

2021 Amendments to
Technical Rules: Assessment Report

Clean Water Act, 2006



November 20, 2008

Amended on:

December 12, 2008 (administrative amendments)

November 16, 2009 (EBRO 010-7573)

December 2, 2013 (Technical Bulletin, EBRO 011-2168)

March 2017 (EBRO 012-8507)

December 2021 (EBRO 019-2219)

Notes:

This document has been prepared to help interested parties understand where changes have been made to the Director's Technical Rules. The amendments are highlighted in yellow and show changes made in comparison to the **March 2017 version. All other changes are tracked using footnotes.**

Technical Rules: Assessment Report
Clean Water Act, 2006

Table of Contents

PART I - GENERAL.....	1
Part I.1 - Definitions	1
Part I.2 - Assessment Report Contents	9
Watershed Characterization	9
Water budget.....	9
Vulnerable area delineation	10
Drinking water issues.....	10
Drinking water threats.....	10
Significant, moderate or low drinking water threats	11
Minimum information	11
Part I.3 - General	14
Method and models.....	14
No assessment of risk management measures	14
Map standards	14
Part I.4 - Uncertainty analysis	14
Part I.5 – Alternate Methods or Approaches.....	16
Part I.6 – Climate Consideration - Water quality	16
PART II – WATERSHED CHARACTERIZATION.....	17
PART III – WATER BUDGET	21
Part III.1 - Conceptual Water Budget.....	21
Part III.2 – Subwatershed water budgets	22
Part III.3 – Subwatershed stress levels – Tier One Water Budget	24
Part III.4 – Subwatershed stress levels – Tier Two Water Budgets	27
Uncertainty analysis.....	30
PART IV – GROUNDWATER VULNERABILITY ASSESSMENT	32
Part IV.1 - Vulnerability Assessment and Delineation, Groundwater	32

Vulnerability increase, transport pathways.....	33
PART V – DELINEATION OF VULNERABLE AREAS: HIGHLY VULNERABLE AQUIFERS, SIGNIFICANT GROUNDWATER RECHARGE AREAS AND WELLHEAD PROTECTION AREAS..	34
Part V.1 - Delineation of highly vulnerable aquifers.....	34
Part V.2 - Delineation of significant groundwater recharge areas	34
Part V.3 - Delineation of wellhead protection areas, type I systems	35
Part V.4 - Delineation of wellhead protection areas, type II and III systems	37
Part V.5 – Delineation of WHPA-Q1 or WHPA-Q2	38
PART VI – DELINEATION OF VULNERABLE AREAS: SURFACE WATER INTAKE PROTECTION ZONES.....	39
Part VI.1 – General	39
Classification of intakes.....	39
Identification of surface water bodies.....	39
Part VI.2 - Area of surface water intake protection zones	40
Part VI.3 - Delineation of IPZ-1	41
Part VI.4 - Delineation of IPZ-2	42
Part VI.5 - Delineation of IPZ-3	43
Part VI.6 - Transport Pathways and Natural Surface Water Features	44
Part VI.7 - Delineation of IPZ-Q.....	45
Part VI.8 - Delineation of IPZ-ICA	45
PART VII – VULNERABILITY: HIGHLY VULNERABLE AQUIFERS AND WELLHEAD PROTECTION AREAS.....	46
Part VII.1 - Highly vulnerable aquifers	46
Part VII.2 - Removed	46
Part VII.3 - Wellhead protection areas	46
PART VIII – VULNERABILITY: SURFACE WATER INTAKE PROTECTION ZONES	48

Part VIII.1 - Vulnerability scores.....	48
Part VIII.2 - Area vulnerability factor	48
Part VIII.3 - Source vulnerability factor.....	49
PART IX – TIER THREE WATER BUDGETS (RISK LEVEL ASSIGNMENT TO LOCAL AREAS)	51
Part IX.1 Local Area, Evaluation of Scenarios	51
Part IX.2 Assignment of Risk Level	52
Part IX.3 Uncertainty and Sensitivity Analysis:	54
EXPLANATORY NOTES ON TABLE 4A AND 4B	60
PART X – DRINKING WATER THREATS: WATER QUANTITY	62
Part X.1 – Listing of drinking water threats	62
Part X.2 – Listing of significant and moderate drinking water threats.....	62
PART XI – DRINKING WATER THREATS: WATER QUALITY	66
Part XI.1 - Describing drinking water issues.....	66
Part XI.2 - Listing drinking water threats - Activities	68
Activities prescribed to be drinking water threats	68
Other activities.....	68
Part XI.3 - Listing drinking water threats - Conditions.....	70
Listing Conditions that result from past activities	70
Part XI.4 - Identifying areas for significant, moderate and low drinking water threats - Activities.....	71
Significant drinking water threats.....	71
Moderate drinking water threats	73
Low drinking water threats.....	74
Part XI.5 - Identifying areas for significant, moderate and low drinking water threats - Conditions	75
Identifying areas for significant conditions.....	75
Identifying areas for moderate conditions	76
Identifying areas for low conditions	77

PART XII – TABLES OF DRINKING WATER QUALITY THREATS 78

Part XII.1 Glossary 78

Part XII.2 Prescribed Threats Categories, Sub-Categories and Circumstances 86

1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act.	87
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.	104
3. The application of agricultural source material to land.	122
4. The storage of agricultural source material.	125
5. The management of agricultural source material.	129
6. The application of non-agricultural source material to land.	130
7. The handling and storage of non-agricultural source material.	133
8. The application of commercial fertilizer to land.	137
9. The handling and storage of commercial fertilizer to land.	140
10. The application of pesticide to land.	141
11. The handling and storage of pesticide.	142
12. The application of road salt.	143
13. The handling and storage of road salt.	145
14. The storage of snow.	148
15. The handling and storage of fuel.	150
16. The handling and storage of a dense non-aqueous phase liquid.	153
17. The handling and storage of an organic solvent.	154
18. The management of runoff that contains chemicals used in the de-icing of aircraft.	157
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.	158
22. The establishment and operation of a liquid hydrocarbon pipeline. O. Reg. 385/08, s. 3; O. Reg. 206/18, s. 1.	161

Clean Water Act, 2006
Technical Rules: Assessment Reports

Part I - General

Part I.1 - Definitions

1. In these rules,¹

(1) the following definitions apply:

“Act” means the *Clean Water Act, 2006*;

“agricultural managed land” means managed land that is used for agricultural production purposes including areas of cropland, fallow land and improved pasture where agricultural source material (ASM), commercial fertilizer or non-agricultural source material (NASM) is applied or may be applied;

“agricultural source material” has the same meaning as in section 1 of O. Reg. 276/03 (General) made under the *Nutrient Management Act, 2002*;

“allocated quantity of water” means, in respect of an existing surface water intake or an existing well, the existing demand of the intake or well plus any additional quantity of water that would have to be taken by the intake or well to meet its committed demand, up to the maximum quantity of water that can lawfully be taken by the intake or well.

“committed demand” means a quantity of water, greater than the existing demand, that is necessary to meet the needs of the approved settlement area within an official plan.

“cone of influence” means,

(a) in respect of one or more wells that draw water from an unconfined aquifer, the area within the depression created in the water table when the wells are pumped at a rate equivalent to their allocated quantity of water; and

¹ Where Ministry of Environment or Ministry of Environment and Climate Change is used in the rules, it refers to same authority as Ministry of Environment, Conservations and Parks.

(b) in respect of one or more wells that draw water from a confined or semi-confined aquifer, the area within the depression created in the potentiometric surface when the wells are pumped at a rate equivalent to their allocated quantity of water;

“connecting channel” means the St. Lawrence River, St. Mary’s River, St. Clair River, Detroit River, Niagara River and the Welland Canal;

“Conservation Authority Regulation Limit” means the areas delineated in accordance with O. Reg. 97/04 (Content of Conservation Authority Regulations Under Subsection 28(1) of the *Conservation Authorities Act: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*) for the purpose of describing the areas where development is prohibited unless a person obtains a permission under section 28 of the Act;

“consumptive activity” means an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body;

“Director” means a director appointed for the purpose of section 107 of the Act;

“drinking water” has the same meaning as in the *Safe Drinking Water Act, 2002*;

“existing demand” means the quantity of water determined to be currently taken from an existing surface water intake or an existing well during the study period.

“extreme event” means,

- (a) a period of heavy precipitation or winds up to a 100 year storm event;
- (b) a freshet; or
- (c) a surface water body exceeding its high water mark;

“farm unit” has the same meaning as in section 1 of O. Reg. 267/03 (General) made under the *Nutrient Management Act, 2002*;

“future development” means the development of an area in accordance with the official plans applicable to the area to an extent that would have the most

significant impact on the quality of water used for drinking water purposes and the quantity of water available from sources of drinking water;

“geographic information system” means a computer-based system that has the capability to input, store, retrieve, manipulate, analyze, and output geographically referenced data;

“Great Lakes agreement” means an agreement to which subsection 14(1) of the Act applies;

“land cover” means the physical and biological cover on the land, including vegetation and anthropogenic features;

“local area” means,

(a) in respect of a surface water intake, the drainage area that contributes surface water to the intake and the area that provides recharge to an aquifer that contributes groundwater discharge to the drainage area; and

(b) in respect of a well, the area that is created by combining all of the following areas:

(i) the cone of influence of the well;

(ii) the cones of influence resulting from other water takings where those cones of influence intersect that of the well;

(iii) the areas outside the combined cones of influence where a future reduction in recharge would have a measurable impact on the wells; and

(iv) the surface water drainage area upstream of, and including, a losing reach of a stream that contributes a significant proportion of surface water to the wells.

“managed land” means land to which agricultural source material, commercial fertilizer, non-agricultural source material, or processed organic waste is applied, excluding compost that meets the requirements for

Categories “AA”, “A”, and “B” compost in Part II of the Compost Standards;²

“non-agricultural source material” has the same meaning as in section 1 of O. Reg. 276/03 (General) made under the *Nutrient Management Act, 2002*;

“nutrient unit” has the same meaning as in section 1 of O. Reg. 267/03 (General) made under the *Nutrient Management Act, 2002*;

“Nutrient Management Protocol” has the same meaning as in section 1 of O. Reg. 267/03 (General), made under the *Nutrient Management Act, 2002*;

“official plan” means an official plan prepared in accordance with part III of the *Planning Act*;

“Ontario Drinking Water Quality Standards” means O. Reg. 169/03 (Ontario Drinking Water Quality Standards) made under the *Safe Drinking Water Act, 2002*;

“planned demand” means a specific quantity of water that is required to meet the projected growth identified within a master plan or class environmental assessment but is not already linked to growth within an official plan.

“planned quantity of water” means,

(a) in respect of an existing surface water intake or existing well, any amount of water that meets the definition of a planned system in O. Reg. 287/07 and any amount of water that is needed to meet a committed demand above the maximum quantity of water that can lawfully be taken by the intake or well.

(b) in respect of a new planned surface water intake or planned well, any amount of water that meets the definition of a planned system in O. Reg. 287/07.

“Regulation Limit” Removed and replaced with “Conservation Authority Regulation Limit”;

“river” includes a creek, stream, brook and any similar watercourse but does not include a connecting channel;

“Soil, Ground Water and Sediment Standards” means the drinking water component of those standards (which assists in determining whether a

² Amended in December 2021

ground water supply is a suitable source of drinking water and is referred to as “GW1” or “S-GW1”), as described in the Ministry of the Environment and Climate Change publication entitled “Rationale For The Development of Soil and Groundwater Standards for Use at Contaminated Sites in Ontario” under “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the *Environmental Protection Act*” dated April 15, 2011, or as amended from time to time;³

“study year” Deleted

“study period” means the period during which data is available in relation to the current, representative water demand of an existing drinking water system;

“subwatershed” means an area that is drained by a tributary or some defined portion of a stream;

“surface soil” means soil that is no more than 1.5 metres beneath the soil surface but does not include soil beneath any non-soil surface treatment including asphalt, concrete or aggregate;

“Tables of Drinking Water Threats” means the Ministry of the Environment publication “Table of Drinking Water Threats: *Clean Water Act, 2006*” dated December 12, 2008, as amended from time to time as set out in Part XII of these rules;

“Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines” means the Ministry of the Environment publication of that name dated June 2003 as amended June 2006;

“ten year drought period” means the continuous ten year period for which precipitation records exist with the lowest mean annual precipitation;

“Tier One” in respect of a water budget means a water budget developed using a geographical information system or equivalent to assess groundwater flows and levels, surface water flows and levels, and the interactions between them;

“Tier Two” in respect of a water budget means a water budget developed using computer based three dimensional groundwater flow models and computer based continuous surface water flow models to assess groundwater

³ Amended in March 2017

flows and levels, surface water flows and levels, and the interactions between them;

“Tier Three” in respect of a water budget means a water budget developed using computer based three dimensional groundwater flow models and computer based continuous surface water flow models to assess groundwater flows and levels, surface water flows and levels, and the interactions between them, and that includes consideration of the following circumstances:

- (a) current and future land cover within the area;
- (b) hydraulic flow controls within the area;
- (c) water taken by the surface water intakes and wells related to the area;
- (d) other uses of water within and downstream of the area;
- (e) steady and transient states in groundwater;
- (f) drought conditions;
- (g) the average daily supply and demand for surface water within the area; and
- (h) average monthly supply and average monthly demand for groundwater within the area;

“time of travel” means,

- (a) in respect of groundwater, the length of time that is required for groundwater to travel a specified horizontal distance in the saturated zone; and
- (b) in respect of surface water, the length of time that is required for surface water to travel a specified distance within a surface water body;

“transport pathway” in respect of an intake protection zone means works or any other thing that reduces the time it takes for a contaminant to reach a

surface water intake and may include storm sewers, discharge pipes, utility trenches, ditches, swales, drainage works or any other types of drains;⁴

“total impervious surface area” in respect of subrule 16 (11) means the surface area of all highways and other impervious land surfaces used for vehicular traffic and parking, and all pedestrian paths;⁵

“two year or greater drought period” means,

(a) in relation to an assessment of surface water quantity, the continuous period, consisting of at least two years, for which precipitation records exist with the lowest mean annual precipitation, or

(b) in relation to an assessment of groundwater quantity, a simulated period, consisting of at least two years with no groundwater recharge;

“type I system” means a drinking water system described in subclause 15(2)(e)(i) of the Act;

“type II system” means a drinking water system described in subclause 15(2)(e)(ii) of the Act;

“type III system” means a drinking water system described in subclause 15(2)(e)(iii) of the Act; and

“water taking” has the same meaning as in the *Ontario Water Resources Act*;

(2) the following equation shall be used where these rules require the calculation of a percent water demand in relation to groundwater:

$$\% \text{ Water Demand (Groundwater)} = \frac{\text{QDEMAND}}{\text{QSUPPLY} - \text{QRESERVE}} \times 100;$$

QDEMAND - Definition: Groundwater Consumptive Use; Calculation: Groundwater consumptive use is calculated as the portion of estimated average annual and monthly rate of groundwater takings in a subwatershed that is not returned to the aquifer that is the source of the water taking;

⁴ Amended in March 2017

⁵ Amended in March 2017

QSUPPLY – Definition: Groundwater Supply; Calculation: Groundwater supply is calculated as the groundwater recharge plus the groundwater inflow into a subwatershed. Recharge can be estimated by multiplying the average subwatershed recharge rate by the area of a subwatershed.

QRESERVE - Definition: Groundwater Reserve; Calculation: Groundwater reserve is calculated as 10% of the estimated average annual groundwater discharge rate, if available, or if such information is not available to make such a calculation, 10% of the estimated annual groundwater supply (Q SUPPLY);

(3) the following equation shall be used where these rules require the calculation of a percent water demand in relation to surface water:

$$\begin{array}{l} \% \text{ Water Demand} \\ \text{(Surface water)} \end{array} = \frac{\text{QDEMAND}}{\text{QSUPPLY} - \text{QRESERVE}} \times 100.$$

QDEMAND - Definition: Surface Water Consumptive Use; Calculation: Surface Water Consumptive Use is calculated as the portion of estimated monthly surface water takings in a subwatershed that is not returned to the surface water body that is the source of the water taking;

QSUPPLY - Definition: Surface Water Supply; Calculation: Monthly surface water supply is calculated by determining the monthly median flow of a surface water body. Where median flow conditions cannot be determined, best available monthly baseflow measurements or estimates should be used;

QRESERVE - Definition: Surface Water Reserve; Calculation: Surface water reserve is calculated by determining the lower decile stream flow (Qp90) on a monthly basis. The lower decile stream flow is the stream flow value that is exceeded 90% of the time. Where measured or modeled stream flow data is not available, an equivalent method may be used.

(4) Where these rules refer to the “high water mark” of a surface water body,
a) the “high water mark” shall be determined in accordance with the method described in the document entitled “Fish Habitat & Determining the High Water Mark on Lakes”, Fact Sheet T-6, published in 2005 by Fisheries and Oceans Canada, as it may be amended from time to time; or

b) in circumstances where there is insufficient data on the water levels or elevations of a surface water body to use the method described in Fact Sheet T-6 to determine the high water mark, a method that is substantially equivalent to the method described in the Fact Sheet shall be used to establish the high water mark for that surface water body.⁶

(5) If a source protection authority is undertaking work in relation to an amendment to the assessment report portion of a source protection plan, a reference in these rules to “source protection committee” shall be read as the “source protection authority”.⁷

Part I.2 - Assessment Report Contents

Watershed Characterization

2. The watershed shall be described for the purposes of paragraph 1 of subsection 13(1) of O. Reg. 287/07 (General) in accordance with Part II.

Water budget

3. Subject to rule 4, a water budget set out for the purpose of clause 15(2)(c) of the Act shall be completed as follows:

(1) prepare a conceptual water budget for every watershed in accordance with Part III.1; and

(2) prepare a water budget for every subwatershed in the source protection area in accordance with Part III.2.

4. An area represented by a conceptual water budget or water budget prepared in accordance with rule 3 shall not include any part of a surface water body that is a Great Lake, a connecting channel, Lake Simcoe, Lake Nipissing, Lake St. Clair or the Ottawa River.

⁶ Amended in March 2017

Under the method described in Fact Sheet T-6, the high water mark (“HWM”) for a surface water body is calculated as the 80th percentile elevation for the month in which the highest annual water level occurs. For Great Lakes and Connecting Channels, the 80 percentile has been determined by Department of Fisheries and Oceans Canada (DFO) and those elevations are indicated in Fact Sheet T-6.

For inland rivers and streams, where the 80th percentile is not available or the length of records of water levels is not sufficient to calculate the HWM, the HWM would be equivalent to the “bank full level” for the river or stream (the water level at which a stream or river is at the top of its banks without flooding which corresponds to 1.5 -2 years flood event) or its “active channel” (sometimes referred to as the “ordinary high water mark”).

For inland lakes where the 80th percentile is not available or the length of records of water levels is not sufficient to calculate the HWM, the HWM would be determined as the mark where the lake is frequently flooded and leaves a mark on the land. For inland “regulated rivers” (the levels of rivers are regulated by hydraulic structures such as dams) the HWM is determined as the normal high operating water levels of the hydraulic structures.

For any other circumstances where the HWM elevations are not available and not addressed in this footnote, another method may be used that is substantially equivalent to the method described herein.

⁷ Amended in March 2017

Vulnerable area delineation

5. The identification of vulnerable areas for the purposes of clauses 15(2)(d) and 15(2)(e) of the Act shall be completed as follows:

- (1) prepare a qualitative description of the physical geology and hydrodynamic settings across the source protection area, including information to support the delineation of significant groundwater recharge areas, highly vulnerable aquifers and wellhead protection areas;
- (2) assess and delineate areas of groundwater vulnerability in accordance with Part IV;
- (3) delineate highly vulnerable aquifers, significant groundwater recharge areas and wellhead protection areas in accordance with Part V; and
- (4) delineate surface water intake protection zones in accordance with Part VI.

Drinking water issues

6. The description of drinking water issues for the purpose of clause 15(2)(f) of the Act shall be completed in accordance with Part XI.1.

Drinking water threats

7. The listing of drinking water threats for each vulnerable area for the purpose of clause 15(2)(g) of the Act shall be completed as follows:

- (1) For every local area for which Part III.2 requires a water budget to be prepared, assign a risk level associated to the area in accordance with Part IX.
- (2) List those activities that are determined to be activities that are or would be drinking water threats in relation to water quantity in accordance with Part X.1.
- (3) List those activities that are determined to be activities that are or would be drinking water threats in relation to water quality in accordance with Part XI.2.
- (4) List those conditions that result from past activities that are determined to be drinking water threats in relation to water quality in accordance with Part XI.3.

Significant, moderate or low drinking water threats

8. The identification of the areas within vulnerable areas where an activity is or would be a significant, moderate or low drinking water threat for the purpose of subclause 15(2)(h)(i) of the Act and subparagraphs 2i and 2ii of subsection 13(1) of O. Reg. 287/07 (General) and where a condition that results from past activities is a significant, moderate or low drinking water threat for the purpose of subclause 15(2)(h)(ii) and subparagraphs 2iii and 2iv of subsection 13(1) of O. Reg. 287/07 (General) shall be completed as follows:

- (1) Assign vulnerability scores to highly vulnerable aquifers and wellhead protection areas in accordance with Part VII.⁸
- (2) Assign vulnerability scores to surface water intake protection zones in accordance with Part VIII.
- (3) Identify those areas where activities listed as drinking water threats in relation to water quantity in accordance with Part X.1 are or would be significant or moderate drinking water threats in accordance with Part X.2.
- (4) Identify those areas where activities listed as drinking water threats in relation to water quality in accordance with Part XI.2 are or would be significant, moderate or low drinking water threats in accordance with Part XI.4.
- (5) Identify those areas where conditions that result from past activities and that are listed as drinking water threats in accordance with Part XI.3 are significant, moderate or low drinking water threats in accordance with Part XI.5.

Minimum information

9. An assessment report shall include the following:
 - (1) One or more maps, graphics or tables detailing the following:
 - (a) The elements required to be included in a characterization of a watershed in accordance with Part II.
 - (b) The component elements of the water budget for the source protection area that are listed in rule 19.
 - (c) The location or distribution of the following within the source protection area:

⁸ Amended in December 2021.

