the direct flow application system shall not restart the system unless he or she has assessed the event described in subclause (2) (b) (i) or (ii) and completed necessary repairs to the system to prevent a recurrence.

(7) Each person who uses a direct flow application system shall ensure that the system is designed and operated so that when it is shut down no GNF continues to flow by siphoning or other means.

(8) In this section,

"problem event" means any of the following events:

1. GNF is not being delivered to the application part of the system as intended by the person in charge of the operation of the system.
2. The direct flow application system fails, resulting in GNF escaping into the natural environment otherwise than as intended by the person in charge of operating the system.

PART VII STORAGE, SITING AND CONSTRUCTION

Storage, general rules

45. (1) No person shall store or permit the storage of GNF at an agricultural operation, except if the GNF is stored in either a permanent GNF storage facility or in a portable storage tank and the storage is carried out in accordance with this Part.

(2) No person shall discharge or permit the discharge of GNF, either directly or indirectly, from a permanent GNF storage facility or from a portable storage tank, into a ditch, drain, storm sewer, well, lake, river, pond, spring, stream, reservoir, ground water or other water or a watercourse, except for discharge through land application in accordance with this Regulation.

(3) No person shall permit ground water, surface water or surface runoff, other than surface runoff that is liquid agricultural source material or runoff from the roof of a livestock operation that is used solely to house farm animals, store animal feed, store farm implements or store manure, to enter a permanent GNF storage facility.

(4) No person shall store GNF in a permanent GNF storage facility unless the facility is maintained to minimize leakage.

(5) No person shall store GNF in a portable storage tank except in accordance with the following rules:

1. The capacity of all portable storage tanks being used for storing GNF on the agricultural operations on a single farm unit shall not exceed 100 m³.
2. A portable storage tank used for storing GNF shall be emptied at least once every 14 days.
3. No portable storage tank shall be used to store GNF unless it has been designed and maintained to be leakproof.

Capacity for storage at greenhouse operations

46. (1) In this section,

"60-day maximum generation period" means, in respect of a greenhouse operation, the 60-day period in which the maximum amount of GNF is generated at the operation.

(2) Subject to subsection (5), a controller of a greenhouse operation shall ensure that the capacity of the permanent GNF storage facilities available for use by the operation during a calendar year is, at a minimum, the capacity required under this section, as determined in accordance with the GNF Management Protocol.

(3) If, during the 60-day maximum generation period at the operation in the current calendar year and during the period from October 1 in the current calendar year to May 31 in the following calendar year, GNF generated at the greenhouse operation does not contain liquid agricultural source materials, the required capacity is the greater of the following:

1. The sum of the maximum amount of GNF reasonably expected to be generated at the operation and externally generated GNF reasonably expected to be received at the operation during the 60-day maximum generation period.
2. The sum of the maximum amount of GNF reasonably expected to be generated at the operation and externally generated GNF reasonably expected to be received at the operation during the period from December 1 to March 31.

(4) If, at any time during either the 60-day maximum generation period at the operation in the current calendar year or during the period from October 1 in the current calendar year to May 31 in the following calendar year, GNF generated at the greenhouse operation contains liquid agricultural source materials, the required capacity is the greater of the following:

1. The sum of,
 - i. the maximum amount of GNF reasonably expected to be generated at the operation and externally generated GNF reasonably expected to be received at the operation, not including the liquid agricultural source materials to be mixed with any of the GNF, during the 60-day maximum generation period, and
 - ii. the maximum amount of liquid agricultural source materials reasonably expected to be mixed with the GNF mentioned in subparagraph i during the 60-day maximum generation period.
2. The sum of,
 - i. the maximum amount of GNF reasonably expected to be generated at the operation and externally generated GNF reasonably expected to be received at the operation, not including the liquid agricultural source materials to be mixed with any of the GNF, during the period from October 1 to May 31, and
 - ii. the maximum amount of liquid agricultural source materials reasonably expected to be mixed with the GNF mentioned in subparagraph i during the period from October 1 to May 31.

(5) This section does not apply in respect of a greenhouse operation if,

- (a) a controller of the operation reasonably expects that there will be a period of at least 24 months between each time GNF will be generated at the operation;
- (b) no externally generated GNF is received at the operation;
- (c) a controller of the operation indicates in the registration or, if the registration has been renewed, in the most recent registration renewal that the controller has the expectation described in clause (a); and
- (d) if there is no GNF strategy in respect of the operation, a controller of the operation prepares a contingency plan at the time of the registration or registration renewal, as the case may be, setting out a proposal for dealing with the management of GNF, including options for storage, land application and other disposal methods of the GNF, if there is any generation of GNF within the 24-month period mentioned in clause (a). O. Reg. 300/14, s.46 (5); O. Reg. 234/15, s. 15.

Storage at existing facility

47. (1) No person shall store GNF in a permanent GNF storage facility that is made of earth and that existed on January 1, 2015 unless,

- (a) it was used to store liquid nutrients at an agricultural operation before January 1, 2015, and
- (b) if it is situated on soil of the hydrologic soil group A or B, it is equipped with a liner. O. Reg. 300/14, s.47 (1); O. Reg. 234/15, s. 16 (1, 2).

(2) No person shall store GNF in a permanent GNF storage facility that is made of a material other than earth and that existed on January 1, 2015 unless,

- (a) if the facility was constructed before September 30, 2003, it was used to store liquid nutrients at an agricultural operation before January 1, 2015; or
- (b) if the facility was constructed or expanded on or after September 30, 2003 and before January 1, 2015, any construction or expansion of the facility was done in accordance with Part VIII of the general regulation and the facility was used to store liquid nutrients at an agricultural operation before January 1, 2015. O. Reg. 300/14, s.47 (2); O. Reg. 234/15, s. 16 (3-5).

(3) Despite clause (2) (b), a person may store GNF in a permanent GNF storage facility that is made of rigid plastic and that was constructed on or after September 30, 2003 and before January 1, 2015 if the facility was used to store liquid nutrients at an agricultural operation before January 1, 2015. O. Reg. 300/14, s.47 (3); O. Reg. 234/15, s. 16 (6).

