SIGNIFICANT DRINKING WATER THREAT ASSESSMENT REPORT FOR PROPOSED ALTERATIONS

CITY OF WOODSTOCK STORMWATER SYSTEM (CLI-ECA #323-S701)

City of
Woodstock

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Ministry of the Environment, Conservation and Parks
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ATTENTION – DIRECTOR, PART II.1 OF THE ENVIRONMENTAL PROTECTION ACT

RE: Significant Drinking Water Threat Assessment Report for Proposed Alterations Required Under Consolidated Linear Infrastructure Environmental Compliance Approval, CLI ECA #323-S701, City of Woodstock

Purpose

As a requirement under CLI-ECA #323-S701, issued for the City of Woodstock's Stormwater System, a Significant Drinking Water Threat Assessment Report for Proposed Alterations shall be prepared as required under Schedule E of the Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) noted above dated November 7, 2022. Necessary updates to the report shall be completed at least once every twelve (12) months. The report is required to include:

- An outline of the circumstances under which proposed alterations could pose a significant drinking water threat.
- An outline of how the Owner assesses the proposed alterations to identify drinking water threats.
- A summary of design considerations and other measures that have been put into place to mitigate risks resulting from construction or operation of the components.

Drinking Water Source Protection Plan

The City is subject to the governance under the Thames-Sydenham & Region Drinking Water Source Protection. (https://www.sourcewaterprotection.on.ca/approved-source-protection-plan/)

Significant Drinking Water Threats

The Clean Water Act, 2006 (CWA) is provincial legislation that serves to protect Ontario's sources of drinking water. O. Reg 287/07 (https://www.ontario.ca/laws/regulation/070287#BK3) lists twenty-two (22) prescribed drinking water threats. The most applicable threat listed as it relates to the City's CLI-ECA is 'the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.' CLI-ECA #323-S701 identifies the City as the owner of a stormwater system. The Owner is responsible to ensure the operation and maintenance of the stormwater system does not threaten drinking water. To ensure compliance, all proposed alterations shall be subject to the '*Assessment Procedure*' to identify if enhanced mitigation measures are required to protect drinking water sources.

Assessment Procedure

Step 1 – Confirm that the infrastructure will be City-owned.

Step 2 – Consult the '*MECP Source Protection Information Atlas*' (https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?viewer=SourceWaterProtection.SWPViewer&locale=en-CA) to determine if the proposed alterations are within a Wellhead Protection Area identified in the Thames-Sydenham and Region Source Protection Plan.

Step 2a – If Yes, proceed to Step 3.

Step 2b – If No, there are no applicable threats, and the assessment can be concluded. For record keeping purposes, document under '*Significant Drinking Water Threat Assessment Summary*'.

Step 3 – Using the *'MECP Source Protection Information Atlas*', select the location of the proposed alteration or input the known address. Refer to '*Location, Policy, PTTW Results*' in the legend for the selected location. Reference '*Significant Protection Details for Location*' and select the '*link*' located under '*Significant Drinking Water Threats at this location:*'

The 'link' will redirect to the '*Source Water Protection Information Portal*' (https://swpip.ca/) and provide the applicable threat information for the selected location. Refer to the '*Threats*' category and select '*2017*'. Review the '*Threat Sub Category*' under '*Threats*' for a sub category that would apply to the proposed alteration.

Step 3a – If there are applicable threat subcategories listed, proceed to Step 4.

Step 3b – If there are not applicable threat subcategories listed, there are no applicable threats. The assessment can be concluded. For record keeping purposes, document under '*Significant Drinking Water Threat Assessment Summary*'.

Step 4 – Identify and implement the applicable Thames-Sydenham and Region Source Protection Plan Policies.

Step 5 – Consult the '*Source Protection Standard Operating Policies*' to identify required mitigation measures. For record keeping purposes, document the required mitigation measures under '*Significant Drinking Water Threat Assessment Summary*'.

Significant Drinking Water Threat Assessment Summary

Project Name	Significant Drinking Water Threat	Mitigation Measures	Alteration Year
C-27 – Community Complex SWMF Sediment Removal	No	N/A	2023
Duke Street & Givins Street Reconstruction	No	N/A	2023
Sprucedale Road Reconstruction	No	N/A	2023
Wellington Street North & Quintin Place Reconstruction	No	N/A	2023
Russell Street Reconstruction	No	N/A	2023
Miller Street Reconstruction	No	N/A	2023
Dundas Street and Vansittart Avenue Reconstruction	No	N/A	2023
C-9 – SWMF Sediment Removal	No	N/A	2024
Beale Street Reconstruction	No	N/A	2024
Brant Street Reconstruction	No	N/A	2024
Cambridge Street Reconstruction	No	N/A	2024
Leinster Street Reconstruction	No	N/A	2024

Project Name	Significant Drinking Water Threat	Mitigation Measures	Alteration Year
Rathbourne Avenue Reconstruction	No	N/A	2024
Walter Street Reconstruction	No	N/A	2024

Additional Resources

Appendix A – MECP's Source Protection Standard Operating Policies

Appendix B – MECP's Identification of Risks to Sources of Drinking Water

Closing Remarks

This Significant Drinking Water Threat Assessment Report for Proposed Alterations has been prepared in accordance with the requirements outlined in Schedule E of CLI ECA #323-S701. This report will be updated annually to align with the Annual Report required under Schedule E of CLI ECA #323-S701.