- (i) Areas of groundwater vulnerability determined in accordance with Part IV.1.
 - (ii) Vulnerable areas delineated in accordance with Parts V and VI.
 - (iii) Drinking water systems and their related surface water intake protection zones and wellhead protection areas.
 - (iv) Vulnerability scores for areas within vulnerable areas assigned in accordance with Part VII and VIII.
 - (v) Subwatersheds delineated and stress levels assigned to subwatersheds in accordance with Part III.3 and Part III.4.
 - (vi) Risk levels assigned to local areas in accordance with Part IX.1.
 - (vii) Removed.
 - (viii) Source vulnerability factors and area vulnerability factors for areas within surface water intake protection zones.
 - (ix) Areas determined in accordance with Parts X and XI.4 to be areas within vulnerable areas where activities listed as drinking water threats in accordance with Parts X and XI.2 are or would be significant, moderate or low drinking water threats.
 - (x) Areas determined in accordance with Part XI.5 to be areas within vulnerable areas where conditions resulting from past activities listed as drinking water threats in accordance with Part XI.3 are significant, moderate or low drinking water threats.
 - (xi) Areas within a vulnerable area where drinking water threats listed in accordance with rule 118 or 119 may contribute to a parameter or pathogen associated with a drinking water issue described in accordance with rule 114.
 - (xii) Drinking water issues and the related information described in rules 114 and 115.
- (d) Activities that are or would be and conditions resulting from past activities that are drinking water threats and their respective hazard rating provided by the Director if one is required to be determined in accordance with rule 120, 121, or 139.

- (e) The number of locations at which an activity that is a significant drinking water threat is being engaged in.
 - (f) The number of locations at which a condition resulting from a past activity is a significant drinking water threat.
- (2) A written description of the work undertaken in accordance with these rules including,
- (a) information sources for data used in the assessment report and the purposes for which information was used,⁹
 - (b) methods of analysis applied to the data,
 - (c) any limitations in respect of (a) and (b),
 - (d) the component elements of the water budget for the source protection area that are listed in Part III.1 and the interrelationships between those elements,
 - (e) with respect to the assessment of the climate of the source protection area undertaken in accordance with Part III.1, the effects that projected changes in the climate over the following 25 years will have on the conclusions reached in the assessment report and a list of the information sources underlying those projected changes,
 - (f) a description of every uncertainty analysis conducted in accordance with these rules and the results of that analysis, and
 - (g) a description of how the Great Lakes agreements were considered in the work undertaken, if the source protection area contains water that flows into the Great Lakes or the St. Lawrence River.
- (3) Tables listing with respect to the source protection area:
- (a) The quality of groundwater and surface water across the area.
 - (b) The results of every calculation, assessment and assignment required by Parts III.3, III.4 and IX.
 - (c) Conditions resulting from past activities that are drinking water threats.

⁹ Amended in December 2021.

- (d) Stress levels assigned to subwatersheds and risk levels assigned to local areas.

Part I.3 - General

Method and models

10. A method or model used in the assessment report shall be representative of the area or thing under study.¹⁰

No assessment of risk management measures

11. Where these rules provide for or require an assessment of risk for the purpose of listing a drinking water threat in accordance with clause 15(2)(g) of the Act or for the purpose of identifying an area where a drinking water threat may be a significant, moderate or low drinking water threat in accordance with 15(2)(h) of the Act and subsection 13(1) of O. Reg. 287/07 (General), the assessment does not and shall not include consideration of any risk management measures.

Map standards

12. Maps submitted in an assessment report shall,
- (1) include a title, scale bar and a compass rose indicating north;
 - (2) include a legend using symbols in accordance with the Ministry of Natural Resources publication “Mapping Symbology for the *Clean Water Act*”, dated November 2008, as amended from time to time; and
 - (3) be uncluttered and have such large and clear typeface and symbols that they remain legible upon being reduced to one half of their original size.

Part I.4 - Uncertainty analysis¹¹

13. An analysis of the uncertainty, characterized by “high” or “low” shall be made in respect of the following:

- (1) The assessment of the vulnerability of groundwater throughout the area undertaken in accordance with Part IV.

¹⁰ Amended in December 2021

¹¹ Amended in December 2021

(2) The delineation of highly vulnerable aquifers, significant groundwater recharge areas and wellhead protection areas undertaken in accordance with Part V.

(3) The delineation of surface water intake protection zones undertaken in accordance with Part VI.

(4) The assessment of the vulnerability of surface water intake protection zones undertaken in accordance with Part VIII.

(5) The assessment of the vulnerability of highly vulnerable aquifers and wellhead protection areas undertaken in accordance with Part VII.¹²

14. The following factors shall be considered in an analysis conducted for the purpose of rule 13:

(1) The distribution, variability, quality and relevance of data used in the assessment report.¹³

(2) The ability of the methods and models used to accurately reflect the flow processes in the hydrological system.

(3) The quality assurance and quality control procedures applied.

(4) The extent and level of calibration and validation achieved for models used or calculations or general assessments completed.

(5) For the purpose of subrule 13(1), the accuracy to which the groundwater vulnerability categories effectively assess the relative vulnerability of the underlying hydrogeological features.

(6) For the purpose of subrule 13(4), the accuracy to which the area vulnerability factor and the source vulnerability factor effectively assesses the relative vulnerability of the hydrological features.

15. An uncertainty factor of “high” or “low” shall be assigned to each vulnerable area delineated based on the results of the analysis conducted under rule 13.

¹² Amended in December 2021

¹³ Amended in December 2021

Part I.5 – Alternate Methods or Approaches

15.1 Despite any provision of these rules, with the written consent of the Director, a source protection committee may use an alternate method or approach in the assessment report for gathering information or for performing a task that departs from the method or approach prescribed in these rules by including the following information in the assessment report:¹⁴

- (1) the rule that is being departed from;
- (2) a rationale for the departure;
- (3) an explanation of how the method or approach to gather information or perform the task is equivalent to or better than the approach or method prescribed in these rules.

15.2 For greater certainty, section 15.1 does not relieve the source protection committee from ensuring that an assessment report is made in accordance with an applicable requirement in the Act, the regulations or the terms of reference.¹⁵

Part I.6 – Climate Consideration - Water quality

15.3 If an assessment report includes a climate change risk assessment in relation to a wellhead protection area or intake protection zone delineated in the assessment report, the following shall be included in the assessment report,¹⁶

- (1) An explanation of why specified climate data sets were used as the basis for the climate change impact assessment;
- (2) A summary of the findings of the climate change impact assessment;
- (3) A description of the approach used to evaluate the vulnerability of a drinking water system to climate impacts identified in the climate change impact assessment; and
- (4) An explanation of the results of the evaluation under subrule (3), including whether the evaluation concluded that the drinking water system is resilient to the climate impacts identified in the climate change impact assessment.

¹⁴ Amended in December 2021

¹⁵ Amended in December 2021

¹⁶ Amended in December 2021

Part II – Watershed Characterization

16. The following shall be included in a characterization of a watershed, where the information is available:

- (1) The boundaries of the watershed.
- (2) The following areas within the watershed:
 - (a) Subwatersheds.
 - (b) Areas of settlement, as defined in the *Places to Grow Act, 2005*.
 - (c) Municipal boundaries, and their population and population density.
 - (d) Reserves as defined in the *Indian Act (Canada)*, and their population and population density.
 - (e) Federal lands.
- (3) With respect to drinking water systems,
 - (a) the location and area served by a system,
 - (b) the classification of the system into the following classifications as defined by O. Reg. 170/03 (Drinking Water Systems) made under the *Safe Drinking Water Act, 2002*:
 - (i) Large municipal residential system.
 - (ii) Small municipal residential system.
 - (iii) Large municipal non-residential system.
 - (iv) Small municipal non-residential system.
 - (v) Non-municipal year-round residential system.
 - (vi) Non-municipal seasonal residential system.
 - (vii) Large non-municipal non-residential system.
 - (viii) Small non-municipal non-residential system.
 - (c) the number of users served by the system,
 - (d) the location of surface water intakes and wells that are part of the system, and their average annual and average monthly pumping rates, and

- (e) the monitoring **locations** related to the system.¹⁷
- (4) The location and types of natural vegetative cover, including wetlands, woodlands and vegetated riparian areas, and the percentage of land coverage of each type.
- (5) The location and types of aquatic habitats, including cold water, mixed, and warm water fisheries, and macroinvertebrate communities.
- (6) A comparison of the communities described in clause (5) to similar communities not impacted by anthropogenic factors.
- (7) A description of Species within the source protection area that are on the Species at Risk in Ontario List as defined in the *Endangered Species Act, 2007*, if the source protection committee is of the opinion that the watershed characterization should include a discussion for the purposes of informing the public about species at risk in the source protection area.
- (8) Surface water quality and groundwater quality across watersheds.
- (9) One or more maps of the percentage of managed lands within,
Removed;¹⁸
- (a) a highly vulnerable aquifer;
- (b) each of the following areas within a vulnerable area:
- (i) WHPA-A.
 - (ii) WHPA-B.
 - (iii) WHPA-C.
 - (iv) WHPA-C1, if any.
 - (v) WHPA-D.
 - (vi) WHPA-E.
 - (vii) IPZ-1.
 - (viii) IPZ-2.
 - (ix) IPZ-3, if any;

¹⁷ Amended in December 2021

¹⁸ Amended in December 2021

(x) IPZ-ICA, if any.

(xi) WHPA-ICA, if any.¹⁹

If two or more areas in an area referred to in clause (a) and (b) have different vulnerability scores, the percentage of managed land may be determined for each of those areas. Mapping the percentage of managed lands is not required for any area in an area mentioned in clause (a) and (b) where the vulnerability scores for that area are less than those necessary for the following activities to be considered a significant, moderate or low drinking water threat in the Table of Drinking Water Threats: the application of agricultural source material to land, the application of non-agricultural source material to land and the application of commercial fertilizer to land. Each map prepared in accordance with this subrule shall be labelled the "managed land map".²⁰

(10) One or more maps of livestock density for each area referred to in subrule (9). Livestock density shall be determined by dividing the nutrient units generated in each area by the number of acres of agricultural managed land in that area where agricultural source material is applied. If two or more areas in an area referred to in subrule (9) (a) and (b) have different vulnerability scores, the livestock density may be determined for each of those areas. Mapping livestock density is not required for any area in an area mentioned in clause (9) (a) and (b) where the vulnerability scores for that area are less than those necessary for the following activities to be considered a significant, moderate or low drinking water threat in the Table of Drinking Water Threats: the application of agricultural source material to land, the application of non-agricultural source material to land and the application of commercial fertilizer to land. Each map prepared in accordance with this subrule shall be labelled the "livestock density map".²¹

(11) For every highly vulnerable aquifer or each area of a wellhead protection area and intake protection zone identified in clause 9 (b), one or more maps showing the percentage of impervious surface areas where road salt application in those areas is or would be a significant, moderate or low threat as determined in accordance with the Table of Drinking Water Threats. Where an area identified in clause 9 (b) has two or more vulnerability scores, the percentage of impervious surface area may be determined for each sub-area with the same vulnerability

¹⁹ Introduced in December 2021. With regard to IPZ-ICA and WHPA-ICA in this subrule, one or more maps of the percentage of managed lands / live stock density or percentages of impervious surface areas is required where the drinking water issue identified for IPZ-ICA or WHPA-ICA is a contributing parameter of the drinking water threats activities listed in subrule (9).

²⁰ Amended in December 2021

²¹ Amended in December 2021

score. Each map prepared in accordance with this subrule shall be labelled the “total impervious surface area map”.²²

17. Removed.²³

18. Parameters used to assess the quality of groundwater and surface water across the watershed shall be selected with consideration given to the natural features and land uses within the source protection area.

²² Amended in December 2021.

²³ Amended in December 2021.

Part III – Water Budget

Part III.1 - Conceptual Water Budget

19. Subject to rule 24, a conceptual water budget shall include an assessment of the following:

- (1) Physiography.
- (2) Geology.
- (3) Surface water bodies and their flows and water levels.
- (4) Surface water control structures, including any dams within the meaning of section 1 of the *Lakes and River Improvement Act*, and any plans that govern operations of the structure.
- (5) Groundwater aquifers, their direction of flow, and mapping of the water table and potentiometric surface(s).
- (6) Wells and surface water intakes.
- (7) Interactions between groundwater and surface water.
- (8) In respect of every surface water intake and well for which a permit to take water has been issued under the *Ontario Water Resources Act* the maximum annual quantity of water that a person is permitted to take under the permit and the purpose for which water is being taken.
- (9) How land cover across the area affects groundwater and surface water.
- (10) In respect of every surface water intake and well for which a permit to take water has not been issued under the *Ontario Water Resources Act*, the annual quantity of water taken and the purpose for which water is being taken, including whether water is being taken for a domestic use, agricultural use, commercial use, industrial use or any other specified use.
 - (10.1) In respect of the water takings described in subrules (8) and (10), where available, the actual amounts of water taken annually and the projected annual takings of water.
- (11) Aquatic habitat dependent upon water depth, flow and temperature.
- (12) Trends related to any items listed in subrules (3) to (11).

(13) The climate of the area, including historical trends and existing projections related to changes in the climate of the area.

Part III.2 – Subwatershed water budgets

20. Subject to rule 24, prepare a Tier One water budget for every subwatershed in the source protection area.

21. Subject to rule 24, using the data underlying the Tier One water budget for the subwatershed, assign every subwatershed in the source protection area a surface water stress level and a groundwater stress level in accordance with Part III.3.

22. Subject to rule 24, prepare a Tier Two water budget that,

(1) assigns a surface water stress level for every subwatershed in the source protection area that was assigned a significant or moderate surface water stress level in accordance with rule 21 and from which an existing or planned type I, II or III system takes or will take water from a surface water supply; and

(2) assigns a groundwater stress level for every subwatershed in the source protection area that was assigned a groundwater stress level of significant or moderate in accordance with rule 21 and from which an existing or planned type I, II or III system takes or will take water from a groundwater supply.

23. Subject to rule 24, using the data underlying the Tier Two water budget for the subwatershed, assign every subwatershed in the source protection area for which a Tier Two water budget has been prepared a surface water stress level and a ground water stress level in accordance with Part III.4.

24. Rules 19, 20, 21, 22 and 23 do not apply if a water budget was prepared for every subwatershed in the source protection area and those water budgets meet the requirements of a Tier Two water budget and include an assessment of the elements listed in rule 19.

25. Where rules 19, 20, 21, 22 and 23 do not apply as a result of the application of rule 24, using the data underlying the equivalent Tier Two water budgets described in rule 24, assign every subwatershed in the source protection area from which an existing or planned type I, II or III system takes water a surface water stress level and a ground water stress level in accordance with Part III.4.

26. Delineate a local area in respect of every surface water intake in the source protection area relating to an existing or planned type I, II or III system that takes

water from a subwatershed assigned a surface water stress level of significant or moderate in accordance with rule 23.

27. Delineate a local area in respect of every well in the source protection area relating to an existing or planned type I, II or III system that takes water from a subwatershed assigned a groundwater stress level of significant or moderate in accordance with rule 23.

28. Removed.

29. Removed.

30. For every local area delineated in accordance with rule 26 or 27, prepare a Tier Three water budget for the local area in accordance with Part IX for the purpose of determining if the local area should be assigned a risk level of significant, moderate or low.

30.1 If, the information required to delineate a local area or to complete a Tier Three water budget in accordance with rule 30 may not be readily ascertained, the assessment report may instead include a description of the steps that will be taken to ascertain the necessary information and complete the work.²⁴

31. Where the rules in Part III.3 and Part III.4 require that a percent demand calculation is undertaken in relation to a scenario,

(1) the annual percent demand or twelve consecutive monthly percent demands shall be calculated based on the water demand of the study period;

(2) data used to determine demand shall meet the requirements listed in Column 3 of Table 1 where a requirement in respect of all or part of the data is listed, and in all other cases the data shall be reflective of conditions that existed during the most recent period for which data is available and which parallels the duration and starting point of the study period; and

(3) data used to determine supply and reserve shall meet the requirements listed in Column 4 of Table 1 where a requirement in respect of all or part of the data is listed, and in all other cases the data shall be reflective of conditions that existed during the study period.

²⁴ Amended in December 2021

Part III.3 – Subwatershed stress levels – Tier One Water Budget

32. For the purposes of rule 21, a subwatershed shall be assigned a surface water stress level of significant, moderate or low in accordance with the following:

(1) Significant, if during scenario A or B in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be greater than or equal to 50%.

(2) Moderate, if a stress level was not assigned by subrule (1) and one or more of the following circumstances exist:

(a) During scenario A or B in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be less than 50% but greater than 20%.

(b) At any time after January 1, 1990, in relation to a type I, II or III system within the subwatershed,

(i) any part of a surface water intake was not below the water's surface during normal operation of the intake, or

(ii) the operation of a surface water intake pump was terminated because of an insufficient quantity of water being supplied to the intake.

(c) Both of the following are true:

(i) The result of one or more maximum monthly percent water demand calculations made in accordance with clause (a) of subrule (2) is between 18% and 20%, inclusive.

(ii) A sensitivity analysis of the data used to prepare the Tier One Water Budget suggests that the stress level for the subwatershed could be moderate.

(3) Low, if a stress level was not assigned by either subrule (1) or subrule (2).

33. For the purposes of rule 21, a subwatershed shall be assigned a groundwater stress level of significant, moderate or low in accordance with the following:

(1) Significant, if during scenario A or B in Table 1 one or both of the following circumstances exist:

- (a) The annual percent water demand for groundwater for the subwatershed would be greater than or equal to 25%.
 - (b) The maximum monthly percent water demand for groundwater for the subwatershed would be greater than or equal to 50%.
- (2) Moderate, if a stress level was not assigned by subrule (1) and one or more of the following circumstances exist:
- (a) During scenario A or B in Table 1 the annual percent water demand for groundwater for the subwatershed would be less than 25% but greater than 10%.
 - (b) During scenario A or B in Table 1 the maximum monthly percent water demand for groundwater for the subwatershed would be less than 50% but greater than 25%.
 - (c) At any time after January 1, 1990, in relation to a type I, II or III system within the subwatershed,
 - (i) the groundwater level in the vicinity of the well was not at a level sufficient for the normal operation of the well, or
 - (ii) the operation of a well pump was terminated because of an insufficient quantity of water being supplied to the well.
 - (d) Both of the following are true:
 - (i) The result of one or more annual percent water demand calculations made in accordance with clause (a) of subrule (2) is between 8% and 10%, inclusive.
 - (ii) A sensitivity analysis of the data used to prepare the Tier One Water Budget suggests that the stress level for the subwatershed could be moderate.
 - (e) Both of the following are true:
 - (i) The result of one or more maximum monthly percent water demand calculations made in accordance with clause (b) of subrule (2) is between 23% and 25%, inclusive.

(ii) A sensitivity analysis of the data used to prepare the Tier One Water Budget suggests that the stress level for the subwatershed could be moderate.

(3) Low, if a stress level was not assigned by either subrule (1) or subrule (2).

Table 1 – Subwatershed Stress Level Scenarios

Column 1 Scenario	Column 2 Description of the Scenario	Column 3 Data Restrictions Demand	Column 4 Data Restrictions Supply and Reserve
A	existing system – average	Data related to the study period	Data related to climate and stream flow shall be the historical data set for climate and stream flow.
B	existing system - future demand	Data related to demand associated with the system within the subwatershed shall be reflective of the future development in the subwatershed.	Data related to climate and stream flow shall be historical data set for climate and stream flow. Data related to land cover shall be reflective of the future development in the subwatershed.
C	planned system demand – operational year	Data related to demand associated with an existing type I, II or III system within the subwatershed shall be reflective of the demand that would exist in the year that the planned system will be operational.	Data set related to climate and stream flow shall be the historical data set for climate and stream flow. Data related land cover shall be reflective of the year that the planned system will be operational.
D	existing system - two year drought	Data related to the study period	Data related to climate and stream flow shall be reflective of the two year drought period.
E	existing system - future two year drought	Data related to demand associated with an existing type I, II or III system within the subwatershed shall be reflective of the future development in the subwatershed.	Data related to climate and stream flow shall be reflective of the two year drought period. Data related to land cover shall be reflective of the future development in the subwatershed.
F	planned system - operational year - two year drought	Data related to demand associated with an existing type I, II or III system within the subwatershed shall be reflective of the demand that would exist in the year that the planned system will be operational.	Data related to climate and stream flow shall be reflective of the two year drought period. Data related to land cover shall be reflective of the future development that would exist in the subwatershed in the year that the planned system will be operational.
G	existing system - ten year drought	Data related to the study period	Data related to climate and stream flow shall be reflective of the ten year drought period.
H	existing system - future ten year drought	Data related to demand associated with an existing type I, II or III system within the subwatershed	Data related to climate and stream flow shall be reflective of the ten year drought period.

		shall be reflective of the future development in the subwatershed.	Data related to land cover shall be reflective of the future development in the subwatershed.
I	Planned system – operational year - ten year drought	Data related to demand associated with an existing type I, II or III system within the subwatershed shall be reflective of the demand that would exist in the year that the planned system will be operational.	Data related to climate and stream flow shall be reflective of the ten year drought period. Data related to land cover shall be reflective of the future development that would exist in the subwatershed in the year that the planned system will be operational.

Part III.4 – Subwatershed stress levels – Tier Two Water Budgets

34. For the purposes of rule 23 or 25, a subwatershed shall be assigned a surface water stress level of significant, moderate or low in accordance with the following:

- (1) Significant, if one or both of the following circumstances exist:
 - (a) During scenario A or B in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be greater than or equal to 50%.
 - (b) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be greater than or equal to 50%.

- (2) Moderate, if a stress level was not assigned by subrule (1) and one or more of the following circumstances exist:
 - (a) During scenario A or B in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be less than 50% but greater than 20%.
 - (b) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the maximum monthly percent water demand for surface water for the subwatershed would be less than 50% but greater than 20%.
 - (c) At any time after January 1, 1990, in relation to a type I, II or III system within the subwatershed,
 - (i) any part of a surface water intake was not below the water’s surface during normal operation of the intake, or

(ii) the operation of a surface water intake pump was terminated because of an insufficient quantity of water being supplied to the intake.

(d) In relation to a type I, II or III system within the subwatershed, one or both of the circumstances described in clause (c) would occur during scenarios D, E, F, G, H or I.

(e) Removed.

(f) All of the following are true:

(i) The result of one or more maximum monthly percent water demand calculations made in accordance with this subrule is between 18% and 20%, inclusive.

(ii) The uncertainty associated with the percent demand calculations required by this rule, when evaluated to be high or low considering the factors set out in rule 36, is high.

(iii) A sensitivity analysis of the data used to prepare the Tier Two Water Budget suggests that the stress level for the subwatershed could be moderate.

(3) Low, if a stress level was not assigned by either subrule (1) or subrule (2).

35. For the purposes of rule 23 or 25, a subwatershed shall be assigned a groundwater stress level of significant, moderate or low in accordance with the following:

(1) Significant, if one or more of the following circumstances exist:

(a) During scenario A or B in Table 1 the annual percent water demand for groundwater for the subwatershed would be greater than or equal to 25%.

(b) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the annual percent water demand for groundwater for the subwatershed would be greater than or equal to 25%.

(c) During scenario A or B in Table 1 the maximum monthly percent water demand for groundwater for the subwatershed would be greater than or equal to 50%.