Storage at new or expanded facility

48. No person shall store GNF in a permanent GNF storage facility that is constructed or expanded on or after January 1, 2015 unless,

- (a) the applicable requirements set out in sections 49 to 55 with respect to construction and expansion of the facility have been met; and
- (b) the facility meets a description set out in Column 1 of the Table to subsection 52 (3) or is a combination of any of those facilities described in Column 1 of that Table. O. Reg. 300/14, s.48; O. Reg. 234/15, s. 17.

Construction and expansion, general requirements

49. (1) No person shall construct or expand a permanent GNF storage facility at an agricultural operation, whether or not the agricultural operation is subject to a GNF strategy or a GNF plan, unless, if the facility meets the description set out in Column 1 of the Table to this subsection, the requirements set out opposite the description in Column 2 of the Table are met:

TABLE
REQUIREMENTS FOR CONSTRUCTION AND EXPANSION

Item	Column 1 Description of permanent GNF storage facility	Column 2 Requirements
1.	Any	The new or expanded facility shall not be located, (a) within 15 metres of a drilled well that has a depth of at least 15 metres and a watertight casing to a depth of at least six metres below the ground level of the well, (b) within 100 metres of a municipal well, or (c) within 30 metres of any other well.
2.	Made of earth, whether lined or unlined	The facility shall be designed to have a minimum freeboard of 0.3 metres.
3.	Made of earth and lined	1. The slope of the inside wall of the facility shall be consistent with the requirements of the liner design and pump out equipment and, unless a professional engineer specifies otherwise, shall be no steeper than 50 per cent. 2. The slope of the outside wall of the facility shall be consistent with the requirements of the liner design and pump out equipment and, unless a professional engineer specifies otherwise, shall be no steeper than 33 per cent.

4.	Made of earth and unlined	1. The facility shall have a maximum storage depth of three metres and a maximum storage volume of 2,500 cubic metres. 2. The facility shall have at least two metres of hydraulically secure soil between the bottom and sides of the facility and bedrock or the uppermost identified aquifer. 3. The soil materials that form the interior surface of the facility shall be disked to a depth of at least 150 millimetres and recompact to meet a hydraulic conductivity of no more than 1×10^{-8} metres per second. 4. Any soil anomalies that are discovered during construction or expansion, such as coarse material lenses, large rocks or soil fractures shall be excavated and filled with a clay based material to a depth of one metre and to the satisfaction of a professional engineer. 5. Topsoil shall be stripped to the subsoil layer from the land where any berm is to be constructed and stockpiled for use in the outside slopes of the facility. 6. Any above ground berms shall be constructed of a material that is suitable for compaction to meet a maximum saturated hydraulic conductivity of 1×10^{-9} metres per second and be compacted to at least 95 per cent modified Proctor density according to test criteria approved by a professional engineer.
5.	Made of rigid plastic	1. The facility shall be designed to handle liquids with a Specific Gravity of at least 1.5. 2. The facility shall have a minimum UV rating of UV8, if the tank may be exposed to sunlight. 3. The facility shall be protected from equipment and vehicle collisions by the installation of bollards, guardrails or other barriers, if any part of it is located above ground.

O. Reg. 300/14, s. 49 (1); O. Reg. 234/15, s. 18 (1).

(2) Subject to subsection (3), no person shall construct or expand a permanent GNF storage facility at an agricultural operation unless the person has,

- (a) determined the location of all field drainage tiles or piped municipal drains within 15 metres of the perimeter of the facility;
- (b) removed all field drainage tiles within 15 metres of the perimeter of the facility; and
- (c) redirected the flow of the field drainage system or piped municipal drain away from the facility.

(3) Subsection (2) does not apply if the permanent GNF storage facility is,

- (a) not made of earth and not located at an agricultural operation that is subject to a GNF strategy or a GNF plan;
- (b) located in a greenhouse that has a concrete floor, if both the greenhouse and the concrete floor existed on January 1, 2015 and all GNF is stored at or above the level of the concrete floor; or
- (c) a rigid plastic storage facility or a lined steel storage facility placed on a concrete floor in a greenhouse and all surface inlets, including all catch basins and floor drains, located in the greenhouse within 15 metres of the facility are equipped with an observation and shut-off station that,**
 - (i) intercepts the flow of liquid in a pipe,
 - (ii) is used to collect, observe and monitor the amount and condition of liquid in the pipe, and
 - (iii) is equipped with a valve attached to the gravity outflow pipe to allow the flow of liquid in the pipe to be shut off. O. Reg. 300/14, s. 49 (3); O. Reg. 234/15, s. 18 (2).

Construction and expansion, if operation is subject to GNF strategy, GNF plan

50. (1) No person shall construct or expand a permanent GNF storage facility at an agricultural operation that is subject to a GNF strategy or a GNF plan unless the following conditions are met:

1. The facility must have a surface channel or depression that conducts liquids away from the facility and that is at least 50 metres long to the top of the bank of the nearest surface water or tile inlet.
2. No construction or expansion of the facility shall be carried out within the one in 100 year flood lines established by the municipality or the conservation authority having jurisdiction over the location of the facility if the municipality or the conservation authority has established such flood lines, unless a permission for the facility is granted under section 28 of the *Conservation Authorities Act*.
3. If the maximum liquid level is either partially or wholly located above the surface of the soil in a permanent GNF storage facility that is made of a material other than rigid plastic,
 - i. the load factor, α_L , for liquid loads must be 1.5 or another value that a professional engineer is satisfied should be used,
 - ii. a professional engineer must specify that the storage and landscape features around the facility are adequate to ensure that a secondary containment system is not required, or
 - iii. the above grade portion of the facility must have a secondary containment system with a capacity equivalent to 110 per cent of the above ground portion of the facility.
4. The person who constructs or expands the permanent GNF storage facility shall use an importance factor of 1.0. O. Reg. 300/14, s. 50 (1); O. Reg. 234/15, s. 19.