(d) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the maximum monthly percent water demand for groundwater for the subwatershed would be greater than or equal to 50%.

(2) Moderate, if a stress level was not assigned by subrule (1) and one or more of the following circumstances exist:

(a) During scenario A or B in Table 1 the annual percent water demand for groundwater for the subwatershed would be less than 25% but greater than 10%.

(b) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the annual percent water demand for groundwater for the subwatershed would be less than 25% but greater than 10%.

(c) During scenario A or B in Table 1 the maximum monthly percent water demand for groundwater for the subwatershed would be less than 50% but greater than 25%.

(d) Where there is a planned type I, II or III system proposed to be located within the subwatershed, during scenario C in Table 1 the maximum monthly percent water demand for groundwater for the subwatershed would be less than 50% but greater than 25%.

(e) At any time after January 1, 1990, in relation to a type I, II or III system within the subwatershed, one or both of the following circumstances occurred:

(i) The groundwater level in the vicinity of the well was not at a level sufficient for the normal operation of the well.

(ii) The operation of a well pump was terminated because of an insufficient quantity of water being supplied to the well.

(f) In relation to a type I, II or III system within the subwatershed, one or both of the circumstances described in clause (e) would occur during scenarios D, E, F, G, H or I.

(i) Removed.

(ii) Removed.

- (g) Removed.
- (h) All of the following are true:
 - (i) The result of one or more annual percent water demand calculations made in accordance with subclause (a) or (b) of this subrule is between 8% and 10%, inclusive.
 - (ii) The uncertainty associated with the percent demand calculations required by this rule, when evaluated to be high or low considering the factors set out in rule 36, is high.
 - (iii) A sensitivity analysis of the data used to prepare the Tier Two Water Budget suggests that the stress level for the subwatershed could be moderate.
- (i) All of the following are true:
 - (i) The result of one or more maximum monthly percent water demand calculations made in accordance with clause (c) or (d) of subrule (2) is between 23% and 25%, inclusive.
 - (ii) The uncertainty associated with the percent demand calculations required by this rule, when evaluated to be high or low considering the factors set out in rule 36, is high.
 - (iii) A sensitivity analysis of the data used to prepare the Tier Two Water Budget suggests that the stress level for the subwatershed could be moderate.
- (3) Low, if a stress level was not assigned by either subrule (1) or subrule (2).

Uncertainty analysis

36. The following factors shall be considered in an analysis of uncertainty required by subclauses 34(2)(f)(ii) and 35(2)(h)(ii) and 35(2)(i)(ii):

- (1) The distribution, variability, quality and relevance of the available input data.
- (2) The ability of the methods and models used to accurately reflect the hydrologic system.
- (3) The quality assurance and quality control procedures applied.

(4) The extent and level of calibration and validation achieved for any groundwater and surface models used or calculations and general assessments completed.

Part IV – Groundwater Vulnerability Assessment

Part IV.1 - Vulnerability Assessment and Delineation, Groundwater

37. The vulnerability of groundwater within a source protection area shall be assessed using one or more of the following groundwater vulnerability assessment methods:

- (1) Intrinsic susceptibility index (ISI).
- (2) Aquifer vulnerability index (AVI).
- (3) Surface to aquifer advection time (SAAT).
- (4) Surface to well advection time (SWAT).
- (5) Removed.

38. A source protection area shall be divided into areas of high, medium or low groundwater vulnerability, high corresponding to greater vulnerability, as follows:

- (1) Where a method described in subrule 37(1) or (2) was used to assess vulnerability,
 - (a) areas of high vulnerability are those areas with scores that are less than 30,
 - (b) areas of medium vulnerability are those areas with scores that are greater than or equal to 30 but less than or equal to 80, and
 - (c) areas of low vulnerability are those areas with scores that are greater than 80.
- (2) Where a method described in subrule 37(3) or (4) was used to assess vulnerability,
 - (a) areas of high vulnerability are those areas with results that are less than 5 years,
 - (b) areas of medium vulnerability are those areas with results that are greater than or equal to 5 years but less than or equal to 25 years, and
 - (c) areas of low vulnerability are those areas with results that are greater than 25 years.

(3) Where, in accordance with rule 15.1, a method that departs from the methods specified in rule 37 has been used to assess vulnerability, an approach shall be used that, in the Director's opinion, is comparable to the approach specified in subrules (1) and (2).

38.1 When using a groundwater vulnerability assessment method referred to in subrules 37(3) or (4) to assess the vulnerability of groundwater in a wellhead protection area in respect of a drinking water system mentioned in clause 15(2)(e) of the Act, the shallow and deep aquifer shall be independently assessed and delineated into areas of high, medium or low groundwater vulnerability in accordance with subrule 38(2).

38.2 If more than one method is used to assess groundwater vulnerability under rule 38.1, the results of both methods must be mapped.

Vulnerability increase, transport pathways

39. Where the vulnerability of an area identified as low in accordance with rule 38 is increased because of the presence of a transport pathway that is anthropogenic in origin, the area shall be identified as an area of medium or high vulnerability, high corresponding to greater vulnerability.

40. Where the vulnerability of an area identified as medium in accordance with rule 38 is increased because of the presence of a transport pathway that is anthropogenic in origin, the area shall be identified as an area of high vulnerability.

41. When determining whether the vulnerability of an area is increased for the purpose of rules 39 and 40 and the degree of the increase, the following factors shall be considered:

- (1) Hydrogeological conditions.
- (2) The type and design of any transport pathways.
- (3) The cumulative impact of any transport pathways.
- (4) The extent of any assumptions used in the assessment of the vulnerability of the groundwater.

Part V – Delineation of Vulnerable Areas: Highly Vulnerable Aquifers, Significant Groundwater Recharge Areas and Wellhead Protection Areas

42. Where the rules in this Part require that the extent of an area be determined by time of travel to a wellhead, one or more of the following models and methods shall be used:

- (1) A computer based three-dimensional groundwater flow model.
- (2) Two-dimensional analytical model.
- (3) Uniform flow method.
- (4) Calculated fixed radius method.
- (5) Removed.

Part V.1 - Delineation of highly vulnerable aquifers

43. An area identified as an area of high groundwater vulnerability in accordance with Part IV and the subsurface beneath that area shall be delineated as a highly vulnerable aquifer.

43.1 If the vulnerability of a shallow and deep aquifer in a wellhead protection area is assessed and delineated independently in accordance with rule 38.1 the area identified as a shallow aquifer with high groundwater vulnerability in accordance with Part IV shall be delineated as a highly vulnerable aquifer.

Part V.2 - Delineation of significant groundwater recharge areas

44. Subject to rule 45, an area is a significant groundwater recharge area if,

- (1) the area annually recharges water to the underlying aquifer at a rate that is greater than the rate of recharge across the whole of the related groundwater recharge area by a factor of 1.15 or more; or
- (2) the area annually recharges a volume of water to the underlying aquifer that is 55% or more of the volume determined by subtracting the annual evapotranspiration for the whole of the related groundwater recharge area from the annual precipitation for the whole of the related groundwater recharge area.

45. Despite rule 44, an area shall not be delineated as a significant groundwater recharge area unless the area has a hydrological connection to a surface water body

(excluding Great Lakes, Connecting Channels, Lake Simcoe, Lake Nipissing, Lake St. Clair or the Ottawa River) or aquifer that is a source of drinking water for a drinking water system.²⁵

46. The areas described in rule 44 shall be delineated using the models developed for the purposes of Part III of these rules and with consideration of the topography, surficial geology, and how land cover affects groundwater and surface water.

Part V.3 - Delineation of wellhead protection areas, type I systems

47. A wellhead protection area for a well associated with a type I system is the area created by combining all of the following areas:

- (1) Area WHPA-A, being the surface and subsurface area centred on the well with an outer boundary identified by a radius of 100 metres.
- (2) Area WHPA-B, being the surface and subsurface areas within which the time of travel to the well is less than or equal to two years but excluding WHPA-A.
- (3) Area WHPA-C, being the surface and subsurface areas within which the time of travel to the well is less than or equal to five years but greater than two years.
- (4) Area WHPA-D, being the surface and subsurface areas within which the time of travel to the well is less than or equal to twenty-five years but greater than five years.
- (5) Area WHPA-E, being the area delineated in accordance with the rules in Part VI that apply to the delineation of an IPZ-2, as if an intake for the system were located,
 - (a) at the point of interaction between groundwater that is the source of raw water supply for the well and the surface water that is directly influencing that groundwater, or
 - (b) at the point in the surface water body influencing the raw water supply for the well that is closest in proximity to the well, if the point of interaction described in (a) is not known.

²⁵ Amended in March 2017

(6) Removed.²⁶

(7) Area WHPA-ICA, being the issue contributing area in relation to Part XI.1, shall only be delineated where,²⁷

(a) a drinking water issue is identified in accordance with rule 114 in relation to the well, and

(b) there is evidence that activities, conditions that result from past activities, and naturally occurring conditions, within this area, contribute to the drinking water issue described in subrule (a).

48. Despite rule 47, where a zone representing a ten year time of travel was delineated for the well in a report prepared prior to April 30, 2005 and a five year time of travel has never been delineated for the well the wellhead protection area for a well associated with a type I system is the area created by combining all of the following areas:

(1) Area WHPA-A, delineated in accordance with the requirements of subrule 47(1).

(2) Area WHPA-B, delineated in accordance with the requirements of subrule 47(2).

(3) Area WHPA-C1, being the surface and subsurface areas within which the time of travel to the well is less than or equal to ten years but greater than two years.

(4) Area WHPA-D, being the surface and subsurface areas within which the time of travel to the well is less than or equal to twenty-five years but greater than ten years.

(5) Area WHPA-E, delineated in accordance with the requirements of subrule 47(5).

(6) Removed.²⁸

(7) Area WHPA-ICA, being the issue contributing area in relation to Part XI.1, shall only be delineated where,²⁹

²⁶ Amended in December 2021

²⁷ Introduced in December 2021

²⁸ Amended in December 2021

²⁹ Introduced in December 2021

(a) a drinking water issue is identified in accordance with rule 114 in relation to the well, and

(b) there is evidence that activities, conditions that result from past activities, and naturally occurring conditions, within this area, contribute to the drinking water issue described in subrule (a).

49. Despite subrules 47(5) and 48(5), area WHPA-E shall only be added to a wellhead protection area where,

(1) the well obtains water from a raw water supply that is groundwater; and

(2) there is an interaction between the surface water and groundwater supply that may impact the water quality at the well.³⁰

49.1 Despite subrules 49(1) and 49(2), area WHPA-E may not be added to a wellhead protection area if the interaction between surface water and groundwater does not impact the water quality at the well and the rationale for this determination is provided in the assessment report.³¹

50. Removed.³²

50.1 If the information required to delineate a WHPA-E in accordance with subrule 47(5) or 48(5) may not be readily ascertained, the assessment report may instead include, a description of the steps that will be taken to ascertain the necessary information and complete the work.³³

Part V.4 - Delineation of wellhead protection areas, type II and III systems

51. The wellhead protection area for a well associated with a type II or III system to which O. Reg. 170/03 (Drinking Water Systems) made under the *Safe Drinking Water Act, 2002*, O. Reg. 318/08 (Transitional – Small Drinking Water Systems) made under the *Health Protection and Promotion Act* or O. Reg. 319/08 (Small Drinking Water Systems) made under the *Health Protection and Promotion Act* applies, is the area created by combining all of the following areas:

(1) Area WHPA-A, being the surface and subsurface area centred on the well with an outer boundary identified by a radius of 100 metres.

³⁰ Amended in December 2021

³¹ Introduced in December 2021

³² Amended in December 2021

³³ Amended in December 2021

(2) Area WHPA-B, being the surface and subsurface areas within which the time of travel to the well is less than or equal to two years but excluding WHPA-A.

(3) Area WHPA-C, being the surface and subsurface areas within which the time of travel to the well is less than or equal to five years but greater than two years.

(4) Area WHPA-D, being the surface and subsurface areas within which the time of travel to the well is less than or equal to twenty-five years but greater than five years.

52. The wellhead protection area for a wellhead associated with a type II or III system to which none of the regulations described in rule 51 apply, is the area created by combining all of the following areas:

(1) Area WHPA-A, being the surface and subsurface area centred on the well with an outer boundary identified by a radius of 100 metres.

(2) Area WHPA-B, being the surface and subsurface areas within which the time of travel to the well is less than or equal to two years but excluding WHPA-A.

Part V.5 – Delineation of WHPA-Q1 or WHPA-Q2

53. A wellhead protection area shall include all of the following areas if the relating well takes water from a subwatershed assigned a groundwater stress level of moderate or significant in accordance with Part III.4:

(1) Area WHPA-Q1, being the combined area that is the cone of influence of the well plus the whole of the cones of influence of all other wells that intersect that area and any surface water drainage area upstream of, and including, a losing reach of a stream that contributes a significant proportion of surface water to the wells.

(2) Area WHPA-Q2, being the area described in subrule (1) and any area outside the WHPA-Q1 where a future reduction in recharge would have a measurable impact on the municipal wells.

54. The model used in Part III to prepare the water budget for the local area that contains the well described in rule 53 shall be used to delineate WHPA-Q1 and WHPA-Q2.

Part VI – Delineation of Vulnerable Areas: Surface Water Intake Protection Zones

Part VI.1 – General

Classification of intakes

55. Subject to rule 55.1, a surface water intake associated with a type I, II or III system shall be classified as a,

- (1) type A intake if the intake or the planned intake is or would be located in a Great Lake;
- (2) type B intake if the intake or the planned intake is or would be located in a connecting channel;
- (3) type C intake if the intake or the planned intake is or would be located in a river and neither the direction nor velocity of the flow of the water at the intake is affected by a water impoundment structure; or
- (4) type D intake if the intake is not described in subrule (1), (2) or (3).

55.1 With the written consent of the Director, the source protection committee may reclassify the intake or planned intake and shall include in the assessment report a rationale and evidence to support the reclassification.³⁴

Identification of surface water bodies

56. Where these rules require the delineation of an IPZ-2 or an IPZ-3, the Water Virtual Flow – Seamless Provincial Data Set and the Water Poly Segment data layers housed in the Ontario Land Information Warehouse shall be used to identify the surface water bodies to be included in the IPZ-2 or IPZ-3, as the case may be.

57. Where there is no data in respect of the subwatershed in which the drinking water system related to the IPZ-2 or IPZ-3 is located in the Water Virtual Flow – Seamless Provincial Data Set data layer or in the Water Poly Segment data layer housed in the Ontario Land Information Warehouse, or where the data in the data layers is not sufficient to allow conclusions to be drawn with respect to the surface water bodies to be included in the IPZ-2 or IPZ-3, as the case may be, a computer based geographical information system shall be used to identify the surface water bodies to be included in the IPZ-2 or IPZ-3.

³⁴ Amended in December 2021

Part VI.2 - Area of surface water intake protection zones

58. A surface water intake protection zone for a surface water intake associated with a type I system or a type II or type III system to which O. Reg. 170/03 (Drinking Water Systems) made under the *Safe Drinking Water Act, 2002*, O. Reg. 318/08 (Transitional – Small Drinking Water Systems) made under the *Health Protection and Promotion Act* or O. Reg. 319/08 (Small Drinking Water Systems) made under the *Health Protection and Promotion Act* applies, is the area created by combining all of the following areas:

- (1) Area IPZ-1, delineated in accordance with the rules in Part VI.3, as applicable.
- (2) Area IPZ-2, delineated in accordance with the rules in Parts VI.4 and VI.6, as applicable.
- (3) Area IPZ-3, delineated in accordance with the rules in Parts VI.5 and VI.6, as applicable.
- (4) Area IPZ-Q, delineated in accordance with the rules in Part VI.7, as applicable.
- (5) Area IPZ-ICA, delineated in relation to the rules in Part XI.1, where applicable.³⁵

59. A surface water intake protection zone for a surface water intake associated with a type II or type III system to which none of the regulations described in rule 58 apply, is the area created by combining all of the following areas:

- (1) Area IPZ-1, delineated in accordance with the rules in Part VI.3.
- (2) Area IPZ-Q, delineated in accordance with rules in Part VI.7, as applicable.

60. An area delineated in accordance with Parts VI.3 to Part VI.7 includes all surface and subsurface land, water and beds under the water within the boundary of the area delineated.

³⁵ Introduced in December 2021

Part VI.3 - Delineation of IPZ-1

61. An area known as IPZ-1 shall be delineated in respect of each surface water intake associated with a drinking water system described in rules 58 and 59 and shall be composed of all of the following areas:

- (1) A circle that has a radius of 1000 metres from the centre point of every intake that serves as the source or entry point of raw water supply for the system, if the intake is a,
 - (a) type A intake,
 - (b) type D intake, or
 - (c) a type C intake to which rule 63 applies.
- (2) If the intake is a type B intake, a semi-circle that has a radius of 1000 metres extending upstream from the centre point of every intake that serves as the source or entry point of raw water supply for the system and a rectangle with a length of 2000 metres and a width of 100 metres extending downstream from the centre point.
- (3) If the intake is a type C intake to which rule 63 does not apply, a semi-circle that has a radius of 200 metres extending upstream from the centre point of every intake that serves as the source or entry point of raw water supply for the system and a rectangle with a length of 400 metres and a width of 10 metres extending downstream from the centre point.

62. If the area delineated in accordance with rule 61 includes any land, the IPZ-1 shall only include a setback on the land that is the greater of,

- (1) the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres; and
- (2) if a Conservation Authority Regulation Limit is in effect in the IPZ-1, only the area of land located within the Conservation Authority Regulation Limit that drains into a surface water body that is located in the IPZ-1.

62.1 The setback delineated in accordance with rule (62) may be extended to other areas within the area delineated in accordance with rule 61, if applicable, which may contribute water to the intake.³⁶

³⁶ Introduced in December 2021

63. The area of an IPZ-1 in a surface water body may be delineated in accordance with subrule 61(1) if the relating surface water body intake is a Type C intake and, having regard to the direction and flow velocity of the water at the intake, it would be reasonable to do so to protect the quality of the water that may enter the intake.

64. The area of an IPZ-1 in a surface water body may be modified to reflect local hydrodynamic conditions affecting flow if the modification is documented in the assessment report and a rationale is provided for the modification.

Part VI.4 - Delineation of IPZ-2

65. An area known as IPZ-2 shall be delineated for each surface water intake associated with a drinking water system described in rule 58, and shall be composed of all of the following areas:

(1) The area within each surface water body that may contribute water to the intake where the time of travel to the intake, subject to rule 66, is equal to or less than the time that is sufficient to allow the operator of the system to respond to a spill or other event that may impair the quality of the water at the intake and where the area abuts land, a setback that is the greater of,

(a) the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres, and

(b) if a Conservation Authority Regulation Limit is in effect in the IPZ-2, only the area of land located within the Conservation Authority Regulation Limit that drains into a surface water body that is located in the IPZ-2.³⁷

(2) In respect of every storm water management works that may contribute water to the intake, the area within the storm sewershed that contributes water to the works where the time of travel to the intake, subject to rule 66, is equal to or less than the time that is sufficient to allow the operator of the system to respond to a spill or other event that may impair the quality of the water at the intake.

(3) Removed.

66. For the purposes of subrules 65(1) and 65(2), where the time that is sufficient to allow the operator of the system to respond to an adverse condition in

³⁷ Amended in March 2017

the quality of the surface water is less than two hours, the time of travel to the surface water body intake shall be deemed to be two hours.

67. Removed.

Part VI.5 - Delineation of IPZ-3

68. If, in respect of a drinking water system described in rule 58, modeling or other methods demonstrates that contaminants released during an extreme event may be transported to a type A and type B surface water intake or a type C or type D surface water intake located in Lake Nipissing, Lake Simcoe, Lake St. Clair or the Ottawa River, an area known as IPZ-3 shall be delineated and shall be composed of all of the following areas:

- (1) Subject to rule 69, the area within each surface water body through which contaminants released during an extreme event may be transported to the intake.
- (2) A setback on the land that abuts the portion of the surface water body that has been delineated in accordance with subrule (1), and this setback shall be the greater of,
 - (a) the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres, and
 - (b) if a Conservation Authority Regulation Limit is in effect in the IPZ-3, only the area of land located within the Conservation Authority Regulation Limit that drains into a surface water body that is located in the IPZ-3.³⁸

69. The area delineated in accordance with subrule 68(1) shall not exceed the area within each surface water body that may contribute water to the intake during or as a result of an extreme event.

70. An area known as IPZ-3 shall be delineated for each type C and type D surface water intake that is not located in Lake Nipissing, Lake Simcoe, Lake St. Clair or the Ottawa River, associated with a drinking water system described in rule 58 and shall be composed of all of the following areas:

- (1) The area within each surface water body that may contribute water to the intake.

³⁸ Amended in March 2017

(2) A setback on the land that abuts the portion of the surface water body that has been delineated in accordance with subrule (1), and this setback shall be the greater of,

(a) the area of land that drains into the surface water body measured from the high water mark and the area must not exceed 120 metres, and

(b) if a Conservation Authority Regulation Limit is in effect in the IPZ-3, only the area of land located within the Conservation Authority Regulation Limit that drains into a surface water body that is located in the IPZ-3.³⁹

71. Removed.

Part VI.6 - Transport Pathways and Natural Surface Water Features⁴⁰

72. Where an area that is an IPZ-2 or IPZ-3 includes a setback from a surface water body delineated in accordance with subrules 65(1), 68(2), 70(2) the area may be extended to include an area that contributes water to the IPZ-2 or IPZ-3, as the case may be, through a natural or anthropogenic transport pathway.

73. If an area of an IPZ-2 or IPZ-3 is extended under rule 72, the following factors shall be considered when determining the extended area:

(1) The hydrological and hydrogeological conditions of the area where the transport pathway is located.

(2) Where a transport pathway is anthropogenic in origin, the type and design of the pathway.

(3) In respect of an IPZ-2, the time of travel for water to enter into and pass through the transport pathway.

74. Despite rules 65, 66, and 72, an IPZ-2 shall not include an area of land or water that lies within the IPZ-1 that has been delineated for that surface water intake.

75. Despite rules 68, 70, and 72, an IPZ-3 shall not include an area of land or water that lies within the IPZ-1 or IPZ-2 that has been delineated for that surface water intake.

³⁹ Amended in March 2017

⁴⁰ Amended in March 2017

Part VI.7 - Delineation of IPZ-Q

76. A surface water intake protection zone shall include an area known as IPZ-Q if the relating intake takes water from a subwatershed assigned a surface water stress level of moderate or significant in accordance with Part III.4.

77. The boundary of the IPZ-Q described in rule 76 is the local area delineated in accordance with Part III.2 that relates to the surface water intake.