(2) For the purposes of subsection (1),

(a) the reference to the load factor, α_L , is a reference to that term as defined in clause 4.1.3.1. (1) (c) of Part 4 of Ontario Regulation 403/97 (Building Code) made under the *Building Code Act, 1992*, as it read on December 30, 2006; and

(b) the reference to the importance factor is a reference to that term as defined in Part 4 of Ontario Regulation 403/97, as it read on December 30, 2006.

Construction or expansion of drainage system

51. (1) This section applies in respect of a drainage system that is,

- (a) used at an agricultural operation that is subject to a GNF strategy or a GNF plan;
- (b) located within 15 metres of a permanent GNF storage facility used at the operation; and
- (c) intended to be used at the operation to collect water and divert it away from the facility.

(2) No person shall construct or expand a drainage system described in subsection (1) unless one of the following conditions is met:

1. The system is constructed with non-perforated pipe and all subsurface joints in the piping are properly sealed.
2. All water collected by the drainage system discharges into a treatment system that is capable of changing the characteristics of an input stream that contains nutrients.
3. The foundation drains of the permanent GNF storage facility are equipped with an observation and shut-off station that,
 - i. intercepts the flow of liquid in a pipe,
 - ii. is used to collect, observe and monitor the amount and condition of liquid in the pipe, and
 - iii. is equipped with a valve attached to the gravity outflow pipe to allow the flow of liquid in the pipe to be shut off.

(3) This section does not apply if the permanent GNF storage facility in respect of which the drainage system is intended to be used is located in a greenhouse that has a concrete floor, if both the greenhouse and the concrete floor existed on January 1, 2015 and all GNF is stored at or above the level of the concrete floor. O. Reg. 300/14, s. 51 (3); O. Reg. 234/15, s. 20.

Site characterization study

52. (1) If this Regulation requires an agricultural operation to be subject to a GNF strategy or GNF plan, no permanent GNF storage facility shall be constructed or expanded for use at the agricultural operation unless,

- (a) a professional engineer or professional geoscientist is retained to carry out a site characterization study that consists of a hydrogeological or geotechnical investigation of the site of the proposed facility that complies with the requirements set out in subsection (2); and
- (b) the results of the investigation confirm that the site conditions set out in subsection (3) exist beneath and adjacent to the site of the proposed facility.

(2) The following requirements apply with respect to the investigation mentioned in clause (1) (a):

1. The person who carries out the investigation shall be a professional engineer or a professional geoscientist or a person working under the supervision of a professional engineer or a professional geoscientist.
2. The investigation shall identify the soil types and the presence of any aquifer or bedrock, all to a depth of at least,
 - i. 1.5 metres below the lowest elevation of the excavation required for a structure made of concrete, steel or other materials that a professional engineer determines will provide protection equivalent to concrete or steel, or
 - ii. 2.5 metres below the lowest elevation of the excavation required for a structure made of earth.
3. The professional engineer or professional geoscientist shall analyze the data collected during the investigation to confirm that the site conditions set out in subsection (3) exist beneath and adjacent to the site of the proposed facility.
4. The investigation shall involve using a minimum of one test hole per 1,000 square metres of the ground floor area of the proposed facility to determine the characteristics of the soil.
5. All test holes must be located in the zone that is at least three metres and not greater than 10 metres from the perimeter of the footprint of the proposed facility.

(3) For the purposes of clause (1) (b), a proposed permanent GNF storage facility that is described in Column 1 of the Table to this subsection shall meet the site conditions set out opposite the facility in Column 2 of the Table.

TABLE
SITE CONDITIONS

Item	Column 1 Description	Column 2 Site conditions
------	-------------------------	-----------------------------

1.	It meets one of the following descriptions: 1. Unlined concrete with reinforced concrete floors. 2. Unlined steel with reinforced concrete floors.	The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 0.5 metres of hydraulically secure soil, or (b) 1.0 metres of soil comprised of a clay content of at least 10 per cent.
2.	It meets one of the following descriptions: 1. Lined concrete with reinforced concrete floors. 2. Lined steel with reinforced concrete floors, other than lined steel placed on a concrete floor in a greenhouse. 3. Unlined rigid plastic placed outdoors on a reinforced concrete base or placed indoors on a concrete floor in a greenhouse.	The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 0.5 metres of native undisturbed material, or (b) 0.5 metres of compacted granular material.
3.	It meets one of the following descriptions: 1. Unlined concrete with unreinforced concrete floors. 2. Unlined steel with unreinforced concrete floors.	The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 1.0 metres of hydraulically secure soil, or (b) 1.0 metres of soil comprised of a clay content of at least 15 per cent.
4.	It meets one of the following descriptions: 1. Lined concrete with unreinforced concrete floors. 2. Lined steel with unreinforced concrete floors, other than lined steel placed on a concrete floor in a greenhouse. 3. Unlined rigid plastic placed outdoors on an unreinforced concrete base.	The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 1.0 metres of native undisturbed material, or (b) 1.0 metres of compacted granular material.
5.	Unlined rigid plastic placed directly on the ground.	1. The facility must be located on ground that has been prepared to prevent uneven settling and heaving. 2. The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 1.0 metres of hydraulically secure soil, or (b) 1.0 metres of soil comprised of a clay content of at least 15 per cent.
6.	Lined rigid plastic placed directly on the ground.	1. The facility must be located on ground that has been prepared to prevent uneven settling and heaving. 2. The facility must have, between the bottom of the facility and bedrock or the uppermost identified aquifer, a minimum of, (a) 1.0 metres of native undisturbed material, or (b) 1.0 metres of compacted granular material.
7.	Lined earth.	The facility must have, between the bottom and sides of the facility and bedrock or the uppermost identified aquifer, a minimum of 2.0 metres of hydraulically secure soil.

(4) For the purposes of this section, permanent GNF storage facilities that are designed to have a combined system, such as a facility that has walls made of earth and concrete, must satisfy the most restrictive site conditions mentioned in subsection (3) for the types of material used in the construction of the facility.

(5) The person supervising the construction or expansion of a permanent GNF storage facility shall ensure that the test holes excavated for the purposes of an investigation mentioned in this section that are not required for any further purpose are plugged and sealed to provide a level of hydraulic conductivity that is the same or less than the hydraulic conductivity of the surrounding undisturbed soil.