78. The models required to be used by Part III in the preparation of the water budget for the local area shall be used to delineate IPZ-Q.

Part VI.8 - Delineation of IPZ-ICA⁴¹

78.1 Area IPZ-ICA, being the issue contributing area in relation to Part XI.1, shall only be delineated where,

- (1) a drinking water issue is identified in accordance with rule 114 in relation to the intake; and
- (2) there is evidence that activities, conditions that result from past activities, and naturally occurring conditions, within this area, contribute to the drinking water issue described in subrule (1).

⁴¹ Introduced in December 2021

Part VII – Vulnerability: Highly Vulnerable Aquifers and Wellhead Protection Areas⁴²

Part VII.1 - Highly vulnerable aquifers

79. A highly vulnerable aquifer shall be assigned a vulnerability score of 6.

Part VII.2 - Removed⁴³

80. Removed.

81. Removed.

Part VII.3 - Wellhead protection areas

82. A wellhead protection area shall be subdivided by the boundaries of the areas of groundwater vulnerability identified in accordance with Part IV rule 38.

83. The areas identified in accordance with rule 82 shall be assigned a vulnerability based upon their location within the areas identified in Part V rules 47 or 48 in accordance with,

- (1) Table 2(a) and rule 84 where the groundwater vulnerability was determined by the use of a method listed in Part IV subrules 37(1) or 37(2);
- (2) Table 2(b) and rule 84 where the groundwater vulnerability was determined by the use of a method listed in Part IV subrules 37(3) or 37(4); or
- (3) an approach that is, in the opinion of the Director, comparable to those specified in subrules (1) and (2), if, in accordance with rule 15.1, a method that departs from the methods specified in rule 42 has been used, to determine time of travel to a wellhead.

⁴² Amended in March 2017

⁴³ Amended in March 2017

Table 2(a): Wellhead Protection Area Vulnerability Scores – ISI or AVI

Groundwater Vulnerability Category for the Area	Location Within a Wellhead Protection Area: WHPA-A	Location Within a Wellhead Protection Area: WHPA-B	Location Within a Wellhead Protection Area: WHPA-C	Location Within a Wellhead Protection Area: WHPA-C1	Location Within a Wellhead Protection Area: WHPA-D
High	10	10	8	8	6
Medium	10	8	6	6	4
Low	10	6	4	4	2

Table 2(b): Wellhead Protection Vulnerability Scores – SAAT or SWAT

Groundwater Vulnerability Category for the Area	Location Within a Wellhead Protection Area: WHPA-A	Location Within a Wellhead Protection Area: WHPA-B	Location Within a Wellhead Protection Area: WHPA-C	Location Within a Wellhead Protection Area: WHPA-C1	Location Within a Wellhead Protection Area: WHPA-D
High	10	10	8	8	6
Medium	10	8	6	6	4
Low	10	6	2	2	2

84. The areas identified in accordance with rule 82 that are located in WHPA-E shall be assigned a vulnerability score in accordance with the rules in Part VIII that apply to an IPZ-2.

85. Removed.

Part VIII – Vulnerability: Surface Water Intake Protection Zones

Part VIII.1 - Vulnerability scores

86. A vulnerability score shall be assigned to each IPZ-1 and to each area of an IPZ-2 associated with a type A, B, C or D intake and to each area of an IPZ-3 associated with a type C or type D intake.⁴⁴

87. The vulnerability score assigned to each IPZ-1, each area of an IPZ-2 and each area of an IPZ-3 associated with a type C or type D intake shall be calculated in accordance with the following formula,⁴⁵

$$B \times C$$

Where,

B = the area vulnerability factor of the area of the surface water intake protection zone determined in accordance with rules 88 to 93; and

C = the source vulnerability factor of the surface water intake determined in accordance with rules 94 to 96.

Part VIII.2 - Area vulnerability factor

88. An IPZ-1 shall be assigned an area vulnerability factor of 10.

89. One or more area vulnerability factors that are not less than 7 and not greater than 9 shall be assigned to each area within an IPZ-2 based on the vulnerability of the area where a higher factor corresponds to a higher vulnerability.⁴⁶

90. One or more area vulnerability factors that are not less than 1 and not greater than 9 shall be assigned to each area within an IPZ-3 associated with a type C or type D intake based on the vulnerability of the area within the IPZ-3 where a higher factor corresponds to a higher vulnerability.

91. An area vulnerability factor that is assigned to an IPZ-3 or an area within an IPZ-3 shall not be greater than the area vulnerability factor assigned to the IPZ-2 within the surface water intake protection zone.

⁴⁴ Amended in December 2021

⁴⁵ Amended in December 2021

⁴⁶ Amended in December 2021

92. The following shall be considered and documented in determining the area vulnerability factor of an area within an IPZ-2 or IPZ-3 for the purpose of rule 89 or 90 and an explanation shall be provided on how each affected the determination of the area vulnerability factor of that area:⁴⁷

- (1) The percentage of the area of the IPZ-2 or IPZ-3, as the case may be, that is composed of land.
- (2) The land cover, soil type, permeability of the land and the slope of any setbacks.
- (3) The hydrological and hydrogeological conditions of the area where the transport pathway is located.
- (4) In respect of an IPZ-3, the proximity of the area of the IPZ-3 to the intake.

93. An area vulnerability factor assigned for the purpose of rule 89 or 90 shall be expressed as a whole number.

Part VIII.3 - Source vulnerability factor

94. A source vulnerability factor shall be assigned to each surface water intake related to a type I, II or III system in accordance with Table 3 where a factor of 1 corresponds to a higher vulnerability.

95. The following shall be considered and documented in determining the source vulnerability factor of a surface water intake and an explanation shall be provided on how each affected the determination of the source vulnerability factor for the surface water intake:

- (1) The depth of the intake from the top of the water surface.
- (2) The distance of the intake from land.
- (3) The history of water quality concerns at the surface water intake.

Table 3 – Source Vulnerability Factors

Intake Type	Source Vulnerability Factor
type A intake	0.5 to 0.7
type B intake	0.7 to 0.9
type C intake	0.9 or 1
type D intake	0.8 to 1

⁴⁷ Amended in December 2021

95.1 If, in respect of a surface water intake described in rule 68 and having regard to the considerations set out in Rule 95 for assigning a source vulnerability factor for the intake, it is determined that the intake is in shallow waters, is in close proximity to the shoreline or there has been a history of water quality concerns at the surface water intake, the source vulnerability factor may, despite Table 3, vary from 0.5 to 1.⁴⁸

96. A source vulnerability factor assigned for the purpose of rule 94 may be expressed to one decimal place.

⁴⁸ Introduced in March 2017

Part IX – Tier Three Water Budgets (Risk Level Assignment to Local Areas)

Part IX.1 Local Area, Evaluation of Scenarios

97. Every local area delineated in accordance with rule 26 of Part III in respect of one or more planned or existing intakes that relate to one or more type I, II or III systems shall be assigned a risk level of significant, moderate or low by evaluating the surface water scenarios identified in Table 4A.

(1) Removed.

(2) Removed.

98. Every local area delineated in accordance with rule 27 of Part III in respect of one or more planned or existing wells that relate to one or more type I, II or III systems shall be assigned a risk level of significant, moderate or low by evaluating the groundwater scenarios identified in Table 4B.

(1) Removed.

(2) Removed.

99. For the purposes of Part IX.2, a reference to “other water uses” means,

(a) waste water assimilation,

(b) other water takings including agricultural, commercial and industrial water takings,

(c) navigation,

(d) recreation,

(e) aquatic habitat, and

(f) a provincially significant wetland.

100. For the purposes of evaluating the surface water scenarios A and B in Table 4A and the groundwater scenarios C and D in Table 4B, a tolerance level shall be assigned to the existing type I, II or III system to which the local area relates that is the subject of evaluation in accordance with the following:

- (1) A tolerance level of high if the existing system is capable of meeting peak demand during all assessment periods.
- (2) A tolerance level of low if sub-rule (1) does not apply to the existing system.

Part IX.2 Assignment of Risk Level

101. Removed.

102. Removed.

103. When evaluating the surface water scenarios in Table 4A in accordance with rule 97, the local area shall be assigned a risk level of significant if any of the following determinations are made:

- (1) In respect of scenarios A and B, the tolerance level assigned to the drinking water system in accordance with rule 100 would be low.
- (2) In respect of scenarios A, B, E1, E2, E3, F1, F2 and F3 it is determined in any of these scenarios that a period of time would exist where the quantity of water that can be taken from the surface water bodies in the local area would be insufficient to meet the associated demand of the intakes.
- (3) In respect of scenario E5, it is determined that a period of time would exist where the difference between the allocated quantity of water and the planned quantity of water would result in a reduction to flows or levels of water thereby creating an unacceptable impact to other water uses.

104. When evaluating the groundwater scenarios in Table 4B in accordance with rule 98, the local area shall be assigned a risk level of significant if any of the following determinations are made:

- (1) In respect of scenarios C and D, the tolerance level assigned to the drinking water system in accordance with rule 100 would be low.
- (2) In respect of scenarios C, D, G1, G2, G3, H1, H2 and H3 it is determined in any of these scenarios that a period of time would exist where the quantity of water that can be taken from the groundwater system in the local area would be insufficient to meet the associated demand of the wells.
- (3) In respect of scenario G5, it is determined that a period of time would exist where,

(a) the difference between the allocated quantity of water and the planned quantity of water would result in a reduction to flows or levels of water thereby creating an unacceptable impact to other water uses, or

(b) the difference between the allocated quantity of water and the planned quantity of water would result in a reduction in groundwater discharge to aquatic habitat that is classified as a cold water stream by an amount that is greater than,

(i) 20 percent of the existing estimated stream flow that is exceeded 80 per cent of the time (Q_{p80}), or

(ii) 20 percent of the existing estimated average monthly base flow of the stream

105. When evaluating the surface water scenarios E4 and E5 in Table 4A, in accordance with rule 97, the local area shall be assigned a risk level of moderate, if a determination is made that a period of time would exist where,

(1) in respect to scenario E4, the difference between the existing demand and the allocated quantity of water, would result in a reduction to flows or levels of water thereby creating a measurable and potentially unacceptable impact to other water uses, or

(2) in respect to scenario E5, the difference between the allocated quantity of water and the planned quantity of water would result in a reduction to flows or levels of water thereby creating a measurable and potentially unacceptable impact to other water uses

106. When evaluating the groundwater scenarios G4 and G5 in Table 4B in accordance with rule 98, the local area shall be assigned a risk level of moderate, if a determination is made that a period of time would exist where,

(1) in respect to scenario G4:

(a) the difference between the existing demand and the allocated quantity of water, would result in a reduction to flows or levels of water thereby creating a measurable and potentially unacceptable impact to other water uses, or

(b) the difference between the existing demand and the allocated quantity of water, would result in a reduction in groundwater discharge to

aquatic habitat that is classified as a cold water stream by an amount that is,

- (i) at least 10 per cent of the existing estimated stream flow that is exceeded 80 per cent of the time (Qp80), or
- (ii) at least 10 per cent of the existing estimated average monthly base flow of the stream

(2) in respect to scenario G5:

(a) the difference between the allocated quantity of water and the planned quantity of water would result in a reduction to flows or levels of water thereby creating a measurable and potentially unacceptable impact to other water uses, or

(b) the difference between the allocated quantity of water and the planned quantity of water would result in a reduction in groundwater discharge to aquatic habitat that is classified as a cold water stream by an amount that is,

- (i) at least 10 per cent but not greater than 20 per cent of the existing estimated stream flow that is exceeded 80 per cent of the time (Qp80), or
- (ii) at least 10 per cent but not greater than 20 per cent of the existing estimated average monthly base flow of the stream

107. If a local area is not assigned a risk level of significant or moderate in accordance with rule 103, 104, 105 or 106, a risk level of low shall be assigned to the local area.

Part IX.3 Uncertainty and Sensitivity Analysis:

108. After assigning a risk level to a local area, an uncertainty analysis shall be conducted that considers the following factors for the purpose of determining if the uncertainty underlying the risk assignment should be characterized as high or low:

- (1) The distribution, variability, quality and relevance of the data used to evaluate the scenarios.

(2) The degree to which the methods and models used to evaluate the scenarios accurately reflects the hydrologic system of the local area for both steady state and transient conditions.

(3) The quality assurance and control procedures used in evaluating the scenarios.

109. Despite rules 105 and 106, a local area that is assigned a risk level of moderate in accordance with those rules shall be assigned a risk level of significant, if the uncertainty analysis conducted in accordance with rule 108 characterizes the uncertainty as high and a sensitivity analysis of the data used to prepare the water budget for the local area suggests that the risk level for the local area could be significant.

Table 4A (Rule 103) – Surface Water Risk Scenarios

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Scenario	Time Period	Land Cover of the Local Area	Quantity of Water Demand	Other Permitted Water Demand	Model Simulation	Determining Significant Risk	Determining Moderate Risk
A (Base)	Climate data period	Existing	Existing Demand	Existing Demand	Long term daily flow using hourly climate and monthly pumping	R 103(1) or R 103(2)	N/A
B	Two year or greater drought period	Existing	Existing Demand	Existing Demand	Long term daily flow using hourly climate and monthly pumping	R 103(1) or R 103(2)	N/A
E (1)	Climate data period	Recharge Reduction	Allocated plus Planned	Anticipated Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A
E (2)	Climate data period	Existing	Allocated plus Planned	Existing Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A
E (3)	Climate data period	Recharge Reduction	Existing Demand	Anticipated Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A
E (4)	Climate data period	Existing	Allocated	Existing Demand	Long term daily flow using hourly climate and monthly pumping	N/A	R 105(1)
E (5)	Climate data period	Existing	Planned	Existing Demand	Long term daily flow using hourly climate and monthly pumping	R 103(3)	R 105 (2)
F (1)	Two year or greater drought period	Recharge Reduction	Allocated plus Planned	Anticipated Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A

F (2)	Two year or greater drought period	Existing	Allocated plus Planned	Existing Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A
F (3)	Two year or greater drought period	Recharge Reduction	Existing Demand	Anticipated Demand	Long term daily flow using hourly climate and monthly pumping	R 103(2)	N/A

Table 4B (Rule 104) – Groundwater Risk Scenarios

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Scenario	Time Period	Land Cover of the Local Area	Quantity of Water Demand	Other Permitted Water Demand	Model Simulation	Determining Significant Risk	Determining Moderate Risk
C (Base)	Climate data period	Existing	Existing Demand	Existing Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	R 104(1) or R 104(2)	N/A
D	Two year or greater drought period	Existing	Existing Demand	Existing Demand	Transient groundwater model should simulate water levels and flows using monthly recharge and monthly pumping	R 104(1) or R 104(2)	N/A
G (1)	Climate data period	Recharge Reduction	Allocated plus Planned	Anticipated Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	R 104(2)	N/A
G (2)	Climate data period	Existing	Allocated plus Planned	Existing Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	R 104(2)	N/A
G (3)	Climate data period	Recharge Reduction	Existing Demand	Anticipated Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	R 104(2)	N/A
G (4)	Climate data period	Existing	Allocated	Existing Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	N/A	R 106(1)
G (5)	Climate data period	Existing	Planned	Existing Demand	Steady state groundwater model should simulate water levels and flows using average annual recharge and monthly pumping	R 104(3)	R 106(2)

H (1)	Two year or greater drought period	Recharge Reduction	Allocated plus Planned	Anticipated Demand	Transient groundwater model should simulate water levels and flows using monthly recharge and monthly pumping	R 104(2)	N/A
H (2)	Two year or greater drought period	Existing	Allocated plus Planned	Existing Demand	Transient groundwater model should simulate water levels and flows using monthly recharge and monthly pumping	R 104(2)	N/A
H (3)	Two year or greater drought period	Recharge Reduction	Existing Demand	Anticipated Demand	Transient groundwater model should simulate water levels and flows using monthly recharge and monthly pumping	R 104(2)	N/A

Explanatory Notes on Table 4A and 4B

1. Column 1 sets out the name of the scenario
2. Column 2 sets out the period of time that each scenario is required to evaluate. The term “climate data period” means the historical period for which climate and stream flow data are available for.
3. Column 3 sets out how “land cover”, as defined in sub-rule 1(1), should be considered when evaluating a scenario. “Existing” indicates that the scenario should consider the existing amount and extent of impervious and non-impervious areas in the local area. “Recharge Reduction” indicates the scenario should consider the amount and extent of impervious and non-impervious areas in the local area assuming development occurred as projected in the municipal official plan or in accordance with class environmental assessments.
4. Column 4 sets out the “Quantity of Water” or “Demand” as defined in sub-rule 1(1) that should be determined and assessed for each scenario. “Existing Demand” means the quantity of water determined to be currently taken from an existing surface water intake or an existing well during the study period. “Allocated” means, in respect of an existing surface water intake or an existing well, the existing demand of the intake or well plus any additional quantity of water that would have to be taken by the intake or well to meet its committed demand, up to the maximum quantity of water that can lawfully be taken by the intake or well. “Planned” means in respect of an existing surface water intake or existing well, any amount of water that meets the definition of a planned system in O. Reg. 287/07 and any amount of water that is needed to meet a committed demand above the maximum quantity of water that can lawfully be taken by the intake or well, or, in respect of a new planned surface water intake or planned well, any amount of water that meets the definition of a planned system in O. Reg. 287/07.
5. Column 5 sets out how other water takings in the local area, as identified under sub-rule 99(b), should be considered when evaluating a scenario. However, for the purposes of the column, only water takers that are required to obtain a permit to take water under the Ontario Water Resources Act should be considered. “Existing” means determining for each permitted water taker the actual or estimated amounts of consumptive water taking. “Anticipated” means determining for those permitted water takers, where possible, the estimated

amounts of consumptive water taking that may likely, or will occur in the near future.

6. Column 6 sets out the modelling mode and minimum climate and pumping time periods for the surface and groundwater models as defined in sub-rule 1(1). For surface water, the model should simulate long term daily flow using hourly climate and monthly pumping inputs. For groundwater, the model should simulate both steady state (using average annual recharge and monthly pumping) and transient (using monthly recharge and monthly pumping) conditions.
7. Column 7 identifies the rules that set out the determinations for a risk level of “significant” for the corresponding scenario. Column 8 identifies the rules that set out the determinations for a risk level of “moderate” for the corresponding scenario. Where, after evaluating a scenario, no determination has been made for that scenario in accordance with a rule referred to in Column 7 or 8, the local area that is the subject of evaluation must be given a risk level of low.

Part X – Drinking Water Threats: Water Quantity

Part X.1 – Listing of drinking water threats

110. The activities prescribed to be drinking water threats for a vulnerable area in paragraphs 19 and 20 of subsection 1.1(1) of O. Reg. 287/07 (General) may be collectively listed in the assessment report as “the activities prescribed to be drinking water threats in paragraphs 19 and 20 of subsection 1.1(1) of O. Reg. 287/07 (General)”.

Part X.2 – Listing of significant and moderate drinking water threats

111. An activity listed in Column 1 of Table 5 is a significant drinking water threat in the circumstances and the areas within a vulnerable area set out opposite to the activity in Columns 2 and 3 respectively.

112. An activity listed in Column 1 of Table 5 is a moderate drinking water threat in the circumstances and the areas within a vulnerable area set out opposite to the activity in Columns 2 and 4 respectively.

113. For the purposes of Table 5, “existing taking” in respect of an activity means the historical average annual quantity of water taken by that activity.

Table 5 – Water Quantity Drinking Water Threats and Significant Drinking Water Threats

Column 1 Activity (Drinking Water Threat)	Column 2 Circumstance	Column 3 Area where Activity is a Significant Drinking Water Threat	Column 4 Area where Activity is a Moderate Drinking Water Threat
An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.	<p style="text-align: center;">Reference 1</p> <ol style="list-style-type: none"> 1. An existing taking, an increase to an existing taking or a new taking. 2. The water is or would be taken from within an IPZ-Q. 	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of significant in accordance with Part IX.	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.
An activity that takes water from an aquifer or a surface water body	Reference 2	WHPA-Q1 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level	WHPA-Q1 where the water is or would be taken if the area relates to one or more wells and the

without returning the water taken to the same aquifer or surface water body.	<ol style="list-style-type: none"> 1. An existing taking, an increase to an existing taking or a new taking. 2. The water is or would be taken from within a WHPA-Q1. 	of significant in accordance with Part IX.	local area was assessed to have a risk level of moderate in accordance with Part IX.
An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.	<p>Reference 3</p> <ol style="list-style-type: none"> 1. An increase to an existing taking or a new taking. 2. Section 34 of the <i>Ontario Water Resources Act</i> requires a permit to take water in respect of the increase or new taking. 3. The water is or would be taken from within an IPZ-Q. 4. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the increase to the existing taking or the new taking were factored into the risk level assessment. 	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.	N/A

<p>An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.</p>	<p>Reference 4</p> <ol style="list-style-type: none"> 1. An increase to an existing taking or a new taking. 2. The water is or would be taken from within a WHPA-Q1. 3. Section 34 of the <i>Ontario Water Resources Act</i> requires a permit to take water in respect of the increase or new taking. 4. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the increase to the existing taking or the new taking were factored into the risk level assessment. 	<p>WHPA-Q1 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of moderate in accordance with Part IX.</p>	<p>N/A</p>
<p>An activity that reduces recharge to an aquifer.</p>	<p>Reference 5</p> <ol style="list-style-type: none"> 1. An existing activity, a modified activity or a new activity. 2. The activity is or would be wholly or partly located within an IPZ-Q. 	<p>IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of significant in accordance with Part IX.</p>	<p>IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.</p>
<p>An activity that reduces recharge to an aquifer.</p>	<p>Reference 6</p> <ol style="list-style-type: none"> 1. An existing activity, a modified activity or a new activity. 2. The activity is or would be wholly or partly located within a WHPA-Q2. 	<p>WHPA-Q2 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of significant in accordance with Part IX.</p>	<p>WHPA-Q2 the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of moderate in</p>

			accordance with Part IX.
An activity that reduces recharge to an aquifer.	<p>Reference 7</p> <ol style="list-style-type: none"> 1. A modified activity or a new activity. 2. The activity is or would be wholly or partly located within an IPZ-Q. 3. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the modified activity were factored into the risk level assessment. 	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.	N/A
An activity that reduces recharge to an aquifer	<p>Reference 8</p> <ol style="list-style-type: none"> 1. A modified activity or a new activity. 2. The activity is or would be wholly or partly located within a WHPA-Q2. 3. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the modified activity were factored into the risk level assessment. 	WHPA-Q2 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of moderate in accordance with Part IX.	N/A

Part XI – Drinking Water Threats: Water Quality

Part XI.1 - Describing drinking water issues

114. If the source protection committee is aware of one of the following, the committee shall describe it as a drinking water issue under clause 15(2)(f) of the Act in accordance with rule 115:

(1) The presence of a parameter in water at a surface water intake or in a well, including a monitoring location related to a drinking water system to which clause 15(2)(e) of the Act applies, if the parameter is listed in Schedule 1, 2 or 3 of the Ontario Drinking Water Quality Standards or Table 4 of the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines and,⁴⁹

(a) the parameter is present at a concentration that may result in the deterioration of the quality of the water for use as a source of drinking water, or

(b) there is a trend of increasing concentrations of the parameter at the surface water intake, well or monitoring location and a continuation of that trend would result in the deterioration of the quality of the water for use as a source of drinking water.⁵⁰

(2) The presence of a pathogen in water at a surface water intake or in a well, including a monitoring location, related to a drinking water system to which clause 15(2)(e) of the Act does apply, if a microbial risk assessment undertaken in respect of the pathogen indicates that,⁵¹

(a) the pathogen is present at a concentration that may result in the deterioration of the quality of the water for use as a source of drinking water, or

(b) there is a trend of increasing concentrations of the pathogen at the surface water intake or well and a continuation of that trend would result in the deterioration of the quality of the water for use as a source of drinking water.