Design and construction

53. If this Regulation requires an agricultural operation to be subject to a GNF strategy or a GNF plan, no person shall construct or expand a permanent GNF storage facility to be used at the operation unless,

- (a) a professional engineer designs the new or expanded facility, including any associated monitoring systems, having regard to the requirements of this Regulation, and signs a commitment certificate prepared in a form specified by the Director by which the engineer undertakes to have regard to those requirements;
- (b) the facility is designed to minimize leakage, to minimize corrosion and to be structurally safe and sound;
- (c) the construction or expansion complies with this Part; and
- (d) a professional engineer performs a general review of the construction or expansion to ensure that it complies with this Part.

Concrete quality

54. If this Regulation requires an agricultural operation to be subject to a GNF strategy or a GNF plan,

- (a) a person who constructs or expands a permanent GNF storage facility used at the operation and comprised wholly or partially of concrete shall ensure that the concrete is appropriate for the environmental conditions encountered on site to maintain the durability and corrosion resistance of the concrete and to protect the reinforcing materials, if any, in the concrete; and

(b) a person who constructs or expands a permanent GNF storage facility used at the operation and comprised wholly or partially of concrete shall ensure that,

- (i) if a new facility is being constructed, the facility is constructed with a minimum thickness of 125 millimetres of concrete on the floor of the structure unless a professional engineer specifies otherwise, and
- (ii) if an existing facility is being expanded, the expanded portion of the facility is constructed with a minimum thickness of 125 millimetres of concrete on the floor of the structure unless a professional engineer specifies otherwise. O. Reg. 300/14, s. 54; O. Reg. 234/15, s. 21.

Installation of liners

55. (1) If this Regulation requires an agricultural operation to be subject to a GNF strategy or a GNF plan, no person shall install a liner described in Column 1 of the Table to this subsection in a permanent GNF storage facility used at the operation unless the installation complies with the requirements set out opposite the liner in Column 2 of the Table.

TABLE
LINER INSTALLATION REQUIREMENTS

Item	Column 1 Liner	Column 2 Requirements
1.	Any liner	The liner shall be continuous under the floor and footings of the facility and shall extend up the wall to a level equal with the top of the ground surface, unless a professional engineer specifies otherwise.
2.	Synthetic liner	1. The liner shall be anchored or bonded to the facility, subgrade or berms made of earth according to good engineering practices as determined by a professional engineer or to the manufacturer's specification. 2. If an accessory structure creates a discontinuity in the liner, the liner shall be bonded to the structure according to good engineering practices as determined by a professional engineer or to the manufacturer's specification.
3.	Compacted soil liner	The liner shall, (a) contain materials that have been excavated from the site of the facility or other materials that a professional engineer has tested for their hydraulic conductivity prior to their use in the liner, (b) have a minimum thickness of 0.9 metres on the sloping inside walls and 0.6 metres on the bottom of the facility, (c) be constructed on the inside wall of the facility using at least six layers of a thickness of no more than 150 millimetres, (d) be constructed on the bottom of the facility using at least four layers of a thickness of no more than 150 millimetres, (e) have an interface surface of layers that is disked or scarified before placement of subsequent layers of material, and (f) have each of the layers compacted to at least 95 per cent of modified Proctor maximum dry density as determined for the soil at a specified optimum water content.

O. Reg. 300/14, s. 55 (1); O. Reg. 234/15, s. 22 (1).

(2) The supervisor of the construction or expansion of the permanent GNF storage facility mentioned in subsection (1) shall, if a synthetic liner is installed,

- (a) inspect the synthetic liner before backfilling the construction or covering the liner to ensure that there is no damage and that there are no perforations within the liner;
- (b) ensure that any damage or perforations discovered during the inspection are repaired according to a professional engineer's instructions; and
- (c) before the facility is used, inspect any repairs made to the liner to ensure that the integrity of the liner is maintained. O. Reg. 300/14, s. 55 (2); O. Reg. 234/15, s. 22 (2).

GNF transfer systems, design and construction

56. If this Regulation requires an agricultural operation to be subject to a GNF strategy or a GNF plan, the following rules apply in respect of GNF transfer systems used at the operation:

1. No person shall install pipe connections in the GNF transfer system unless they are installed using specifically designed gasketed fittings, such as tees, saddles, end caps and elbows, compatible with the pipe material.
2. No person shall construct or expand the GNF transfer system unless,
 - i. the system is designed and constructed or expanded in accordance with this section,
 - ii. a professional engineer designs the new or expanded system, and
 - iii. before the system is used, a professional engineer performs a general review of the construction or expansion to ensure that it complies with this section.
3. No person shall construct or expand the GNF transfer system with the pipe entering the permanent GNF storage facility unless a flexible watertight gasket or membrane has been installed between the pipe and the floor or wall of the permanent GNF storage facility to serve as an anti-seepage collar.

4. No person shall construct or expand the GNF transfer system where the elevation of the permanent GNF storage facility or portable storage tank is higher than the elevation of the GNF transfer system and where there is an opportunity for backflow to the pump or pump-out chamber unless the GNF transfer system has a primary shut-off valve and secondary shut-off valve.
5. No person shall construct or expand the GNF transfer system unless it has been designed to minimize leakage.
6. A controller of the operation in respect of which the GNF transfer system is used shall ensure that the system is maintained to minimize leakage. O. Reg. 300/14, s. 56; O. Reg. 234/15, s. 23.

GNF transfer systems, prohibited use

57. No person shall use a GNF transfer system unless, if section 56 applies, section 56 has been complied with in respect of the system.

PART VIII SAMPLING AND ANALYSIS

Categories of parameters

58. In this Part, a reference to a category of parameters that is required to be determined in respect of GNF or test solution is a reference to the parameters set out opposite the category in the following Table:

TABLE
CATEGORIES OF PARAMETERS

Item	Column 1 Category	Column 2 Parameters included in category
1.	Category 1	1. Ammonia and ammonium nitrogen. 2. Nitrate and nitrite nitrogen. 3. Total phosphorus. 4. Total potassium. 5. Total solids. 6. Boron. 7. Organic nitrogen, if the sample is GNF that is mixed with liquid agricultural source materials. 8. Regulated metals. 9. Sodium.
2.	Category 2	1. Each of the parameters set out in paragraphs 1 to 7 for Category 1. 2. Molybdenum. 3. Any regulated metal for which, in the most recent sampling and analysis of GNF or test solution required by this Regulation, the content of the regulated metal exceeded, i. the concentration in aqueous material set out opposite the regulated metal in Column 2 of Table 1, or ii. the concentration in non-aqueous material set out opposite the regulated metal in Column 3 of Table 1.