(3) In respect of drinking water systems in the vulnerable area that are not mentioned in clause 15(2)(e) of the Act, there is evidence of the widespread presence of a parameter listed in Schedule 2 or 3 of the Ontario

⁴⁹ Amended in March 2017

⁵⁰ Amended in March 2017

⁵¹ Amended in March 2017

Drinking Water Quality Standards or Table 4 of the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines at surface water intakes or in wells, including monitoring locations, related to those systems, and⁵²

- (a) the parameter is present at a concentration that may result in the deterioration of the water for use as a source of drinking water, or
- (b) there is a trend of increasing concentrations of the parameter at the intake, well or monitoring location and a continuation of that trend would result in the deterioration of the quality of the water for use as a source of drinking water.⁵³

115. Only in respect of a drinking water issue identified in accordance with rule 114, where the drinking water issue is the result of, or partially the result of, anthropogenic causes, the description of the drinking water issue shall include the following information:

- (1) The parameter or pathogen concerned.
- (2) The surface water intake, well or monitoring location at which the presence of the parameter or pathogen has occurred.⁵⁴
- (3) The issue contributing area delineated in accordance with subrules 47 (7) or 48 (7) or rule 78.1; and⁵⁵
- (4) The identification of the drinking water threats listed in accordance with rules 118, 119 or 126 that contribute or may contribute to the parameter or pathogen of concern.

115.1 In respect of a drinking water issue that is not described under rule 115, the description of the drinking water issue shall include,

- (1) the parameter or pathogen concerned; and
- (2) an explanation of the nature of the issue and the possible causes of the issue.

116. **Removed.**⁵⁶

⁵² Amended in March 2017

⁵³ Amended in March 2017

⁵⁴ Amended in March 2017

⁵⁵ Amended in December 2021

⁵⁶ Amended in December 2021

117. If the source protection committee is of the opinion that areas, activities or conditions referred to in subrules 115(3) or (4) are located outside the boundaries of the source protection area, the description of the drinking water issue shall include this information and shall identify the source protection area in which the source protection committee believes such areas and activities or conditions may be located.

Part XI.2 - Listing drinking water threats - Activities

Activities prescribed to be drinking water threats

118. The activities prescribed to be drinking water threats for a vulnerable area in paragraphs 1 through 18 and paragraphs 21 to 22 of subsection 1.1(1) of O. Reg. 287/07 (General) may be collectively listed in the assessment report as “the activities prescribed to be drinking water threats in paragraphs 1 through 18 and paragraphs 21 and 22 of subsection 1.1(1) of O. Reg. 287/07 (General)”.⁵⁷

118.1 When identifying the circumstances in which an activity is or would be a significant drinking water threat, a moderate drinking water threat, or a low drinking water threat in accordance with paragraphs 3 to 5 of subsection 13(1) of O. Reg. 287/07 (General), the report may refer to the applicable parts of the Table of Drinking Water Threats that sets out the set of circumstances that makes an activity a significant, moderate or low drinking water threat.

Other activities

119. In addition to activities prescribed to be drinking water threats in paragraphs 1 through 18 and paragraphs 21 and 22 of subsection 1.1(1) of O. Reg. 287/07 (General), an activity shall be listed as a drinking water threat for a vulnerable area if,⁵⁸

- (1) the activity has been identified by the source protection committee as an activity that may be a drinking water threat;
- (2) an approval is not required to engage in the activity pursuant to any Act (Provincial or Federal);
- (3) the Director has confirmed in writing that the activity is an activity that can be assessed and addressed as a drinking water threat under the Clean Water Act; and
- (4) information provided by the Director indicates that,

⁵⁷ Amended in December 2021

⁵⁸ Amended in December 2021

- (a) the chemical hazard rating of the activity is greater than 4; or
- (b) the pathogen hazard rating of the activity is greater than 4.

(5) Removed.

120. The chemical hazard rating of an activity that is not prescribed to be a drinking water threat under O. Reg. 287/07 (General) shall be a rating that in the opinion of the Director reflects the hazard presented by the chemical parameter associated with the activity, if any, considering the following factors:

- (1) Toxicity of the parameter.
- (2) Environmental fate of the parameter.
- (3) Quantity of the parameter.
- (4) Method of release of the parameter to the natural environment.
- (5) Type of vulnerable area in which the activity is or would be located.

121. The pathogen hazard rating of an activity that is not prescribed to be a drinking water threat under O. Reg. 287/07 (General) shall be a rating that in the opinion of the Director reflects the hazard presented by pathogens associated with the activity, if any, considering the following factors:

- (1) The frequency of the presence of pathogens that may be associated with the activity.
- (2) Method of release of the pathogen to the natural environment.
- (3) Type of vulnerable area in which the activity is or would be located.

122. The risk score of an area within a vulnerable area in respect of an activity that is not listed in the Tables of Drinking Water Threats shall be calculated in accordance with the following formula:

$$A \times B$$

where,

A = the chemical hazard rating or pathogen hazard rating of the activity determined in accordance with rule 120 or 121, as the case may be; and

B = the vulnerability of the score of the area within the vulnerable area determined in accordance with Part VII or Part VIII, as the case may be.

123. Removed.

124. Removed.

125. If an activity that is not prescribed to be a drinking water threat under O. Reg. 287/07 (General) is listed as an activity that is or would be a drinking water threat, the following information shall be provided in a table format:

- (1) The circumstances that make the activity a drinking water threat shall be specified opposite the activity.
- (2) The hazard rating of the activity determined in accordance with rule 120 or 121 or both, as the case may be, shall be listed opposite the activity.

Part XI.3 - Listing drinking water threats - Conditions

Listing Conditions that result from past activities

126. If the source protection committee is aware of one of the following conditions that results from past activities, the committee shall list it as a drinking water threat under clause 15(2)(g)(ii) of the Act:

- (1) The presence of a non-aqueous phase liquid in groundwater in a highly vulnerable aquifer or wellhead protection area.⁵⁹
- (2) The presence of a single mass of more than 100 litres of one or more dense non-aqueous phase liquids in surface water in a surface water intake protection zone.
- (3) The presence of a contaminant in groundwater in a highly vulnerable aquifer or a wellhead protection area, if the contaminant is listed in Table 2 of the Soil, Ground Water and Sediment Standards, is present at a concentration that exceeds the potable groundwater standard set out for the contaminant in that Table, and the presence of the contaminant in groundwater could result in the deterioration of the groundwater for use as a source of drinking water.⁶⁰

⁵⁹ Amended in December 2021

⁶⁰ Amended in December 2021

(4) The presence of a contaminant in surface soil in a surface water intake protection zone if, the contaminant is listed in Table 4 of the Soil, Ground Water and Sediment Standards is present at a concentration that exceeds the surface soil standard for industrial/commercial/community property use set out for the contaminant in that Table and the presence of the contaminant in surface soil could result in the deterioration of the surface water for use as a source of drinking water.

(5) The presence of a contaminant in sediment in an intake protection zone, if the contaminant is listed in Table 1 of the Soil, Ground Water and Sediment Standards and is present at a concentration that exceeds the sediment standard set out for the contaminant in that Table and the presence of the contaminant in sediment could result in the deterioration of the surface water for use as a source of drinking water.⁶¹

(6) The presence of a contaminant in groundwater that is discharging into an intake protection zone, if the contaminant is listed in Table 2 of the Soil, Ground Water and Sediment Standards, the concentration of the contaminant exceeds the potable groundwater standard set out for that contaminant in the Table, and the presence of the contaminant in groundwater could result in the deterioration of the surface water for use as a source of drinking water.⁶²

Part XI.4 - Identifying areas for significant, moderate and low drinking water threats - Activities

Significant drinking water threats

127. An activity listed as a drinking water threat in accordance with rule 118 is or would be a significant drinking water threat in an area set out opposite to the activity in column 3 of Table 1 or Table 2 of the Tables of Drinking Water Threats if the area has a vulnerability score set out in column 4 of the respective Table and the set of circumstances set out in a cell of column 2 of the respective Table opposite to the area apply to the activity.

128. An activity listed as a drinking water threat in accordance with rule 118 is or would be a significant drinking water threat if rule 127 does not apply and the following apply:

(1) The chemical hazard rating or pathogen hazard rating for the chemical parameter or pathogen associated with the circumstances under which the

⁶¹ Amended in March 2017

⁶² Introduced in March 2017

activity is or will be engaged in, determined in accordance with rule 120 or 121, is greater than 4.

(2) The area within a vulnerable area where the activity is or will be engaged in has a risk score calculated in accordance with rule 122 that is equal to or greater than 80.

129. An activity listed as a drinking water threat in accordance with rule 119 is or would be a significant drinking water threat in an area within a vulnerable area that has a risk score in respect of the activity calculated in accordance with rule 122 that is equal to or greater than 80.

130. An activity listed as a drinking water threat in accordance with rule 118 or 119 is or would be a significant drinking water threat in a surface water intake protection zone associated with a surface water intake to which rule 68 applies at the location where the activity is or would be engaged in, if modeling or another method-demonstrates that a release of a chemical parameter or pathogen from the activity or the proposed activity would be transported through the surface water intake protection zone to the intake and result in the deterioration of the water for use as a source of drinking water for the intake.

131. Despite anything else in these rules, an activity is or would be a significant drinking water threat if,

(1) the activity is associated with a drinking water issue described in subrule 114(1) or (2);

(2) the activity is identified as a drinking water threat in accordance with subrule 115(4);

(3) the activity is located in an issue contributing area identified in accordance with subrule 115(3); and

(4) the circumstances described in rule 131.1 apply to the activity.

131.1 The circumstances for the purposes of subrule 131(4) are,

(1) if the activity is listed as a drinking water threat in accordance with rule 118, a set of circumstances set out in an applicable cell in Column 2 of the Table of Drinking Water Threats that contribute or may contribute to the drinking water issue mentioned in subrule 131(1); or

(2) if the activity is listed as a drinking water threat in accordance with rule 119, the circumstances for the activity specified in accordance with rule

125 that contribute or may contribute to the drinking water issue mentioned in subrule 131(1).

Moderate drinking water threats

132. An activity listed as a drinking water threat in accordance with rule 118 is or would be a moderate drinking water threat in an area set out opposite to the activity in column 3 of Table 1 or Table 2 of the Tables of Drinking Water if the area has a vulnerability score set out in column 5 of the respective Table and all of the circumstances set out in column 2 of the respective Table opposite to the area apply to the activity.

133. An activity listed in accordance with rule 118 is or would be a moderate drinking water threat if rule 132 does not apply and the following apply:

(1) The chemical hazard rating or pathogen hazard rating for the chemical parameter or pathogen associated with the circumstances under which the activity is or will be engaged in, determined in accordance with rule 120 or 121, is greater than 4.

(2) The area within a vulnerable area in which the activity is or will be engaged in has a risk score calculated in accordance with rule 122 that is equal to or greater than 60 but less than 80.

134. An activity listed as a drinking water threat in accordance with rule 119 is or would be a moderate drinking water threat in an area within a vulnerable area that has a risk score in respect of the activity calculated in accordance with rule 122 equal to or greater than 60 but less than 80.

134.1 Despite anything else in these rules an activity is or would be a moderate drinking water threat if,

(1) The activity is not identified in accordance with rules 127 to 131.1 as an activity that is or would be a significant drinking water threat;

(2) the activity is associated with a drinking water issue described in subrule 114(3);

(3) the activity is identified as a drinking water threat in accordance with subrule 115(4);

(4) the activity is located in an issue contributing area identified in accordance with subrule 115(3); and

(5) the circumstances described in rule 134.2 apply to the activity.

134.2 The circumstances for the purposes of subrule 134.1(5) are,

- (1) if the activity is listed as a drinking water threat in accordance with rule 118, a set of circumstances set out in an applicable cell in Column 2 of the Table of Drinking Water Threats that contribute or may contribute to the drinking issue mentioned in subrule 134.1(1); or
- (2) if the activity is listed as a drinking water threat in accordance with rule 119, the circumstances for the activity specified in accordance with rule 125 that contribute or may contribute to the drinking water issue mentioned in subrule 134.1(1).

Low drinking water threats

135. An activity listed as a drinking water threat in accordance with rule 118 is or would be a low drinking water threat in an area set out opposite to the activity in column 3 of Table 1 or Table 2 of the Tables of Drinking Water if the area has a vulnerability score set out in column 6 of the respective Table and all of the circumstances set out in column 2 of the respective Table opposite to the area apply to the activity.

136. An activity listed as a drinking water threat in accordance with rule 118 is a low drinking water threat if rule 135 does not apply and the following apply:

- (1) The chemical hazard rating or pathogen hazard rating for the chemical parameter or pathogen associated with the circumstances under which the activity is or will be engaged in, determined in accordance with rule 120 or 121, is greater than 4.
- (2) The area within a vulnerable area in which the activity is or will be engaged in has a risk score calculated in accordance with rule 122 that is greater than 40 but less than 60.

137. An activity listed as a drinking water threat in accordance with rule 119 is or would be a low drinking water threat in an area within a vulnerable area that has a risk score in respect of the activity calculated in accordance with rule 122 to be greater than 40 but less than 60.

Part XI.5 - Identifying areas for significant, moderate and low drinking water threats - Conditions

138. The risk score of an area in respect of a condition that results from a past activity shall be calculated in accordance with the following formula:

$$A \times B$$

where,

A = the hazard rating of the condition;

B = the vulnerability of the score of the area determined in accordance with Part VII or VIII, as the case may be.

139. For the purpose of rule 138, the hazard rating of a condition that results from a past activity is,

- (1) if there is evidence that the contamination is migrating towards the well or intake and the contamination has the potential to deteriorate the quality of water of the aquifer drinking water source or the surface water drinking water source, the hazard rating is 10;^{63,64}
- (2) if the condition is on a property where a well, intake or monitoring location related to a drinking water system to which clause 15(2)(e) of the Act applies is located, the hazard rating is 10; and⁶⁵
- (3) if subrules (1) or (2) do not apply to the condition, the hazard rating is 6.

Identifying areas for significant conditions

140. An area within a vulnerable area is an area where a condition that results from a past activity listed in accordance with rule 126 is a significant drinking water threat if the risk score of the area in respect of the condition is equal to or greater than 80.

140.1 Removed.⁶⁶

⁶³ Amended in March 2017

⁶⁴ Amended in December 2021

⁶⁵ Amended in March 2017

⁶⁶ Amended in March 2017

141. Despite anything else in these rules, a condition that results from a past activity is a significant drinking water threat if,

- (1) the condition is associated with a drinking water issue described in subrule 114(1) or (2);
- (2) the condition is identified as a drinking water threat in accordance with subrule 115(4);
- (3) the condition is located in an issue contributing area identified in accordance with subrule 115(3); and
- (4) there is evidence that the contamination is migrating towards the well or intake and the contamination has the potential to deteriorate the quality of water of the aquifer drinking water source or the surface water drinking water source or the condition is on the property where the surface water intake, well or monitoring location identified in accordance with subrule 115(2) is located.^{67,68}

Identifying areas for moderate conditions

142. Subject to rule 141, an area within a vulnerable area is an area where a condition that results from a past activity listed in accordance with rule 126 is a moderate drinking water threat if the risk score of the area in respect of the condition is equal to or greater than 60 but less than 80.

142.1 Despite anything else in these rules a condition that results from a past activity is a moderate drinking water threat if:

- (1) The condition is not identified in accordance with rules 140 and 141 as a condition that is a significant drinking water threat;
- (2) the condition is associated with a drinking water issue described in subrule 114(3);
- (3) the condition is identified as a drinking water threat in accordance with subrule 115(4); and
- (4) the activity is located in an issue contributing area identified in accordance with subrule 115(3).

⁶⁷ Amended in March 2017

⁶⁸ Amended in December 2021

Identifying areas for low conditions

143. Subject to rule 141, an area within a vulnerable area is an area where a condition that results from a past activity listed in accordance with rule 126 is a low drinking water threat if the risk score of the area in respect of the condition is greater than 40 but less than 60.

Part XII – Tables of Drinking Water Quality Threats

Part XII.1 Glossary

1. Where this document uses a word or expression that is defined in the *Clean Water Act, 2006*, a regulation made under that act, or the Technical Rules it has the same meaning as in the Act, regulation or the Rules.
2. In this document, the following words and expressions have the same meaning as in **Ontario** Regulation 347 (General – Waste Management), R.R.O. 1990, made under the *Environmental Protection Act*:
 - a. "hailed sewage", where the phrase is used in relation to the application of hailed sewage to land;
 - b. "hazardous waste";
 - c. "liquid industrial waste";
 - d. "municipal waste";
 - e. "petroleum refining waste";
 - f. "waste generation facility";
 - g. "landfilling";
 - h. "subject waste"; and
 - i. "processed organic waste".
3. In this document, the following words and expressions have the same meaning as in section 1 of O. Reg. 525/98 (Approval Exemptions) made under the *Ontario Water Resources Act*:
 - a. "combined sewer";
 - b. "sanitary sewer";
 - c. "storm water management facility";
 - d. "storm water";
 - e. "storm sewer";
 - f. "sewer"; and
 - g. "appurtenance".
4. In this document, the following words and expressions have the same meaning as in section 1 of O. Reg. 129/04 (Licensing of Sewage Works Operators) made under the *Ontario Water Resources Act*:
 - a. "wastewater collection facility"; and
 - b. "wastewater treatment facility".

5. In this document, the following words and expressions have the same meaning as in O. Reg. 350/06 (Building Code) made under the *Building Code Act, 1992*:

- a. "earth pit privy";
- b. "greywater";
- c. "hailed sewage", where the phrase is used in relation to a system requiring or using a holding tank;
- d. "hailed sewage system";
- e. "holding tank";
- f. "leaching bed";
- g. "privy vault";
- h. "treatment unit"; and
- i. "cesspool".

6. In this document, the following words and expressions have the same meaning as in section 2 of the *Nutrient Management Act, 2002*:

- a. "agricultural operation"; and
- b. "farm animal";

7. In this document, the following words and expressions have the same meaning as in section 1 of O. Reg. 267/03 (General) made under the *Nutrient Management Act, 2002*:

- a. "permanent nutrient storage facility";
- b. "runoff", where used in relation to agricultural source material, fertilizer or non-agricultural source material; and
- c. "temporary field nutrient storage site".
- d. "Category 2 non-agricultural source materials" or "Category 2 NASM";
- e. "Category 3 non-agricultural source materials" or "Category 3 NASM";
- f. "sewage biosolids";
- g. "non-agricultural source materials" or "NASM";
- h. "Category 1 non-agricultural source materials" or "Category 1 NASM"; and
- i. "non-farm herbivorous animal".