Sampling and analysis obligations, general

59. (1) A person who is required to take or analyze a sample under this Regulation shall ensure that the following rules are complied with:

1. Sampling and analysis shall be carried out in accordance with the methods specified in this Part and in the GNF Sampling and Analysis Protocol.
2. A sample of soil, test solution or GNF shall be a composite sample.
3. Any result from the testing of a soil sample shall be reported in milligrams per kilogram of total solids, calculated on a dry weight basis.
4. Any result from the testing of GNF or test solution shall be reported in milligrams per litre.
5. A sample of GNF taken in respect of an agricultural operation on a farm unit shall be,
 - i. representative of the GNF that is reasonably expected to be applied to land within the farm unit or transported from the farm unit to an agricultural operation on a different farm unit,
 - ii. agitated in accordance with the GNF Sampling and Analysis Protocol, if the GNF is reasonably expected to have a dry matter content of 1 per cent or greater, and
 - iii. taken from,
 - A. a permanent GNF storage facility used at the operation, if there is such a facility located on the farm unit, or
 - B. if there is no permanent GNF storage facility as described in sub-subparagraph A, a GNF transfer system used at the operation.
6. A sample of test solution in respect of a greenhouse operation shall be,
 - i. if possible, representative of the GNF that is reasonably expected to be applied to land within the farm unit of the operation or transported from the farm unit of the operation to an agricultural operation on a different farm unit, and

ii. taken from the closed circulation system used at the operation.

7. Despite any requirement in this Part that a minimum number of samples of GNF be taken and analyzed, if compliance with the minimum requirement would not result in sampling that is representative of the GNF, as set out in paragraph 5, additional sampling and analysis shall be carried out to ensure that the samples taken and analyzed are representative of the GNF that is reasonably expected to be transported or applied to land as set out in paragraph 5.

8. If a type of analysis described in Column 1 of the Table to this section is required, the analysis shall be performed by a laboratory described in Column 2 of the Table opposite the description of the analysis. O. Reg. 300/14, s. 59 (1); O. Reg. 234/15, s. 24.

(2) The person operating a laboratory at which analysis is performed for the purposes of this Regulation shall ensure that the analysis is performed in accordance with the GNF Sampling and Analysis Protocol.

TABLE
LABORATORIES

Item	Column 1 Type of analysis	Column 2 Laboratory to perform analysis
1.	Analysis of soil for nutrients	A laboratory that is accredited by the Ministry of Agriculture, Food and Rural Affairs for the purpose of analysis of soil for nutrients.
2.	1. Analysis of GNF or test solution for nutrients or other parameters 2. Analysis of soil for regulated metals	A laboratory that is accredited in accordance with the International Standard ISO/IEC 17025 — General Requirement for the Competence of Testing and Calibration Laboratories, dated May 12, 2005, as amended from time to time.

Greenhouse operations, GNF or test solution

60. (1) A controller of a greenhouse operation shall, if an event set out in Column 1 of the Table to this section occurs in respect of the operation, ensure that sampling and analysis is carried out to make the determinations set out opposite the event in Column 2 of the Table by applying the method set out opposite the event in Column 3 of the Table. O. Reg. 300/14, s. 60 (1); O. Reg. 234/15, s. 25 (1).

(2) Subsection (1) applies in respect of an event described in Column 1 of Item 4 only if the greenhouse operation is subject to a GNF strategy and no determinations are made in the calendar year in respect of an event described in Column 1 of Item 2 or 3 at the greenhouse operation.

TABLE
SAMPLING AND ANALYSIS FOR GREENHOUSE OPERATIONS

Item	Column 1 Event	Column 2 Determinations	Column 3 Method
1.	Preparation of GNF strategy for the greenhouse operation at a time other than at time of registration.	Concentration of each Category 1 parameter in the GNF generated at the operation.	1. Determine the average of the results from a minimum of three samples and all available samples of the GNF taken during the 12 months before the submission of the GNF strategy. 2. If none of the GNF is available during the 12 months before the submission of the GNF strategy, determine the average of the results from a minimum of three samples and all available samples of test solution taken during the 12 months before the submission of the GNF strategy.
2.	The first occurrence of one of the following events following the registration of the greenhouse operation: 1. GNF generated at the greenhouse operation is applied to land within the farm unit of the operation. 2. GNF generated at the greenhouse operation is transported from the farm unit of the operation to an agricultural operation on a different farm unit.	Concentration of each Category 1 parameter in the GNF generated at the operation.	1. Determine the average of the results from a minimum of three samples and all available samples of the GNF taken during the two months before the event date. 2. If none of the GNF is available during the two months before the event date, determine the average of the results from a minimum of three samples and all available samples of test solution taken during the two months before the event date.

3.	Renewal of registration of the greenhouse operation.	Concentration of each Category 1 parameter in the GNF generated at the operation.	1. If, in the year in which the renewal is required, there is a date on which GNF is applied to land within the farm unit of the operation or transported from the farm unit of the operation to an agricultural operation on a different farm unit, determine the average of the results from, i. a minimum of three samples and all available samples of the GNF taken during the year, at least three of which must be taken and analyzed within two months before the first of those dates, or ii. if none of the GNF is available during the two months before the first of those dates, a minimum of three samples and all available samples of test solution taken during the year, at least three of which must be taken and analyzed within two months before the first of those dates. 2. If, in the year in which the renewal is required, no GNF generated at the operation is applied to land within the farm unit of the operation or transported from the farm unit of the operation to an agricultural operation on a different farm unit, paragraph 1 applies, except for the requirement that samples be taken and analyzed within the specified two-month period.
4.	Subject to subsection (2), the first occurrence of one of the following events in a calendar year: 1. GNF generated at the greenhouse operation is applied to land within the farm unit of the operation. 2. GNF generated at the greenhouse operation is transported from the farm unit of the operation to an agricultural operation on a different farm unit.	Concentration of each Category 2 parameter in the GNF generated at the operation.	1. Determine the average of the results from a minimum of one sample and all available samples of the GNF taken during the two months before the event. 2. If none of the GNF is available during the two months before the event, determine the average of the results from a minimum of one sample and all available samples of test solution taken during the two months before the event.