8. The following words and expressions are defined as follows for the purpose of this document:

"aquaculture facility" means a facility that primarily engages in farm-raising cultured fish;

"BTEX" means benzene, toluene, ethylbenzene and xylene;

"Category B compost" means compost that meets the requirements for Category B compost in Part II of the Ontario Compost Quality Standards;

"Combined Sewer Overflow (CSO)" means a discharge of untreated sewage to the land or surface water;

"Default percentage of impervious surface area" means the percentage of total impervious surface area that shall be used in identifying if the application of road salt is a low, moderate or significant drinking water threat in an IPZ or WHPA or HVA;

"DNAPL" means a dense non-aqueous phase liquid;

"discharge", when used as a verb, includes add, deposit, leak or emit and, when used as a noun, includes addition, deposit, emission or leak;

"force main or rising main" means a "sanitary sewer", which conveys sewage under pressure from a pump or pneumatic ejector to a point where the system is either combined with other parts of the "wastewater collection facility" or discharged to a "wastewater treatment facility";

"final effluent outfall" means the approved discharge point of a sewage treatment plant effluent, including final effluent from a sewage lagoon, to surface water, and includes any discharges of sewage as a result of any by-passes that occur in the sewage treatment plant processes upstream of the final effluent sampling points;

"grade" means the average level of the soil surface in the area surrounding the facility or structure;

"gravity sanitary sewer" means a "sanitary sewer", which relies on gravity to convey sewage to other parts of the "wastewater collection facility" or discharge sewage to a "wastewater treatment facility";

"handling" means using, moving, loading and unloading of chemical(s) on a site that could result in the release of the chemical(s) into the groundwater or surface water, and includes handling areas, as well as any pipes, fittings, valves, controls, and pumps connected to the storage;

"liquid hydrocarbon" is liquid at the temperature and pressure under which its volume is measured or estimated, and consists of a compound or mixture of compounds of hydrogen and carbon, such as any of those which constitute the chief components of crude oil, liquid petroleum products, condensates and pentanes plus;

"livestock density map" means a map contained in the most recent assessment report for the applicable source protection area and prepared in accordance with sub-rule 16 (10);

"managed land map" means a map contained in the most recent assessment report for the applicable source protection area and prepared in accordance with sub-rule 16 (9) of the Technical Rules;

"managed land percentage" means the percentage of managed land for the area as set out on the managed land map;

"manhole" means an access point to a sewer from the surface to allow a person to enter the sewer for inspection, survey or maintenance;

"meat plant" has the same meaning as in section 1 of O. Reg. 31/05 (Meat) made under the *Food Safety Quality Act, 2001*;

"National airport" means an airport that serves the national capital region or the Greater Toronto Area, or an airport with annual passenger traffic of 200,000 persons or more;

"non-agricultural managed land" means managed land that is not agricultural managed lands including lawns, sport fields and golf courses;

"NPRI Notice" means the notice published in Volume 142, No. 7 of the Canada Gazette dated February 16, 2008 pursuant to subsection 46(1) of the *Canadian Environmental Protection Act, 1999* (Canada);

"outfall" means the discharge point of a structure designed and built to direct storm water, snow meltwater, sanitary sewage, sewage treatment plant final effluent or overflow, industrial sewage and cooling water into surface water for dispersion and dilution;

"partially separated sanitary sewer" means a "sanitary sewer" in which either only a portion of an original "Combined Sewer" was retrofitted to "separated sanitary sewers", or in which a new development area served by separate

sanitary sewers was added to an area served by a Combined Sewer;

"pathogen" means a microscopic organism capable of producing infection or infectious disease in humans;

"PCB waste" has the same meaning as in Regulation 362 (Waste Management–PCB's), R.R.O. 1990, made under the *Environmental Protection Act*;

"regional airport" means an airport with an annual passenger traffic that is less than 200,000 persons and that is not a remote airport or a small airport;

"remote airport" means an airport that serves a community where air transportation is the only reliable method of year-round transportation between the community and other population centres;

"sanitary sewage" means sewage within or from a sanitary sewer;

"sanitary sewer overflow (SSO)" means a discharge of sanitary sewage to the land or surface water from a sanitary sewer at designed locations, other than the final discharge to a wastewater treatment plant or at a combined sewer outfall;

"sanitary sewage pumping station overflow (PSO)": means a discharge of sanitary sewage overflow to land or surface water from a sanitary sewage pumping station at designed locations, other than the final discharge to a wastewater treatment plant or to a combined sewer;

"separated sanitary sewer" means a sanitary sewer in which there is no contribution from storm water inflow, and all runoff from precipitation and snowmelt is separately collected and conveyed by "storm sewers";

"sewage pumping station or lift station" means a facility that forms part of a "wastewater collection facility", including pumps, wet well and equipment used to lift the sewage upward through a sewer force main or rising main to higher elevations in order to allow further conveyance by gravity flow;

"sewage treatment plant overflow outfall" means any alternate discharge point of sewage at designed locations other than the approved sewage treatment plant final effluent outfall;

"sewage treatment plant (STP) holding tank" means any tank that is not a sewage treatment plant process tank and has the primary function to store or blend

sewage or sludge and is a part of the sewage treatment plant;

“sewage treatment plant (STP) process tank” means any tank that has a specific treatment purpose and is part of the sewage treatment plant (for example sedimentation tanks, aeration tanks);

"small airport" means an airport that does not have regular scheduled service to other airports and is not a remote airport;

“snow disposal facility” means a snow meltwater management facility as part of a sewage work that requires approval under section 53 of the *Ontario Water Resources Act* (OWRA, 1990), or a facility in lieu of requiring an approval is regulated by an Environmental Activity and Sector Registry (EASR);

"spill" has the same meaning as in subsection 91(1) of the *Environmental Protection Act*;

“stationary means of containment for hauled sewage” means a means for storing hauled sewage on-site temporarily, including a tank or lagoon, that is designed not to discharge the hauled sewage into the natural environment and that may be governed by an environmental compliance approval in respect of a waste management system or a waste disposal site;

"storage", as it relates to DNAPLs, pesticides, fuel, commercial fertilizers, organic solvents and road salt, includes the "handling" of the chemical(s) taking place on the same site as the storage;

“storage of snow” means a snow disposal facility, or any other area where the predominant land use is commercial or industrial that is designed or used for the retention and control of snow for further discharging or infiltrating the meltwater to ground, land, surface water or sewage work;

“storm water drainage system” means a system designed for the collection and transmission of "storm water" or snow meltwater from a “snow disposal facility”, including a “storm sewer”, a ditch or a swale;

“storm water drainage system outfall” means the discharge point to a surface water body from a storm water drainage system; e.g. storm sewer pipe outfall.

“storm water management facility outfall” means the discharge point at which “storm water” is discharged to a surface water body from a “storm water

management facility”, including where storm water is discharged from a spillway, a perforated riser, or a weir; e.g. storm water retention pond outfall.

“storm water infiltration facility” means a “storm water management facility” that is designed to exfiltrate or infiltrate part or all of the “storm water” into the ground to reduce runoff, including a greenway terrace, a soak way, an infiltration trench, an infiltration chamber, a bioretention structure, a vegetated filter strip, a permeable pavement, a grass swale, a dry swale, a perforated pipe system or pervious pipe, a pervious catch basin, an infiltration basin, an infiltration gallery;

"system" includes part of a system;

"Technical Rules" means the Ministry of the Environment document titled "Technical Rules: Assessment Report" as amended from time to time and made under section 107 of the *Clean Water Act, 2006*.

"total impervious surface area map" means a map contained in the most recent assessment report for the applicable source protection area and prepared in accordance with sub-rule 16 (11).

“transmit” has the same meaning as in Section 1 of Ontario Regulation 210/01;

“wet well” means an underground pit as part of a sewage pumping station or lift station, where sanitary sewage is stored in until it is pumped out of the station;

9. In this document, the following List 1 is applicable to the circumstances related to the prescribed threat “handling and storage of DNAPLs”:

- Adhesives and resins manufacturing and processing
- Airstrips and hangars operations
- Asphalt and bitumen manufacturing
- Boat manufacturing
- Coal gasification and coal tar manufacturing and processing
- Commercial autobody shops (including automotive and other motor vehicles)
- Commercial port activities, including operation and maintenance of wharves and docks
- Cosmetics manufacturing and processing
- Dye manufacturing and processing
- Electroplating
- Electronic, computer, photographic and printing equipment manufacturing
- Garages and maintenance and repair of railcars, marine vehicles and aviation vehicles

Glass manufacturing and production
Iron and steel manufacturing and production
Metal fabrication
Metal treatment, coating, plating and finishing
Operation of dry-cleaning equipment (where chemicals are used)
Paints manufacturing and processing
Pesticides (including herbicides, fungicides and anti-fouling agents)
manufacturing and processing
Pharmaceutical manufacturing and processing
Plastics (including fibreglass) manufacturing and processing
Pulp, paper and paperboard manufacturing and processing
Rail yards, tracks and spurs
Rubber manufacturing and processing
Solvent manufacturing and processing
Vehicles and associated parts manufacturing
Tanneries
Textile manufacturing and processing
Wood treating and preservative facility

Part XII.2 Prescribed Threats Categories, Sub-Categories and Circumstances

Acronyms used in the tables below:

IPZ : Intake Protection Zone

WHPA: Wellhead Protection Area

HVA : Highly Vulnerable Aquifer

SDWT : Significant risk of Drinking Water Threat

MDWT: Moderate risk of Drinking Water Threat

LDWT : Low risk of Drinking Water Threat

Notes:

O. Reg. 287/07 of the *Clean Water Act, 2006* prescribes twenty-two drinking water threats, in which two of them, threats number 19 and 20, are water quantity threats. Therefore, these threats are not described under Part XII.2, but under Part X of this document. In the following tables, the letters C and P refer to the chemical and pathogen circumstances of the drinking water quality threats, respectively.

1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act*.

- 1.1 Disposal of Hauled Sewage to Land.
- 1.2 Application of Processed Organic Waste to Land.
- 1.3 Landfarming of Petroleum Refining Waste.
- 1.4 Landfilling (Hazardous Waste or Liquid Industrial Waste).
- 1.5 Landfilling (Municipal Waste).
- 1.6 Liquid Industrial Waste Injection into a well.
- 1.7 PCB Waste Storage.
- 1.8 Storage of Hauled Sewage.
- 1.9 Storage of Processed Organic Waste or Waste Biomass.
- 1.10 Transfer/Processing Sites approved to receive Hazardous Waste or Liquid Industrial Waste.
- 1.11 Transfer/Processing Site approved to receive only Municipal Waste under Part V of the Environmental Protection Act
- 1.12 Storage of Subject Waste at a Waste Generation Facility:
site requires generator registration under Section 3 of O. Reg. 347.
- 1.13 Storage of Waste at a Waste Generation Facility: site that is exempt or excluded from generator registration requirements.
- 1.14 Storage, Treatment and Discharge of Tailings From Mines.

1.1 Disposal of Hauled Sewage to Land

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.1.1	1. The disposal of hauled sewage to land by any method . 2. The application area is less than 1 hectare.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA

				6 – 8 HVA 6
C1.1.2	1. The disposal of hauled sewage to land by any method . 2. The application area is at least 1, but not more than 10 hectares.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C1.1.3	1. The disposal of hauled sewage to land by any method . 2. The application area is more than 10 hectares.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P1.1.1	1. Land disposal of hauled sewage in any quantity by any method . 2. The disposal may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

1.2 Application of Processed Organic Waste to Land

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.2.1	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 8

C1.2.2	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C1.2.3	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C1.2.4	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C1.2.5	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C1.2.6	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6

	is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.			HVA 6
C1.2.7	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C1.2.8	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C1.2.9	1. The processed organic waste is applied to a land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P1.2.1	1. Land application of any quantity of processed organic waste. 2. The application may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

1.3 Landfarming of Petroleum Refining Waste

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
----------------------------	---------------------------------	----------------------	----------------------	----------------------

C1.3.1	1. The land disposal of petroleum refining waste within the meaning of clause (d) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) R.R.O. 1990 made under the Environmental Protection Act, is undertaken at the site. 2. The area where the land disposal is undertaken is not more than 1 hectare.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C1.3.2	1. The land disposal of petroleum refining waste within the meaning of clause (d) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) R.R.O. 1990 made under the Environmental Protection Act, is undertaken at the site. 2. The area where the land disposal is undertaken is more than 1, but not more than 10 hectares.	IPZ/WHPA-E 10	IPZ/WHPA-E 7 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C1.3.3	1. The land disposal of petroleum refining waste within the meaning of clause (d) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) R.R.O. 1990 made under the Environmental Protection Act, is undertaken at the site. 2. The area where the land disposal is undertaken is more than 10 hectares.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6.4 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.3 WHPA 6 HVA 6
	Circumstances (pathogen)		Areas of SDWT	Areas of MDWT
	N/A			Areas of LDWT

1.4 Landfilling (Hazardous Waste or Liquid Industrial Waste)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.4.1	1. The land disposal of hazardous waste, liquid industrial waste, or processed liquid industrial waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347, R.R.O. 1990 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6

	2. The fill area is less than 1 hectare.			HVA 6
C1.4.2	1. The land disposal of hazardous waste, liquid industrial waste, or processed liquid industrial waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347, R.R.O. 1990 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The fill area is at least 1 but not more than 10 hectares.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 8 – 9 WHPA 8	IPZ/WHPA-E 4.9 – 7.2 WHPA 6 HVA 6
C1.4.3	1. The land disposal of hazardous waste, liquid industrial waste, or processed liquid industrial waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347, R.R.O. 1990 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The fill area is more than 10 hectares.	IPZ/WHPA-E 9 – 10 WHPA 8 – 10	IPZ/WHPA-E 7 – 8.1 WHPA 6 HVA 6	IPZ/WHPA-E 4.5 – 6.4
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.5 Landfilling (Municipal Waste)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.5.1	1. The land disposal of municipal waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The fill area is less than 1 hectare.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
C1.5.2	1. The land disposal of municipal waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The fill area is at least 1 but not more than 10 hectares.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 8 – 9 WHPA 8	IPZ/WHPA-E 4.9 – 7.2 WHPA 6

				HVA 6
C1.5.3	1. The land disposal of municipal waste, within the meaning of clauses (a) and (b) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The fill area is more than 10 hectares.	IPZ/WHPA-E 9 – 10 WHPA 8 – 10	IPZ/WHPA-E 7 – 8.1 WHPA 6 HVA 6	IPZ/WHPA-E 4.5 – 6.4
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.6 Liquid Industrial Waste Injection into a well

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.6.1	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is not more than 380 cubic metres per year.		WHPA 8 – 10	IPZ/WHPA-E 8.1 – 10 WHPA 6 HVA 6
C1.6.2	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is more than 380 but not more than 3,800 cubic metres per year.	WHPA 10	WHPA 8	IPZ/WHPA-E 8 – 10 WHPA 6 HVA 6
C1.6.3	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site.	WHPA 10	WHPA 8	IPZ/WHPA-E 7 – 10 WHPA 6

	2. The combined rate of discharge of all wells located at the site is more than 3,800 but not more than 38,000 cubic metres per year.			HVA 6
C1.6.4	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is more than 38,000 but not more than 380,000 cubic metres per year.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 7 – 9 WHPA 6 HVA 6
C1.6.5	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is more than 380,000 but not more than 3,800,000 cubic metres per year.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 6.3 – 9 WHPA 6 HVA 6
C1.6.6	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is more than 3,800,000 but not more than 38,000,000 cubic metres per year.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C1.6.7	1. The land disposal of liquid industrial waste within the meaning of clause (c) of the definition of "land disposal" in section 1 of Regulation 347 (General - Waste Management) made under the Environmental Protection Act, is undertaken at the site. 2. The combined rate of discharge of all wells located at the site is more than 38,000,000 cubic metres per year.	WHPA 8 – 10	IPZ/WHPA-E 9 – 10 WHPA 6 HVA 6	IPZ/WHPA-E 5.6 – 8.1
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.7 PCB Waste Storage

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.7.1	1. PCB waste is stored below grade in a facility or engineered cell. 2. The PCB waste is stored at a PCB waste disposal site as described in Section 3 of Regulation 362 (Waste Management – PCBs), R.R.O. 1990, made under the Environmental Protection Act or was delivered to a site under written instructions of a Director in accordance with clause 8(a) of that regulation.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C1.7.2	1. PCB waste is stored in drums above or at grade. 2. The PCB waste is stored at a PCB waste disposal site as described in Section 3 of Regulation 362 (Waste Management – PCBs), R.R.O. 1990, made under the Environmental Protection Act or was delivered to a site under written instructions of a Director in accordance with clause 8(a) of that regulation.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C1.7.3	1. PCB waste is stored in storage tanks below grade. 2. The PCB waste is stored at a PCB waste disposal site as described in Section 3 of Regulation 362 (Waste Management – PCBs), R.R.O. 1990, made under the Environmental Protection Act or was delivered to a site under written instructions of a Director in accordance with clause 8(a) of that regulation.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C1.7.4	1. PCB waste is stored in a storage tank that is installed partially below grade. 2. The PCB waste is stored at a PCB waste disposal site as described in Section 3 of Regulation 362 (Waste Management – PCBs), R.R.O. 1990, made under the Environmental Protection Act or was delivered to a site under written instructions of a Director in accordance with clause 8(a) of that regulation.	WHPA 10	IPZ/WHPA-E 8 – 10 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C1.7.5	1. PCB waste is stored in an outdoor area and not in a container. 2. The PCB waste is stored at a PCB waste disposal site as described in Section 3 of Regulation 362 (Waste Management – PCBs), R.R.O. 1990, made under the Environmental Protection Act or was delivered to a site	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7.2 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 7 WHPA 6

	under written instructions of a Director in accordance with clause 8(a) of that regulation.			HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.8 Storage of Hauled Sewage

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.8.1	1. The hauled sewage is stored in a tank at a site in a stationary means of containment for hauled sewage, not including a site where it is produced before its collection by a hauled sewage system.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C1.8.2	1. The hauled sewage is stored in a lagoon at a site in a stationary means of containment for hauled sewage, not including a site where it is produced before its collection by a hauled sewage system.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P1.8.1	1. The hauled sewage is stored in a tank or in a lagoon on site in a stationary means of containment for hauled sewage. 2. The storage may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

1.9 Storage of Processed Organic Waste or Waste Biomass

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.9.1	1. The processed organic waste or waste biomass is stored at or above grade. 2. The mass of nitrogen in the processed organic waste stored is less than 0.5 tonne.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C1.9.2	1. The processed organic waste or waste biomass is stored partially below grade. 2. The mass of nitrogen in the processed organic waste stored is less than 0.5 tonne.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C1.9.3	1. The processed organic waste or waste biomass is stored below grade. 2. The mass of nitrogen in the processed organic waste stored is less than 0.5 tonne.		WHPA 8 – 10	IPZ/WHPA-E 8 – 10 WHPA 6 HVA 6
C1.9.4	1. The processed organic waste or waste biomass is stored at or above grade. 2. The mass of nitrogen in the processed organic waste stored is at least 0.5 tonne but not more than 5 tonnes.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C1.9.5	1. The processed organic waste or waste biomass is stored partially below grade. 2. The mass of nitrogen in the processed organic waste stored is at least 0.5 tonne but not more than 5 tonnes.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7.2 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 7 WHPA 6

				HVA 6
C1.9.6	1. The processed organic waste or waste biomass is stored below grade. 2. The mass of nitrogen in the processed organic waste stored is at least 0.5 tonne but not more than 5 tonnes.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 7 – 9 WHPA 6 HVA 6
C1.9.7	1. The processed organic waste or waste biomass is stored at or above grade. 2. The mass of nitrogen in the processed organic waste stored is more than 5 tonnes.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C1.9.8	1. The processed organic waste or waste biomass is stored partially below grade. 2. The mass of nitrogen in the processed organic waste stored is more than 5 tonnes.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C1.9.9	1. The processed organic waste or waste biomass is stored below grade. 2. The mass of nitrogen in the processed organic waste stored is more than 5 tonnes.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P1.9.1	1. The processed organic waste or waste biomass is stored on a site, and any portion of the material is stored at or above grade. 2. The storage may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

P1.9.2	1. The processed organic waste or waste biomass is stored on a site entirely below grade. 2. The storage may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 10	IPZ/WHPA-E 8 – 9	IPZ/WHPA-E 5 – 7.2
		WHPA-A/B 10	WHPA-A/B 8	WHPA-A/B 6

1.10 Transfer/Processing Sites approved to receive Hazardous Waste or Liquid Industrial Waste

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.10.1	1. The hazardous waste or liquid industrial waste is stored above grade at a transfer/processing site approved to receive waste under Part V of the Environmental Protection Act, that includes hazardous waste or liquid industrial waste.	IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 6 – 7.2 WHPA 6 HVA 6	IPZ/WHPA-E 4.2 – 5.6
C1.10.2	1. The hazardous waste or liquid industrial waste is stored partially below grade at a transfer/processing site approved to receive waste under Part V of the Environmental Protection Act, that includes hazardous waste or liquid industrial waste.	IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 6 – 7.2 WHPA 6 HVA 6	IPZ/WHPA-E 4.2 – 5.6
C1.10.3	1. The hazardous waste or liquid industrial waste is stored below grade at a transfer/processing site approved to receive waste under Part V of the Environmental Protection Act, that includes hazardous waste or liquid industrial waste.	WHPA 8 – 10	IPZ/WHPA-E 8 – 10 WHPA 6 HVA 6	IPZ/WHPA-E 5.4 – 7.2
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.11 Transfer/Processing Site approved to receive only Municipal Waste under Part V of the Environmental Protection Act

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.11.1	1. The municipal waste is stored at or above grade at a transfer/processing site approved to receive only municipal waste under Part V of the Environmental Protection Act.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C1.11.2	1. The municipal waste is stored partially below grade site at a transfer/processing site approved to receive only municipal waste under Part V of the Environmental Protection Act.	IPZ/WHPA-E 9 – 10 WHPA 8 – 10	IPZ/WHPA-E 7 – 8.1 WHPA 6 HVA 6	IPZ/WHPA-E 4.5 – 6.4
C1.11.3	1. The municipal waste is stored below grade at a transfer/processing site approved to receive only municipal waste under Part V of the Environmental Protection Act.	WHPA 8 – 10	IPZ/WHPA-E 8 – 10 WHPA 6 HVA 6	IPZ/WHPA-E 5.4 – 7.2
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.12 Storage of Subject Waste at a Waste Generation Facility: site requires generator registration under Section 3 of O. Reg. 347

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.12.1	1. The subject waste is stored at or above grade, or partially below grade, at a waste generation facility requiring generator registration as prescribed in Ontario Regulation 347 (General - Waste Management) R.R.O. 1990	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9	IPZ/WHPA-E 4.8 – 7

	made under the Environmental Protection Act, excluding a waste disposal site that requires an ECA under Part V of the EPA.	WHPA 10	WHPA 8	WHPA 6 HVA 6
C1.12.2	1. The subject waste is stored below grade at a waste generation facility requiring generator registration as prescribed in Ontario Regulation 347 (General - Waste Management) R.R.O. 1990 made under the Environmental Protection Act, excluding a waste disposal site that requires an ECA under Part V of the EPA.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.13 Storage of Waste at a Waste Generation Facility: site that is exempt or excluded from generator registration requirements

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.13.1	1. Any of the following wastes described in the specified provisions of Ontario Regulation 347 and are stored at or above grade at a waste generation facility: a) A waste excluded from the definition of subject waste as described in subsection 1 (3). b) A subject waste that is exempt from Part V because it meets the requirements set out in paragraph 1 of subsection 3 (2). c) A subject waste that is exempt from Part V and is described in paragraphs 3, 6, 7, 8, 10, 13, and 17, 18 and 19 of subsection 3 (2).		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C1.13.2	1. Any of the following wastes described in the specified provisions of Ontario Regulation 347 and are stored partially below grade at a waste generation facility: a) A waste excluded from the definition of subject waste as described in subsection 1 (3).	WHPA 10	IPZ/WHPA-E 8 – 10 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6

	<p>b) A subject waste that is exempt from Part V because it meets the requirements set out in paragraph 1 of subsection 3 (2).</p> <p>c) A subject waste that is exempt from Part V and is described in paragraphs 3, 6, 7, 8, 10, 13, and 17, 18 and 19 of subsection 3 (2).</p>			HVA 6
C1.13.3	<p>1. Any of the following wastes described in the specified provisions of Ontario Regulation 347 and are stored below grade at a waste generation facility:</p> <p>a) A waste excluded from the definition of subject waste as described in subsection 1 (3).</p> <p>b) A subject waste that is exempt from Part V because it meets the requirements set out in paragraph 1 of subsection 3 (2).</p> <p>c) A subject waste that is exempt from Part V and is described in paragraphs 3, 6, 7, 8, 10, 13, and 17, 18 and 19 of subsection 3 (2).</p>	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 7 – 9 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

1.14 Storage, Treatment and Discharge of Tailings from Mines

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C1.14.1	<p>1. Tailings from mining operations are stored in a pit.</p> <p>2. The site is part of a facility for which the NPRI Notice requires a person to report and the report must include information in relation to a substance listed in Group 1, 2, 3 or 4 of Part 1 of Schedule 1 or Part 2 of Schedule 1 of the notice.</p>	WHPA 10	IPZ/WHPA-E 8 - 10 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C1.14.2	<p>1. Tailings from mining operations are stored in a pit.</p> <p>2. The site is not part of a facility for which the NPRI Notice requires a person to report.</p>	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 6.3 - 9 WHPA 6

				HVA 6
C1.14.3	<p>1. Tailings from mining operations are stored using an impoundment structure located on the surface.</p> <p>2. The site is part of a facility for which the NPRI Notice requires a person to report and the report must include information in relation to a substance listed in Group 1, 2, 3 or 4 of Part 1 of Schedule 1 or Part 2 of Schedule 1 of the notice.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C1.14.4	<p>1. Tailings from mining operations are stored using an impoundment structure located on the surface.</p> <p>2. The site is not part of a facility for which the NPRI Notice requires a person to report.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.

2.1 Industrial Effluent Discharges.

2.2 Onsite Sewage Works.

2.3. Storm Water Management Facilities and Drainage Systems: Outfall from a Storm Water Management Facility or Storm Water Drainage System.

2.4. Storm Water Management Facilities and Drainage Systems: Storm Water Infiltration Facility.

2.5. Wastewater Collection Facilities and Associated Parts: Sanitary Sewers.

2.6. Wastewater Collection Facilities and Associated Parts: Outfall of a Combined Sewer Overflow (CSO), or a Sanitary Sewer Overflow (SSO) from a Manhole or Wet Well.

2.7. Wastewater Collection Facilities and Associated Parts: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel.

2.8 Wastewater Treatment Facilities and Associated Parts.

2.1 Industrial Effluent Discharges

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.1.1	<p>1. A wastewater system that discharges to surface water or land and has as its primary function the collection, transmission or treatment of industrial sewage.</p> <p>2. The system is part of a facility for which the NPRI Notice requires a person to report and the report must include information in relation to a substance listed in Group 1, 2, 3 or 4 of Part 1 of Schedule 1 or Part 2 of Schedule 1 of the notice.</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.1.2	<p>1. A wastewater system that discharges to surface water or land and has as its primary function the collection, transmission or treatment of industrial sewage.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7 – 9</p>	<p>IPZ/WHPA-E 4.8 – 6.4</p>

	2. The system is not part of a facility for which the NPRI Notice requires a person to report.		WHPA 10	WHPA 6 – 8 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.1.1	1. The system discharges to surface water or land and its primary functions include conveying sewage from a seafood processing operation, a dairy producer, a dairy product manufacturing operation, an animal food manufacturing operation that manufactures food from animal sources, or a pulp and paper mill. 2. The discharge may result in the presence of one or more pathogens in groundwater or surface water.		IPZ/WHPA-E 9 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 8.1 WHPA-A/B 8
P2.1.2	1. The system discharges to surface water or land and its primary functions include conveying sewage from a meat plant. 2. The discharge may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

2.2 Onsite Sewage Works

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.2.1	1. The system requires or uses a holding tank for the retention of hauled sewage at the site where it is produced before its collection by a hauled sewage system. 2. The system is a sewage works within the meaning of the Ontario Water Resources Act.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C2.2.2	1. The system requires or uses a holding tank for the retention of hauled sewage at the site where it is produced before its collection by a hauled sewage system. 2. The system is subject to the Ontario Building Code Act, 1992.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 7 – 9 WHPA 6

				HVA 6
C2.2.3	<p>1. The system is an earth pit privy, privy vault, greywater system, cesspool, or a leaching bed system and its associated treatment unit.</p> <p>2. The system is a sewage works within the meaning of the Ontario Water Resources Act.</p>	WHPA 10	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.2.4	<p>1. The system is an earth pit privy, privy vault, greywater system, cesspool, or a leaching bed system and its associated treatment unit.</p> <p>2. The system is subject to the Ontario Building Code Act, 1992.</p>		<p>IPZ/WHPA-E 10</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA 6</p> <p>HVA 6</p>
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.2.1	<p>1. The system is an earth pit privy, privy vault, cesspool, or a leaching bed system and its associated treatment unit and is a sewage system as defined in section 1 of O. Reg. 350/06 (Building Code) made under the <i>Building Code Act, 1992</i> or a sewage works as defined in section 1 of the <i>Ontario Water Resources Act</i>.</p> <p>2. A discharge from the system may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA-A/B 6</p>
P2.2.2	<p>1. The system requires or uses a holding tank for the retention of hauled sewage at the site where it is produced before its collection by a hauled sewage system.</p> <p>2. A spill from the tank may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA-A/B 6</p>

2.3 Storm Water Management Facilities and Drainage Systems: Outfall from a Storm Water Management Facility or Storm Water Drainage System

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.3.1	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is not more than 20% of the drainage area.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C2.3.2	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 20 but not more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.3.3	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.3.4	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is not more than 20% of the drainage area.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 4.9 – 7.2</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>

C2.3.5	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 20 but not more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 9 – 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.3.6	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6.3 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.2 – 6</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.3.7	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is commercial or industrial.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is not more than 20% of the drainage area.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C2.3.8	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is commercial or industrial.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 20 but not more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>

C2.3.9	<p>1. A storm water management facility outfall or a storm water drainage system outfall that serves land where the predominant land use is commercial or industrial.</p> <p>2. The percentage of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system is more than 50% of the drainage area.</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA 6</p> <p>HVA 6</p>
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.3.1	<p>1. A storm water management facility outfall or a storm water drainage system outfall.</p> <p>2. The discharge may result in the presence of one or more pathogens in groundwater or surface water.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA-A/B 8</p>

2.4 Storm Water Management Facilities and Drainage Systems: Storm Water Infiltration Facility

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.4.1	<p>1. A storm water infiltration facility that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is not more than 200 m².</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.2	<p>1. A storm water infiltration facility that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 200 but not more than 2000 m².</p>	WHPA 10	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>

C2.4.3	<p>1. A storm water infiltration facility that serves land where the predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 2000 m².</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.4	<p>1. A storm water infiltration facility that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is not more than 200 m².</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.5	<p>1. A storm water infiltration facility that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 200 but not more than 2000 m².</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.6	<p>1. A storm water infiltration facility that serves land where the predominant land use is residential or institutional or community use.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 2000 m².</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.8 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.7	<p>1. A storm water infiltration facility that serves land where the predominant land use is commercial or industrial land uses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is not more 200 m².</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 5.6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>

C2.4.8	<p>1. A storm water infiltration facility that serves land where the predominant land use is commercial or industrial land uses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 200 but not more than 2000 m².</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.9 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.4.9	<p>1. A storm water infiltration facility that serves land where the predominant land use is commercial or industrial land uses.</p> <p>2. The sum of impervious areas of the lands served by the facility (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the site is more than 2000 m².</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.4.1	<p>1. A storm water infiltration facility.</p> <p>2. The release may result in the presence of one or more pathogens in groundwater or surface water.</p>		<p>IPZ/WHPA E 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA-A/B 8</p>

2.5 Wastewater Collection Facilities and Associated Parts: Sanitary Sewers

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.5.1	<p>1. A force main or rising main that forms part of a wastewater collection facility, not including its appurtenances.</p> <p>2. The wastewater collection facility is designed to convey not more than 250 cubic metres of sewage per day.</p>		WHPA 10	WHPA 8
C2.5.2	<p>1. A force main or rising main that forms part of a wastewater collection facility, not including its appurtenances.</p> <p>2. The wastewater collection facility is designed to convey more than 250, but not more than 1,000 cubic metres of sewage per day.</p>		WHPA 10	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA</p>

				6 – 8 HVA 6
C2.5.3	1. A force main or rising main that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 1,000, but not more than 10,000 cubic metres of sewage per day.		WHPA 8 – 10	IPZ/WHPA-E 7.2 – 10 WHPA 6 HVA 6
C2.5.4	1. A force main or rising main that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 10,000, but not more than 100,000 cubic metres of sewage per day.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 6.3 – 9 WHPA 6 HVA 6
C2.5.5	1. A force main or rising main that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 100,000 cubic metres of sewage per day.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
C2.5.6	1. A gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey not more than 250 cubic metres of sewage per day.			WHPA 10
C2.5.7	1. A gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 250, but not more than 1,000 cubic metres of sewage per day.			IPZ/WHPA-E 9 – 10 WHPA 8 – 10

C2.5.8	1. A gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 1,000, but not more than 10,000 cubic metres of sewage per day.		WHPA 10	IPZ/WHPA-E 7.2 – 10 WHPA 8
C2.5.9	1. A gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 10,000, but not more than 100,000 cubic metres of sewage per day.		IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 6.3 – 9 WHPA 6 – 8 HVA 6
C2.5.10	1. A gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The wastewater collection facility is designed to convey more than 100,000 cubic metres of sewage per day.		IPZ/WHPA-E 9 – 10 WHPA 8 - 10	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.5.1	1. A force main, a combined sewer or partially separated sanitary sewer, a rising main or a gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. 2. The discharge from the system may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 10 WHPA-A/B 10	IPZ/WHPA-E 8 – 9 WHPA-A/B 8	IPZ/WHPA-E 5 – 7.2 WHPA-A/B 6

2.6 Wastewater Collection Facilities and Associated Parts: Outfall of a Combined Sewer Overflow (CSO), or a Sanitary Sewer Overflow (SSO) from a Manhole or Wet Well

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.6.1	1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges		IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 6 – 8.1

	<p>sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility that may discharge to land or surface water.</p> <p>2. The wastewater collection facility is designed to convey not more than 250 cubic metres of sewage per day.</p>			
C2.6.2	<p>1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility that may discharge to land or surface water.</p> <p>2. The wastewater collection facility is designed to convey more than 250, but not more than 1,000 cubic metres of sewage per day.</p>		IPZ/WHPA-E 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 10
C2.6.3	<p>1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility that may discharge to land or surface water.</p> <p>2. The wastewater collection facility is designed to convey more than 1,000, but not more than 10,000 cubic metres of sewage per day.</p>	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9	IPZ/WHPA-E 4.8 – 7 WHPA 8 – 10
C2.6.4	<p>1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility that may discharge to land or surface water.</p> <p>2. The wastewater collection facility is designed to convey more than 10,000, but not more than 100,000 cubic metres of sewage per day.</p>	IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 7 – 8.1 WHPA 10	IPZ/WHPA-E 4.5 – 6.4 WHPA 8
C2.6.5	<p>1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility that may discharge to land or surface water.</p>	IPZ/WHPA-E 8 – 10	IPZ/WHPA-E 6 – 7.2 WHPA 10	IPZ/WHPA-E 4.2 – 5.6 WHPA 6 – 8

	2. The wastewater collection facility is designed to convey more than 100,000 cubic metres of sewage per day.			HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.6.1	1. A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility. 2. The discharge may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

2.7 Wastewater Collection Facilities and Associated Parts: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.7.1	1. A wet well that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste and that may discharge sewage to groundwater. 2. The wastewater collection facility is designed to convey not more than 250 cubic metres of sewage per day.			WHPA 10
C2.7.2	1. A wet well that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste and that may discharge sewage to groundwater. 2. The wastewater collection facility is designed to convey more than 250, but not more than 1,000 cubic metres of sewage per day.			IPZ/WHPA-E 9 – 10 WHPA 8 – 10
C2.7.3	1. A wet well that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste and that may discharge sewage to groundwater. 2. The wastewater collection facility is designed to convey more than 1,000, but not more than 10,000 cubic metres of sewage per day.		WHPA 10	IPZ/WHPA-E 7.2 – 10 WHPA 8

C2.7.4	<p>1. A wet well that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.</p> <p>2. The wastewater collection facility is designed to convey more than 10,000, but not more than 100,000 cubic metres of sewage per day.</p>		<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6.3 – 9</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C2.7.5	<p>1. A wet well that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.</p> <p>2. The wastewater collection facility is designed to convey more than 100,000 cubic metres of sewage per day.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 5.6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.7.6	<p>1. A holding tank or a tunnel that forms part of a wastewater collection facility not including a wet well, and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.</p> <p>2. The wastewater collection facility is designed to convey not more than 250 cubic metres of sewage per day.</p>			<p>WHPA 8 - 10</p>
C2.7.7	<p>1. A holding tank or a tunnel that forms part of a wastewater collection facility not including a wet well, and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.</p> <p>2. The wastewater collection facility is designed to convey more than 250, but not more than 1,000 cubic metres of sewage per day.</p>		<p>WHPA 10</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>
C2.7.8	<p>1. A holding tank or a tunnel that forms part of a wastewater collection facility not including a wet well, and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.</p> <p>2. The wastewater collection facility is designed to convey more than 1,000, but not more than 10,000 cubic metres of sewage per day.</p>		<p>WHPA 10</p>	<p>IPZ/WHPA-E 7.2 – 10</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>

C2.7.9	1. A holding tank or a tunnel that forms part of a wastewater collection facility not including a wet well, and stores sanitary sewage containing human waste and that may discharge sewage to groundwater. 2. The wastewater collection facility is designed to convey more than 10,000, but not more than 100,000 cubic metres of sewage per day.		IPZ/WHPA-E 10 WHPA 8 – 10	IPZ/WHPA-E 6.3 – 9 WHPA 6 HVA 6
C2.7.10	1. A holding tank or a tunnel that forms part of a wastewater collection facility not including a wet well, and stores sanitary sewage containing human waste and that may discharge sewage to groundwater. 2. The wastewater collection facility is designed to convey more than 100,000 cubic metres of sewage per day.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.7.1	1. A wet well, a holding tank or a tunnel that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste. 2. A spill may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 9 – 10 WHPA-A/B 10	IPZ/WHPA-E 7 – 8.1 WHPA-A/B 8	IPZ/WHPA-E 4.5 – 6.4 WHPA-A/B 6

2.8 Wastewater Treatment Facilities and Associated Parts

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C2.8.1	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is not more than 500 cubic metres on an annual basis.		IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 6 – 8.1 WHPA 10
C2.8.2	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility.		IPZ/WHPA-E 8 – 10	IPZ/WHPA-E 5.4 – 7.2

	2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 500 but not more than 2,500 cubic metres on an annual basis.			WHPA 8 - 10
C2.8.3	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 2,500 but not more than 17,500 cubic metres on an annual basis.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 10	IPZ/WHPA-E 4.8 – 7 WHPA 8
C2.8.4	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 17,500 but not more than 50,000 cubic metres on an annual basis.	IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 7 – 8.1 WHPA 10	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 – 8 HVA 6
C2.8.5	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 50,000 cubic metres on an annual basis.	IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 6 – 7.2 WHPA 8	IPZ/WHPA-E 4.2 – 5.6 WHPA 6 HVA 6
C2.8.6	1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is not more than 500 cubic metres on an annual basis.		WHPA 10	IPZ/WHPA-E 8 – 10 WHPA 8
C2.8.7	1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 500 but not more than 2,500 cubic metres on an annual basis.		IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 6 – 8

				HVA 6
C2.8.8	<p>1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater.</p> <p>2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 2,500 but not more than 17,500 cubic metres on an annual basis.</p>	WHPA 10	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.8.9	<p>1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater.</p> <p>2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 17,500 but not more than 50,000 cubic metres on an annual basis.</p>	WHPA 10	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.8.10	<p>1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater.</p> <p>2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 50,000 cubic metres on an annual basis.</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C2.8.11	<p>1. A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater.</p> <p>2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is not more than 500 cubic metres on an annual basis.</p>			<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8 – 10</p>
C2.8.12	<p>1. A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater.</p> <p>2. The wastewater treatment facility is designed to discharge treated</p>		<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA 8</p>

	sanitary sewage at an average daily rate that is more than 500 but not more than 2,500 cubic metres on an annual basis.			
C2.8.13	1. A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 2,500 but not more than 17,500 cubic metres on an annual basis.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 6 – 8 HVA 6
C2.8.14	1. A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 17,500 but not more than 50,000 cubic metres on an annual basis.	WHPA 10	IPZ/WHPA-E 8 – 10 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C2.8.15	1. A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. The wastewater treatment facility is designed to discharge treated sanitary sewage at an average daily rate that is more than 50,000 cubic metres on an annual basis.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7.2 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P2.8.1	1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. 2. A discharge may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6
P2.8.2	1. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater. 2. A discharge may result in the presence of one or more pathogens in groundwater.	WHPA A/B 10	WHPA A/B 8	WHPA A/B 6

P2.8.3	<p>1. A sewage treatment plant process tank or a sewage treatment plant holding tank that forms part of a wastewater treatment facility.</p> <p>2. A spill may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA-A/B 6</p>
--------	---	---	---	---

3. The application of agricultural source material to land.

3.1 Application of Agricultural Source Material (ASM) to Land

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C3.1.1	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 8
C3.1.2	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C3.1.3	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C3.1.4	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8

				HVA 6
C3.1.5	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C3.1.6	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C3.1.7	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C3.1.8	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C3.1.9	1. The agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4

	annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.			WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P3.1.1	1. Agricultural source material is applied to land in any quantity. 2. The application may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

4. The storage of agricultural source material.

4.1 Storage of Agricultural Source Material (ASM)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C4.1.1	<p>1. The agricultural source material is stored at or above grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is not more than 0.5 nutrient units per acre of the farm units.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C4.1.2	<p>1. The agricultural source material is stored at or above grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 0.5, but not more than 1.0 nutrient unit per acre of the farm units.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.3	<p>1. The agricultural source material is stored at or above grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 1.0 nutrient unit per acre of the farm units.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.4	<p>1. The agricultural source material is stored at or above grade on a temporary field nutrient storage site.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is not more than 0.5 nutrient units per acre of the farm units.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p>

				HVA 6
C4.1.5	<p>1. The agricultural source material is stored at or above grade on a temporary field nutrient storage site.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 0.5, but not more than 1.0 nutrient unit per acre of the farm units.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.6	<p>1. The agricultural source material is stored at or above grade on a temporary field nutrient storage site.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 1.0 nutrient unit per acre of the farm units.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.7	<p>1. The agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is not more than 0.5 nutrient units per acre of the farm units.</p>		<p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.8	<p>1. The agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 0.5, but not more than 1.0 nutrient unit per acre of the farm units.</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA 6</p> <p>HVA 6</p>
C4.1.9	<p>1. The agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 1.0 nutrient unit per acre of the farm units.</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>

C4.1.10	1. A portion, but not all, of the agricultural source material is stored above grade in or on a permanent nutrient storage facility. 2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is not more than 0.5 nutrient units per acre of the farm units.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C4.1.11	1. A portion, but not all, of the agricultural source material is stored above grade in or on a permanent nutrient storage facility. 2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 0.5, but not more than 1.0 nutrient unit per acre of the farm units.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7.2 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C4.1.12	1. A portion, but not all, of the agricultural source material is stored above grade in or on a permanent nutrient storage facility. 2. The weight or volume of manure stored annually on a farm unit is sufficient to annually land apply agricultural source material at a rate that is more than 1.0 nutrient unit per acre of the farm units.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P4.1.1	1. Any portion of the agricultural source material is stored at or above grade in or on a permanent nutrient storage facility. 2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6
P4.1.2	1. The agricultural source material is stored entirely below grade in or on a permanent nutrient storage facility. 2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 10 WHPA-A/B 10	IPZ/WHPA-E 8 – 9 WHPA-A/B 8	IPZ/WHPA-E 5.4 – 7.2 WHPA-A/B 6

P4.1.3	<p>1. The agricultural source material is stored at a temporary field nutrient storage site.</p> <p>2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA-A/B 6</p>
--------	---	---	---	---

5. The management of agricultural source material.

5.1 Management of Agricultural Source Material -- Discharge from Aquaculture

Circumstance Number	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P5.1.1	1. The use of land or water for aquaculture. 2. The land use may result in the presence of one or more pathogens in surface water.		IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 6 – 8.1

6. The application of non-agricultural source material to land.

6.1 Application of Non-Agricultural Source Material (NASM)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C6.1.1	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 8
C6.1.2	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C6.1.3	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C6.1.4	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land		IPZ/WHPA-E 8 – 10	IPZ/WHPA-E 5.4 – 7.2

	percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		WHPA 10	WHPA 6 – 8 HVA 6
C6.1.5	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C6.1.6	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C6.1.7	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C6.1.8	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6

	sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.			HVA 6
C6.1.9	1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P6.1.1	1. The land application of any quantity of Category 3 non-agricultural source material other than Category B compost and excluding materials from organic waste matter derived from the production of biodiesel, organic waste matter from grease traps and interceptors, a meat plant or sewage biosolid. 2. The application may result in the presence of one or more pathogens in groundwater or surface water.		IPZ/WHPA-E 9 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 8.1 WHPA-A/B 8
P6.1.2	1. The land application of any quantity of Category 3 non-agricultural source material other than Category B compost and that contains material from a meat plant or sewage biosolids, or material from non-farm herbivorous animals (Category 1). 2. The application may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

7. The handling and storage of non-agricultural source material.

7.1 Handling and Storage of Non-Agricultural Source Material (NASM)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C7.1.1	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored at or above grade in or on a permanent or a temporary nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is less than 0.5 tonnes.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C7.1.2	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored partially below grade in a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is less than 0.5 tonnes.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.3	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is less than 0.5 tonnes.</p>		<p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.4	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored at or above grade in or on a permanent or a temporary nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is at least 0.5 tonnes but not more than 5 tonnes.</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8 – 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>

C7.1.5	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored partially below grade in a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is at least 0.5 tonnes but not more than 5 tonnes.</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.6	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is at least 0.5 tonnes but not more than 5 tonnes.</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 7 – 9</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.7	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored at or above grade in or on a permanent or a temporary nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is more than 5 tonnes.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.8	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored partially below grade in a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is more than 5 tonnes.</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C7.1.9	<p>1. The material from non-farm herbivorous animals (Category 1), Category 2 or Category 3 non-agricultural source material is stored below grade in or on a permanent nutrient storage facility.</p> <p>2. The mass of nitrogen in the non-agricultural source material stored is more than 5 tonnes.</p>	<p>WHPA 10</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6</p> <p>HVA 6</p>

	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P7.1.1	<p>1. Category 3 non-agricultural source material other than Category B compost and excluding materials from organic waste matter derived from the production of biodiesel, organic waste matter from grease traps and interceptors, a meat plant or sewage biosolid, and any portion of the material is stored at or above grade.</p> <p>2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA-A/B 8</p>
P7.1.2	<p>1. Category 3 non-agricultural source material other than Category B compost and that contains material from a meat plant or sewage biosolid, or material from non-farm herbivorous animals (Category 1), and any portion of the material is stored at or above grade.</p> <p>2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA-A/B 6</p>
P7.1.3	<p>1. Category 3 non-agricultural source material other than Category B compost and excluding material from organic waste matter derived from the production of biodiesel, organic waste matter from grease traps and interceptors, a meat plant or sewage biosolid, and the material is stored entirely below grade.</p> <p>2. A spill of the material or runoff from an area where the material is stored may result in the presence of one or more pathogens in groundwater or surface water.</p>		<p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA-A/B 8</p>
P7.1.4	<p>1. Category 3 non-agricultural source material other than Category B compost and that contains material from a meat plant or sewage biosolid, or material from non-farm herbivorous animals (Category 1), and the material is stored entirely below grade.</p> <p>2. A spill of the material or runoff from an area where the material is</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 5 – 7.2</p> <p>WHPA-A/B 6</p>

	stored may result in the presence of one or more pathogens in groundwater or surface water.			
--	---	--	--	--