O. Reg. 300/14, Table; O. Reg. 234/15, s. 25 (2-4).

Agricultural operations, GNF

61. (1) If the sampling and analysis carried out in respect of GNF under this Part does not provide results that are representative of the GNF that is to be applied to land because the GNF was subsequently mixed or because the GNF is greater than or equal to 1 per cent dry matter, a controller of the agricultural operation at which the GNF is to be applied to land shall ensure that sampling and analysis of the GNF is carried out before the land application to determine the concentration of each Category 1 parameter in the GNF.

(2) For the purposes of this section, a minimum of one sample of GNF must be taken and the average of the results from all available samples of GNF must be used.

Agricultural operations, soil

62. (1) A controller of an agricultural operation shall ensure that, as part of preparing the GNF plan, the person who prepares the GNF plan,

- (a) takes at least one sample of soil from every 40 hectares or portion thereof in each GNF application area subject to the GNF plan and has each of the samples analyzed to determine the concentration of regulated metals;
- (b) subject to subsection (2), takes at least one sample of soil from every 10 hectares or portion thereof in each GNF application area subject to the GNF plan and has each of the samples analyzed to determine the concentration of plant available phosphorus and plant available potassium; and
- (c) obtains results from the analysis mentioned in clauses (a) and (b).

(2) Despite clause (1) (b), if previous sampling and analysis in respect of the GNF application area shows that the nutrient content of the area is uniform within 15 per cent of the mean value and the crop management in the area is uniform, a minimum of one sample of soil must be taken from every 20 hectares or portion thereof in the area. O. Reg. 300/14, s. 62 (2); O. Reg. 234/15, s. 26.

(3) A controller mentioned in subsection (1) shall, in every fifth calendar year after the most recent results of sampling and analysis of the soil are obtained, ensure that the steps set out in clauses (1) (a), (b) and (c) are repeated.

O. Reg. 234/15, s. 26.

PART IX
LAND APPLICATION RATES

Application of Part

63. (1) Subject to subsection (2), this Part applies in respect of the application of GNF at an agricultural operation that is required by this Regulation to be subject to a GNF plan.

(2) Subsection 64 (1) and section 65 apply in respect of the application of GNF at an agricultural operation whether or not it is required by this Regulation to be subject to a GNF plan.

Plant available nitrogen, etc.

64. (1) Subject to subsection (2), the amount of GNF applied to the land at an agricultural operation shall not exceed 750 cubic metres per hectare in a calendar year.

(2) If an agricultural operation is subject to a GNF Plan and the total concentration in the GNF of plant available nitrogen, plant available phosphate and plant available potash, as determined in accordance with the GNF Management Protocol and the GNF Sampling and Analysis Protocol, is less than 140 milligrams per litre, the amount of GNF applied to the land at the agricultural operation shall not exceed 1500 cubic metres per hectare in a calendar year.

Restrictions, land application from October 1 to May 15

65. During the period from October 1 to May 15, the following rules apply:

1. No person shall apply more than 40 kilograms per hectare of nitrogen in GNF to land.
2. No GNF shall be applied except to,
 - i. land covered with a living crop, or
 - ii. land covered with a crop residue that has a carbon-to-nitrogen ratio of at least 50:1 and covers at least 30 per cent of the surface of the soil in the GNF application area.

Plant available phosphorus

66. (1) If the total concentration in the soil of plant available phosphorus, as determined in accordance with the GNF Sampling and Analysis Protocol, is greater than or equal to 60 milligrams per litre, no person shall apply the GNF to land if the application, when combined with any phosphate added to the soil from other nutrient sources, results in an amount of phosphate per hectare being added to the soil during any consecutive five calendar years, that exceeds the greater of the following:

1. The crop production requirements for phosphate per hectare for the five-year period plus 85 kilograms of phosphate per hectare.
2. The phosphate removed from the land per hectare in the harvested portion of the crop during the five-year period.

(2) If the total concentration in the soil of plant available phosphorus, as determined in accordance with the GNF Sampling and Analysis Protocol, is less than 60 milligrams per litre, no person shall apply the GNF to land if the application, when combined with any phosphate added to the soil from other nutrient sources, results in an amount of phosphate per hectare being added to the soil during any consecutive five calendar years, that exceeds the greater of the following:

1. The crop production requirements for phosphate per hectare for the five-year period plus 85 kilograms of phosphate per hectare.
2. The phosphate removed from the land per hectare in the harvested portion of the crop during that five-year period plus 390 kilograms of phosphate per hectare.

Plant available nitrogen

67. (1) The maximum rate of land application for GNF with reference to plant available nitrogen, as determined in accordance with the GNF Management Protocol and the GNF Sampling and Analysis Protocol, is a rate such that the plant available nitrogen in the GNF that is applied to land per hectare in a cropping year does not exceed the lesser of,

- (a) 200 kilograms per hectare; and
- (b) the greater of,
 - (i) the crop production requirements for nitrogen, plus 17 kilograms per hectare, minus plant available nitrogen supplied by other nutrient sources, and
 - (ii) the quantity of nitrogen removed from the field in the harvested portion of the crop, minus plant available nitrogen supplied by other nutrient sources.

(2) For the purposes of subsection (1), a cropping year is, subject to subsection (3), the period beginning on the day when the last crop is harvested or becomes dormant and ending on the day in the next calendar year when the last crop is harvested or becomes dormant.

(3) If, in a given year, no crops are planted or the dormancy date cannot be determined, August 31 is deemed to be the date upon which the cropping year begins or ends.