8. The application of commercial fertilizer to land.

8.1 Application of Commercial Fertilizer to Land

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C8.1.1	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 8
C8.1.2	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C8.1.3	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is less than 40% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C8.1.4	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8

				HVA 6
C8.1.5	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C8.1.6	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is at least 40%, but not more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is more than 1.0 nutrient units per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C8.1.7	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is less than 0.5 nutrient units per acre.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C8.1.8	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply agricultural source material at a rate that is at least 0.5 nutrient units per acre but not more than 1.0 nutrient unit per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C8.1.9	1. The commercial fertilizer is applied to land located in a vulnerable area, where the managed land map shows a managed land percentage for the applicable area that is more than 80% and the livestock density map shows a livestock density for the applicable area that is sufficient to annually apply	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4

	agricultural source material at a rate that is more than 1.0 nutrient units per acre.			WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

9. The handling and storage of commercial fertilizer to land.

9.1 Handling and Storage of Commercial Fertilizer

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C9.1.1	1. Storage of commercial fertilizer on a site. 2. The commercial fertilizer stored in any form, including liquid or solid, is not more than 25 kg.		IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8
C9.1.2	1. Storage of commercial fertilizer on a site. 2. The commercial fertilizer stored in any form, including liquid or solid, is more than 25 but not more than 250 kg.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 6 – 8 HVA 6
C9.1.3	1. Storage of commercial fertilizer on a site. 2. The commercial fertilizer stored in any form, including liquid or solid, is more than 250 but not more than 2,500 kg.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C9.1.4	1. Storage of commercial fertilizer on a site. 2. The commercial fertilizer stored in any form, including liquid or solid, is more than 2,500 kg.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7.2 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT

	N/A			
--	-----	--	--	--

10. The application of pesticide to land.

10.1 Application of Pesticide to Land

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C10.1.1	1. The area of land to which the pesticide is applied is less than 1 hectare.	IPZ/WHPA-E 10	IPZ/WHPA-E 8 - 9 WHPA 10	IPZ/WHPA-E 4.9 - 7.2 WHPA 6 - 8 HVA 6
C10.1.2	1. The area of land to which the pesticide is applied is at least 1 hectare, but no more than 10 hectares.	IPZ/WHPA-E 9 - 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5– 6.4 WHPA 6 HVA 6
C10.1.3	1. The area of land to which the pesticide is applied is more than 10 hectares.	IPZ/WHPA-E 8.1 – 10 WHPA 10	IPZ/WHPA-E 6.3 – 8 WHPA 8	IPZ/WHPA-E 4.2 – 6 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

11. The handling and storage of pesticide.

11.1 Handling and Storage of a Pesticide

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C11.1.1	1. The storage of pesticide on a site. 2. The pesticide stored in any form, including liquid or solid, is not more than 25 kg.		IPZ/WHPA E 9 – 10 WHPA 10	IPZ/WHPA E 6 – 8.1 WHPA 8
C11.1.2	1. The storage of pesticide on a site. 2. The pesticide stored in any form, including liquid or solid, is more than 25 but not more than 250 kg.		IPZ/WHPA E 8 – 10 WHPA 10	IPZ/WHPA E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C11.1.3	1. The storage of pesticide on a site. 2. The pesticide stored in any form, including liquid or solid, is more than 250 but not more than 2,500 kg.	IPZ/WHPA E 10 WHPA 10	IPZ/WHPA E 7.2 – 9 WHPA 8	IPZ/WHPA E 4.8 – 7 WHPA 6 HVA 6
C11.1.4	1. The storage of pesticide on a site. 2. The pesticide stored in any form, including liquid or solid, is more than 2,500 kg.	IPZ/WHPA E 9 – 10 WHPA 10	IPZ/WHPA E 7 – 8.1 WHPA 8	IPZ/WHPA E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

12. The application of road salt.

12.1 Application of Road Salt

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C12.1.1	1. The road salt is applied in an area where the default percentage of impervious surface area, as set out on a total impervious surface area map, is less than 1 percent.		IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 6 – 8.1 WHPA 8 – 10
C12.1.2	1. The road salt is applied in an area where the default percentage of impervious surface area, as set out on a total impervious surface area map, is at least 1 percent, but less than 8 percent in WHPA-A, B, C, C1, D or HVA; or is at least 1 percent, but less than 6 percent in IPZ-1, 2, 3 and WHPA-E.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C12.1.3	1. The road salt is applied in an area where the default percentage of impervious surface area, as set out on a total impervious surface area map, is at least 8 percent, but less than 30 percent in WHPA-A, B, C, C1, D or HVA; or is at least 6 percent, but less than 8 percent in IPZ-1, 2, 3 and WHPA-E.	IPZ/WHPA-E 10	IPZ/WHPA-E 8 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.9 – 7.2 WHPA 6 HVA 6
C12.1.4	1. The road salt is applied in an area where the default percentage of impervious surface area, as set out on a total impervious surface area map, is 30 percent or more in WHPA-A, B, C, C1, D or HVA; or is 8 percent or more in IPZ-1, 2, 3 and WHPA-E.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6

	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

13. The handling and storage of road salt.

13.1 Handling and Storage of Road Salt - Exposed to Precipitation or Runoff

13.2 Handling and Storage of Road Salt - Potentially Exposed to Precipitation or Runoff

13.3 Handling and Storage of Road Salt – Not Exposed to Precipitation or Runoff

13.1 Handling and Storage of Road Salt - Exposed to Precipitation or Runoff

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C13.1.1	1. The storage of road salt in a manner that the road salt is exposed to precipitation or runoff from precipitation or snow melt. 2. The quantity stored is less than 10 kg.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C13.1.2	1. The storage of road salt in a manner that the road salt is exposed to precipitation or runoff from precipitation or snow melt. 2. The quantity stored is at least 10, but not more than 20 kg.	IPZ/WHPA-E 10	IPZ/WHPA-E 8 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.9 – 7.2 WHPA 6 HVA 6
C13.1.3	1. The storage of road salt in a manner that the road salt is exposed to precipitation or runoff from precipitation or snow melt. 2. The quantity stored is more than 20 kg.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT

	N/A			
--	-----	--	--	--

13.2 Handling and Storage of Road Salt - Potentially Exposed to Precipitation or Runoff

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C13.2.1	<p>1. The storage of road salt in an enclosure such as outdoor bins, salt boxes, tarps or containers, 3-sided storage sheds or domes, or by any other means where it has the potential to be exposed to precipitation, or runoff from precipitation or snow melt.</p> <p>2. The quantity stored is less than 50 kg.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C13.2.2	<p>1. The storage of road salt in an enclosure such as outdoor bins, salt boxes, tarps or containers, 3-sided storage sheds or domes, or by any other means where it has the potential to be exposed to precipitation, or runoff from precipitation or snow melt.</p> <p>2. The quantity stored is at least 50, but not more than 100 kg.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 8-10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
C13.2.3	<p>1. The storage of road salt in an enclosure such as outdoor bins, salt boxes, tarps or containers, 3-sided storage sheds or domes, or by any other means where it has the potential to be exposed to precipitation, or runoff from precipitation or snow melt.</p> <p>2. The quantity stored is more than 100 kg.</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 8 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.9 – 7.2</p> <p>WHPA 6</p> <p>HVA 6</p>
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

13.3 Handling and Storage of Road Salt – Not Exposed to Precipitation or Runoff

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C13.3.1	1. The storage of road salt inside an area, facility or structure in which the storage or (un)loading are roofed, walled, with an impermeable floor, where it does not have the potential to be exposed to precipitation, or runoff from precipitation or snow melt. 2. The quantity stored is less than 250,000 kg.			IPZ/WHPA-E 7 – 10 WHPA 8 – 10
C13.3.2	1. The storage of road salt inside an area, facility or structure in which the storage or (un)loading are roofed, walled, with an impermeable floor, where it does not have the potential to be exposed to precipitation, or runoff from precipitation or snow melt. 2. The quantity stored is at least 250,000 kg, but not more than 500,000 kg.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 6 – 8 HVA 6
C13.3.3	1. The storage of road salt inside an area, facility or structure in which the storage or (un)loading are roofed, walled, with an impermeable floor, where it does not have the potential to be exposed to precipitation, or runoff from precipitation or snow melt. 2. The quantity stored is more than 500,000 kg.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

14. The storage of snow.

14.1 Storage of Snow on a Site

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C14.1.1	<p>1. The infiltration or discharge of snowmelt from the storage of snow on a site where the predominant land use is commercial or industrial by any means other than a storm water drainage system outfall.</p> <p>2. The area upon which snow is stored is not more than 200 m².</p>	<p>IPZ/WHPA-E 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6</p> <p>HVA 6</p>
C14.1.2	<p>1. The infiltration or discharge of snowmelt from the storage of snow on a site where the predominant land use is commercial or industrial by any means other than a storm water drainage system outfall.</p> <p>2. The area upon which snow is stored is more than 200 m² but not more than 2000 m².</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 7 – 8.1</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.5 – 6.4</p> <p>WHPA 6</p> <p>HVA 6</p>
C14.1.3	<p>1. The infiltration or discharge of snowmelt from the storage of snow on a site where the predominant land use is commercial or industrial by any means other than a storm water drainage system outfall.</p> <p>2. The area upon which snow is stored is more than 2000 m².</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA 6</p> <p>HVA 6</p>
C14.1.4	<p>1. A storm water drainage system outfall that serves a Snow Disposal Facility.</p> <p>2. The area upon which snow is stored is not more than 200 m².</p>	<p>IPZ/WHPA-E 10</p>	<p>IPZ/WHPA-E 7.2 – 9</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 4.8 – 7</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>

C14.1.5	1. A storm water drainage system outfall that serves a Snow Disposal Facility. 2. The area upon which snow is stored is more than 200 m ² but not more than 2000 m ² .	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C14.1.6	1. A storm water drainage system outfall that serves a Snow Disposal Facility. 2. The area upon which snow is stored is more than 2000 m ² .	IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 6 – 7.2 WHPA 8	IPZ/WHPA-E 4.2 – 5.6 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

15. The handling and storage of fuel.

15.1 Handling and Storage of Fuel

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C15.1.1	<p>1. The storage of liquid fuel in a tank at or above grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is not more than 25 litres.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 8</p>
C15.1.2	<p>1. The storage of liquid fuel in a tank partially below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is not more than 25 litres.</p>		<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 6 – 8.1</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C15.1.3	<p>1. The storage of liquid fuel in a tank below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is not more than 25 litres.</p>		<p>WHPA 10</p>	<p>IPZ/WHPA-E 9 – 10</p> <p>WHPA 6 – 8</p> <p>HVA 6</p>
C15.1.4	<p>1. The storage of liquid fuel in a tank at or above grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p>		<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA 10</p>	<p>IPZ/WHPA-E 5.4 – 7.2</p> <p>WHPA 6 – 8</p>

	2. The fuel is stored or handled in a quantity that is more than 25, but not more than 250 litres.			HVA 6
C15.1.5	1. The storage of liquid fuel in a tank partially below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i> , a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i> , or a facility that manufactures or refines fuel. 2. The fuel is stored or handled in a quantity that is more than 25, but not more than 250 litres.		IPZ/WHPA-E 8 – 10 WHPA 8 – 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C15.1.6	1. The storage of liquid fuel in a tank below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i> , a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i> , or a facility that manufactures or refines fuel. 2. The fuel is stored or handled in a quantity that is more than 25, but not more than 250 litres.		WHPA 8 – 10	IPZ/WHPA-E 8 – 10 WHPA 6 HVA 6
C15.1.7	1. The storage of liquid fuel in a tank at or above grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i> , a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i> , or a facility that manufactures or refines fuel. 2. The fuel is stored or handled in a quantity that is more than 250, but not more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C15.1.8	1. The storage of liquid fuel in a tank partially below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i> , a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i> , or a facility that manufactures or refines fuel. 2. The fuel is stored or handled in a quantity that is more than 250, but not more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6

C15.1.9	<p>1. The storage of liquid fuel in a tank below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is more than 250, but not more than 2,500 litres.</p>	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 7 – 9 WHPA 6 HVA 6
C15.1.10	<p>1. The storage of liquid fuel in a tank at or above grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is more than 2,500 litres.</p>	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6.4 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.3 WHPA 6 HVA 6
C15.1.11	<p>1. The storage of liquid fuel in a tank partially below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is more than 2,500 litres.</p>	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6.4 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.3 WHPA 6 HVA 6
C15.1.12	<p>1. The storage of liquid fuel in a tank below grade at a facility as defined in section 1 of O. Reg. 213/01 (Fuel Oil) made under the <i>Technical Standards and Safety Act, 2000</i>, a facility as defined in section 1 of O. Reg. 217/01 (Liquid Fuels) made under the <i>Technical Standards and Safety Act, 2000</i>, or a facility that manufactures or refines fuel.</p> <p>2. The fuel is stored or handled in a quantity that is more than 2,500 litres.</p>	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

16. The handling and storage of a dense non-aqueous phase liquid.

16.1 Handling and Storage of a Dense Non-Aqueous Phase Liquid (DNAPL)

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C16.1.1	1. The engagement of an activity that may include, but not limited to, those provided in List 1 of Section 9 of the Glossary of Terms in the Table of Drinking Water Threats. 2. Storage of a DNAPL at or above grade.	IPZ/WHPA-E 9 – 10 WHPA A-C 2 – 10	IPZ/WHPA-E 7 – 8.1	IPZ/WHPA-E 4.5 – 6.4 WHPA D 6 HVA 6
C16.1.2	1. The engagement of an activity that may include, but not limited to, those provided in List 1 of Section 9 of the Glossary of Terms in the Table of Drinking Water Threats. 2. Storage of a DNAPL partially below grade.	IPZ/WHPA-E 9 – 10 WHPA A-C 2 – 10	IPZ/WHPA-E 7 – 8.1	IPZ/WHPA-E 4.5 – 6.4 WHPA D 6 HVA 6
C16.1.3	1. The engagement of an activity that may include, but not limited to, those provided in List 1 of Section 9 of the Glossary of Terms in the Table of Drinking Water Threats. 2. Storage of a DNAPL entirely below grade.	WHPA A-C 2 – 10	IPZ/WHPA-E 9 – 10	IPZ/WHPA-E 5.6 – 8.1 WHPA D 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

17. The handling and storage of an organic solvent.

17.1 Handling and Storage of an Organic Solvent

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C17.1.1	1. Where an organic solvent is stored in a container at or above grade. 2. The quantity of organic solvent stored is not more than 25 litres.		IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 6.3 – 9 WHPA 8
C17.1.2	1. Where an organic solvent is stored in a container at or above grade. 2. The quantity of organic solvent stored is more than 25, but not more than 250 litres.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 – 8 HVA 6
C17.1.3	1. Where an organic solvent is stored in a container at or above grade. 2. The quantity of organic solvent stored is more than 250, but not more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 8 – 9 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C17.1.4	1. Where an organic solvent is stored in a container at or above grade. 2. The quantity of organic solvent stored is more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
C17.1.5	1. Where an organic solvent is stored in a container that is located below grade.		WHPA 10	IPZ/WHPA-E 9 – 10

	2. The quantity of organic solvent stored is not more than 25 litres.			WHPA 6 – 8 HVA 6
C17.1.6	1. Where an organic solvent is stored in a container that is located below grade. 2. The quantity of organic solvent stored is more than 25, but not more than 250 litres.	WHPA 10	WHPA 8	IPZ/WHPA-E 7.2 – 10 WHPA 6 HVA 6
C17.1.7	1. Where an organic solvent is stored in a container that is located below grade. 2. The quantity of organic solvent stored is more than 250, but not more than 2,500 litres.	WHPA 10	IPZ/WHPA-E 10 WHPA 8	IPZ/WHPA-E 6.3 – 9 WHPA 6 HVA 6
C17.1.8	1. Where an organic solvent is stored in a container that is located below grade. 2. The quantity of organic solvent stored is more than 2,500 litres.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
C17.1.9	1. Where an organic solvent is stored in a container part of which, but not all, is below grade 2. The quantity of organic solvent stored is not more than 25 litres.		IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 6.3 – 9 WHPA 6 – 8 HVA 6

C17.1.10	1. Where an organic solvent is stored in a container part of which, but not all, is below grade. 2. The quantity of organic solvent stored is more than 25, but not more than 250 litres.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 5.6 – 8.1 WHPA 6 HVA 6
C17.1.11	1. Where an organic solvent is stored in a container part of which, but not all, is below grade. 2. The quantity of organic solvent stored is more than 250, but not more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 8 – 9 WHPA 8	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 HVA 6
C17.1.12	1. Where an organic solvent is stored in a container part of which, but not all, is below grade 2. The quantity of organic solvent stored is more than 2,500 litres.	IPZ/WHPA-E 10 WHPA 10	IPZ/WHPA-E 7 – 9 WHPA 8	IPZ/WHPA-E 4.8 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

18. The management of runoff that contains chemicals used in the de-icing of aircraft.

18.1 Management of Runoff Containing Chemicals Used in The De-Icing of Aircrafts

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C18.1.1	1. The run-off of de-icing substances may result in a release to land or water. 2. The runoff originates at a national airport.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
C18.1.2	1. The run-off of de-icing substances may result in a release to land or water. 2. The runoff originates at a regional airport.	IPZ/WHPA-E 10	IPZ/WHPA-E 8 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.9 – 7.2 WHPA 6 HVA 6
C18.1.3	1. The run-off of de-icing substances may result in a release to land or water. 2. The runoff originates at a remote airport.		IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6 – 8.1 WHPA 8
C18.1.4	1. The run-off of de-icing substances may result in a release to land or water. 2. The runoff originates at a small airport.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT

	N/A			
--	-----	--	--	--

21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.

21.1 Agricultural Source Material (ASM) Generation - Livestock Grazing or Pasturing

21.2 Agricultural Source Material (ASM) Generation - Outdoor Confinement Area (OCA) or Farm Animal Yard

21.1 Agricultural Source Material (ASM) Generation - Livestock Grazing or Pasturing

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C21.1.1	1. The use of land as livestock grazing or pasturing land. 2. The number of nutrient units generated in the farm unit divided by the number of acres of land that is used for livestock grazing or pasturing land is sufficient to generate nutrients at an annual rate that is less than 0.5 nutrient units per acre.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C21.1.2	1. The use of land as livestock grazing or pasturing land. 2. The number of nutrient units generated in the farm unit divided by the number of acres of land that is used for livestock grazing or pasturing land is sufficient to generate nutrients at an annual rate that is at least 0.5 and not more than 1 nutrient unit per acre.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C21.1.3	1. The use of land as livestock grazing or pasturing land. 2. The number of nutrient units generated in the farm unit divided by the number of acres of land that is used for livestock grazing or pasturing land is sufficient to generate nutrients at an annual rate that is more than 1 nutrient unit per acre.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6

	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
P21.1.1	1. The use of land as livestock grazing or pasturing land for one or more animals. 2. The land use may result in the presence of one or more pathogens in groundwater or surface water.	IPZ/WHPA-E 8 – 10 WHPA-A/B 10	IPZ/WHPA-E 6 – 7.2 WHPA-A/B 8	IPZ/WHPA-E 4.2 – 5.6 WHPA-A/B 6

21.2 Agricultural Source Material (ASM) Generation - Outdoor Confinement Area (OCA) or Farm Animal Yard

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C21.2.1	1. The use of land as an outdoor confinement area or a farm-animal yard. 2. The number of animals confined in the area at any time is sufficient to generate agricultural source material at a rate of less than 120 nutrient units per hectares of the area annually.		IPZ/WHPA-E 8 – 10 WHPA 10	IPZ/WHPA-E 5.4 – 7.2 WHPA 6 – 8 HVA 6
C21.2.2	1. The use of land as an outdoor confinement area or a farm-animal yard. 2. The number of animals confined in the area at any time is sufficient to generate agricultural source material at a rate of at least 120 nutrient units and not more than 300 nutrient units per hectares of the area annually.	IPZ/WHPA-E 10	IPZ/WHPA-E 7.2 – 9 WHPA 8 – 10	IPZ/WHPA-E 4.8 – 7 WHPA 6 HVA 6
C21.2.3	1. The use of land as an outdoor confinement area or a farm-animal yard. 2. The number of animals confined in the area at any time is sufficient to generate agricultural source material at a rate of more than 300 nutrient units per hectares of the area annually.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 7 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.4 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT

P21.2.1	<p>1. The use of land as an outdoor confinement area or a farm-animal yard for one or more animals.</p> <p>2. The land use may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>IPZ/WHPA-E 8 – 10</p> <p>WHPA-A/B 10</p>	<p>IPZ/WHPA-E 6 – 7.2</p> <p>WHPA-A/B 8</p>	<p>IPZ/WHPA-E 4.2 – 5.6</p> <p>WHPA-A/B 6</p>
---------	---	---	---	---

22. The establishment and operation of a liquid hydrocarbon pipeline. O. Reg. 385/08, s. 3; O. Reg. 206/18, s. 1.

22.1 Conveyance of a Liquid Hydrocarbon by a Pipeline

Circumstance Number	Circumstances (chemical)	Areas of SDWT	Areas of MDWT	Areas of LDWT
C22.1.1	1. The conveyance of a liquid hydrocarbon by way of a pipeline within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or the Canadian Energy Regulator Act, where the pipeline is above ground or above a water body. 2. The pipeline is designated for transmitting or distributing to terminals and distribution centres.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6.4 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.3 WHPA 6 HVA 6
C22.1.2	1. The conveyance of a liquid hydrocarbon by way of a pipeline within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or the Canadian Energy Regulator Act, where the pipeline is below ground and is not crossing underneath a water body. 2. The pipeline is designated for transmitting or distributing to terminals and distribution centres.	WHPA 10	IPZ/WHPA-E 9 – 10 WHPA 8	IPZ/WHPA-E 6 – 8.1 WHPA 6 HVA 6
C22.1.3	1. The conveyance of a liquid hydrocarbon by way of a pipeline within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or the Canadian Energy Regulator Act, where the pipeline is below ground and is crossing within or underneath a water body. 2. The pipeline is designated for transmitting or distributing to terminals and distribution centres.	IPZ/WHPA-E 9 – 10 WHPA 10	IPZ/WHPA-E 6.4 – 8.1 WHPA 8	IPZ/WHPA-E 4.5 – 6.3 WHPA 6 HVA 6
	Circumstances (pathogen)	Areas of SDWT	Areas of MDWT	Areas of LDWT
	N/A			

Made by:

Original Signed by Kirsten Corrigan, Director

Conservation and Source Protection Branch, Ministry of the Environment,
Conservation and Parks

Director, *Section 107 Clean Water Act, 2006*

Date made: December 03, 2021