Boron

68. The maximum rate of land application for GNF with reference to boron is a rate such that, when combined with any boron added to the soil from non-agricultural source materials, the amount of boron added to the soil in any 12-month period does not exceed one kilogram of boron per hectare.

Sodium

69. The maximum rate of land application for GNF with reference to sodium is a rate such that, when combined with any sodium added to the soil from non-agricultural source materials, the amount of sodium added to the soil in any 12-month period does not exceed,

- (a) 200 kilograms per hectare, if the soil is of the hydrologic soil group A or B; and
- (b) 500 kilograms per hectare, if the soil is of the hydrologic soil group C or D.

Regulated metals

70. (1) The maximum rate of land application for GNF with reference to regulated metals is a rate such that the amount of a regulated metal in the GNF, when combined with the amount of the regulated metal in non-agricultural source materials added to the soil, does not exceed the amount set out opposite the regulated metal in Column 2 of Table 3 in any five-year period.

(2) No person shall apply CM2 GNF to land if the concentration in the soil of a regulated metal exceeds the concentration set out opposite the regulated metal in Column 3 of Table 3, unless approval to do so has been requested under subsection 28 (1) and the Director has approved the GNF plan in respect of the relevant GNF plan area. O. Reg. 300/14, s. 70 (2); O. Reg. 234/15, s. 27.

PART X
TRAINING AND QUALIFICATIONS

Nutrient management practices

71. (1) The practices set out in Column 1 of the Table to this section are prescribed as nutrient management practices.

(2) No person shall carry out a nutrient management practice set out in Column 1 of the Table to this section unless the person meets the requirements applicable to that person, if any, set out in Column 2 of the Table opposite the practice.

(3) For the purposes of the nutrient management practice of engaging in the business of applying GNF to land at an agricultural operation subject to a GNF plan, an individual may act as the authorized agent of another individual or of a corporation if the individual acting as the authorized agent has ongoing and regular involvement in the operational aspects of the business and has advised the Director, in writing, of the intention to act as the authorized agent of the principal.

(4) An individual who ceases to be a principal's authorized agent as described in subsection (3) shall, within 15 days after the change, provide written notice of the change to the Director and to the principal.

(5) For the purposes of Item 1 of the Table to this section, the training requirements shall be specified by the Director and shall consist of training with respect to the following:

1. Preparation of a GNF strategy, including agronomic and environmental considerations regarding the management of GNF that are relevant to the preparation of a GNF strategy.
2. Preparation of a GNF plan and a land application schedule, including agronomic and environmental considerations regarding the land application of GNF.
3. Rules relating to the management of GNF under the Act, including rules relating to transportation, storage, mixing and record keeping.
4. Other available resources to assist with the preparation of GNF strategies, GNF plans and land application schedules.

(6) For the purposes of Item 3 of the Table to this section, the training requirements shall be specified by the Director and shall consist of requirements for training with respect to the requirements under this Regulation that apply to independent carriers. O. Reg. 300/14, s. 71 (6); O. Reg. 234/15, s. 28 (1).

(7) For the purposes of subsections (5) and (6), the training requirements applicable to a person shall be those requirements specified by the Director and set out on a website of the Government of Ontario on the day when the person completes the training requirements.

(8) In order to act under this Regulation, a person who is required to complete training requirements under this Part shall,

- (a) provide the Director with the person's contact information at the time of completing the training requirements; and
- (b) within 30 days after any change in the person's contact information, provide the Director with updated contact information. O. Reg. 300/14, s. 71 (8); O. Reg. 234/15, s. 28 (2).

TABLE
NUTRIENT MANAGEMENT PRACTICES

Item	Column 1 Nutrient management practice	Column 2 Requirements
1.	Preparation of GNF strategy, GNF plan or land application schedule in respect of an agricultural operation	1. If the person is a controller or employee of the operation, the person shall complete the training described in subsection (5). 2. If the person is not a controller or employee of the operation, the person shall hold a certificate issued under section 100 of the general regulation and shall complete the training described in subsection (5).
2.	Engaging in the business of applying GNF to land at an agricultural operation subject to a GNF plan	1. In the case of an individual, the individual or another individual acting as the principal's authorized agent under subsection (3) shall hold a licence issued under section 105 of the general regulation. 2. In the case of a corporation, an individual acting as the principal's authorized agent under subsection (3) shall hold a licence issued under section 105 of the general regulation.
3.	Transportation of GNF	If the person is an independent carrier, the person shall complete the training described in subsection (6).

4.	Land application of GNF at an agricultural operation	1. If the person is a controller or employee of an agricultural operation located on the farm unit within which the GNF is applied to land, no training requirements apply. 2. If the person is not a controller or employee mentioned in paragraph 1, the person shall hold a licence issued under section 106 of the general regulation.
----	--	--

O. Reg. 300/14, Table; O. Reg. 234/15, s. 29.

PART XI RECORDS

Duty to keep records

72. (1) If a record set out in Column 1 of the Table to this section is required to be prepared in respect of an agricultural operation, the persons set out opposite the record in Column 2 of the Table shall keep a copy of it during the minimum period set out opposite the record in Column 3 of the Table.

(2) A controller of an agricultural operation who is required to keep a record under this section shall ensure that the records are stored,

(a) at the agricultural operation; or

(b) at another location that is accessible to a controller of the operation at all times, if it is not practical to comply with clause (a).

(3) Despite section 1 and subject to subsection (4), if this Regulation ceases to apply in respect of a person who, immediately before this Regulation ceased to apply, had an obligation to keep records under this Regulation, the person shall keep those records for at least two years after it ceases to apply.

(4) For the purposes of subsection (3), only the most recently prepared version of a GNF strategy or a GNF plan is required to be kept once this Regulation ceases to apply.

(5) A person who is required to keep records under this section shall,

(a) keep them by means of paper copies, mechanical, electronic or other devices;

(b) take adequate precautions, appropriate to the means used, to guard against the risk of falsification or alteration of the information in the records; and

(c) provide a means for making the information in the records available in an accurate and intelligible form within a reasonable time to any person lawfully entitled to examine the records.

TABLE RECORDS

Item	Column 1 Record	Column 2 Persons required to keep record	Column 3 Minimum period during which record must be kept
1.	A document prepared under paragraph 2 of subsection 9 (1) in respect of GNF being transported.	1. A controller of the agricultural operation providing the GNF. 2. A controller of the agricultural operation receiving the GNF.	Five years after the transportation of the GNF.
2.	Results provided under paragraph 5 of subsection 9 (1) in respect of GNF being transported.	A controller of the agricultural operation receiving the GNF.	Five years after the transportation of the GNF.
3.	A registration submitted under section 12.	A controller of each greenhouse operation that is subject to the registration.	Five years after the day the record was created.
4.	Results submitted under subsection 13 (1) following a registration.	A controller of the greenhouse operation that submitted the results.	Five years after the day the record was created.
5.	Updated information provided under subsection 13 (2).	A controller of each greenhouse operation that is subject to the registration.	Five years after the day the record was created.
6.	A renewal of a registration submitted under section 15.	A controller of each greenhouse operation that is subject to the registration.	Five years after the day the record was created.
7.	Updated information relating to a registration, submitted under section 16.	A controller of each greenhouse operation that is subject to the registration.	Five years after the day the record was created.
8.	A GNF document and any updated GNF document prepared under section 17.	A controller of each greenhouse operation in respect of which the document is prepared.	Five years after the day the record was created.
9.	A GNF record prepared under section 17.	A controller of each greenhouse operation in respect of which the record is prepared.	Five years after the day the record was created.
10.	A GNF strategy submitted under section 18 or 21.	A controller of each greenhouse operation that is subject to the GNF strategy.	Five years after the day the record was created.

11.	An updated GNF strategy and any record prepared as part of the review under section 22.	A controller of each greenhouse operation that is subject to the GNF strategy.	Five years after the day the record was created.
12.	A GNF plan approved under section 27.	A controller of each agricultural operation that is subject to the GNF plan.	Five years after the day the approval was issued.
13.	A GNF plan approved as amended under section 30.	A controller of each agricultural operation that is subject to the GNF plan.	Five years after the day the approval was issued.
14.	An updated GNF plan prepared under subsection 31 (2).	A controller of each agricultural operation that is subject to the GNF plan.	Five years after the day the record was created.
15.	A land application schedule prepared under section 35 .	A controller of each agricultural operation in respect of which the schedule was prepared.	Five years after the day the record was created.
16.	A record of land application prepared under section 36.	A controller of each agricultural operation in respect of which the record was prepared.	Five years after the day the record was created.
17.	A record of restricted period land application prepared under subsection 43 (5).	A controller of each agricultural operation in respect of which the record was prepared.	Five years after the day the record was created.
18.	A contingency plan prepared under subsection 46 (5).	A controller of the greenhouse operation in respect of which the record was prepared.	Two years after the day the contingency plan ceases to apply.
19.	An engineer's commitment certificate under clause 53 (a) in respect of a permanent GNF storage facility	A controller of the agricultural operation in respect of which the permanent GNF storage facility is constructed or expanded.	Five years after the day the permanent GNF storage facility is no longer used to store GNF.
20.	Test results provided to the controller of an agricultural operation by a laboratory with respect to sampling carried out under Part VIII.	A controller of the agricultural operation in respect of which the test results relate.	Five years after the day the record was created.

O. Reg. 234/15, s. 29.

Copy of licences and certificates

73. In order to act under this Regulation, a person who is required to hold a certificate or licence, other than a professional engineer or a professional geoscientist, shall keep a copy of it at the location of the person's operation or business.

PART XII (OMITTED)

74. OMITTED (PROVIDES FOR AMENDMENTS TO THIS REGULATION).

75. OMITTED (PROVIDES FOR COMING INTO FORCE OF PROVISIONS OF THIS REGULATION).

TABLE 1
REGULATED METAL CONTENT OF CM1 GNF

Item	Column 1 Regulated metal	Column 2 Concentration in aqueous material (containing less than 1 per cent total solids, wet weight), expressed as milligrams per litre	Column 3 Concentration in non-aqueous material (containing 1 per cent or more total solids, wet weight), expressed as milligrams per kilogram of total solids, dry weight
1.	Arsenic	0.13	13
2.	Cadmium	0.03	3
3.	Cobalt	0.34	34
4.	Chromium	2.1	210
5.	Copper	1.0	100
6.	Lead	1.5	150
7.	Mercury	0.008	0.8
8.	Molybdenum	0.05	5
9.	Nickel	0.62	62
10.	Selenium	0.02	2
11.	Zinc	5.0	500

TABLE 2
REGULATED METAL CONTENT OF CM2 GNF

Item	Column 1 Regulated metal	Column 2 Concentration in aqueous material (containing less than 1 per cent total solids, wet weight), expressed as milligrams per litre	Column 3 Concentration in non-aqueous material (containing 1 per cent or more total solids, wet weight), expressed as milligrams per kilogram of total solids, dry weight
1.	Arsenic	1.7	170
2.	Cadmium	0.34	34
3.	Cobalt	3.4	340
4.	Chromium	28.0	2,800
5.	Copper	17.0	1,700
6.	Lead	11.0	1,100
7.	Mercury	0.11	11
8.	Molybdenum	0.94	94
9.	Nickel	4.2	420
10.	Selenium	0.34	34
11.	Zinc	42.0	4,200

TABLE 3
REGULATED METAL CONTENT (SEE SUBSECTION 28 (1) AND SECTION 70)

Item	Column 1 Regulated metal	Column 2 Amount in GNF and in non-agricultural source materials added to soil (in kilograms of regulated metal per hectare per five years)	Column 3 Concentration in soil (in milligrams per kilogram of soil, dry weight)
1.	Arsenic	1.4	14
2.	Cadmium	0.27	1.6
3.	Cobalt	2.7	20
4.	Chromium	23.3	120
5.	Copper	13.6	100
6.	Lead	9	60
7.	Mercury	0.09	0.5
8.	Molybdenum	0.8	4
9.	Nickel	3.56	32
10.	Selenium	0.27	1.6
11.	Zinc	33	220

[Français](#)