APPENDIX A – MECP'S SOURCE PROTECTION STANDARD OPERATING POLICIES

CITY OF WOODSTOCK STORMWATER SYSTEM (CLI-ECA #323-S701)

City of Woodstock

Ministry of the Environment and Climate Change's Source Protection Standard Operating Policies

The EBR Registry Number 012-2968 provides information on the Standard Operating Policies ("**SOPs**") developed by the Ministry of the Environment and Climate Change ("**ministry**") to support the ministry's implementation of source protection prescribed instrument policies. The content of the SOPs for ensuring approvals for waste, sewage works, hauled sewage, water taking and land application of pesticides **conform with policies in source protection plans** are summarized below, **noting that where a prohibition policy applies, the ministry will refuse the application as is legally required**. The ministry will apply the SOPs on a province-wide basis, to ensure a consistent approach to implementing source water protection policies.

This document has two sections: the first section provides a summary of the ministry actions to be taken to conform with source protection prescribed instrument policies for significant threat activities (otherwise known in the **Clean Water Act, 2006** ("**CWA**") as significant threat policies), and the second section provides a summary of the ministry's actions to be taken to have regard to policies that govern moderate and low threat activities (otherwise known as moderate and low threat policies).

The threat activities listed below are defined in the ministry's Table of Drinking Water Threats ("**Table**"). This Table was prepared and released as part of the Director's Technical Rules issued under section 107 of the CWA.

The Risk Management Measures Catalogue ("**RMMC**") provides means to determine which management measure(s) and management targets is/are suitable to effectively manage a specific threat to the quality or quantity of source water, allowing the user to take local conditions into consideration.

Section 1: Summary of Ministry Actions to be taken to Conform with Source Protection Prescribed Instrument Policies for Future Significant Threat Activities

Waste Disposal Site Prescribed Threat Activities

Threat activities:

- Landfarming Petroleum Refining Waste, threat #1a
- Landfilling (Hazardous Waste and Liquid Industrial Waste), threat #1b
- Landfilling waste from municipal sources, threat #1c
- Landfilling Industrial and Commercial waste, threat #1d
- Liquid Industrial Waste Injection into a Deep Well Disposal Site, threat #1e
- Storage of Hazardous/Liquid Industrial Waste at Waste Disposal Sites, threat #1g

- Storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste or clause (d) of the definition of liquid industrial waste (under Regulation 347), threat #1h

Prescribed Instrument:

An Environmental Compliance Approval ("**ECA**") under Part II.1 of the *Environmental Protection Act* ("**EPA**") for activities under s.27 of the EPA.

Standard Operating Policy:

The ministry screens ECA applications for waste disposal sites to identify if the site is located in a vulnerable drinking water area and if the activity meets the circumstances to be considered a significant threat to drinking water.

A stringent site-specific technical review is conducted to ensure that waste disposal facilities are designed and operated in a manner that meet regulatory, guidelines and best management practices. The ministry's assessment of the proposal is clearly documented which includes how the activity meets the ministry's requirements and how the Statement of Environmental Values were considered. The technical review in conjunction with imposing conditions in an ECA related to design, environmental monitoring, reporting and trigger mechanisms and contingency plans, provide comprehensive controls that ensure regulated waste management activities do not become significant drinking water threats. Where proposals do not meet these requirements, the ECA application will be refused.

When a source protection policy requires risk management of a waste prescribed significant threat activity, the ministry will apply current program and regulatory standards when making a decision on the ECA.

Details and Rationale:

For significant drinking water threat activities, the *Environmental Assessment Act* ("**EAA**") process (where it applies), the requirements for an ECA under the EPA and requirements under existing regulations and guidelines are comprehensive and adequately address the objectives of the source protection policies.

The EAA sets out a planning and decision-making process to evaluate the potential environmental effects of a proposed project before any decisions are made to proceed with the project. Since March 2007, certain private and public sector waste management projects are subject to the EAA through the Waste Management Projects Regulation (O. Reg. 101/07). The level of assessment required depends on the project's expected environmental effects. Projects subject to an environmental assessment (EA) cannot obtain an ECA to engage in the waste management activities until the requirements of the EAA have been met. As part of the EA process, proponents are required to:

- anticipate environmental, social, economic and cultural consequences of a proposed project or activity (i.e. siting considerations, effects on surface and/ groundwater quality, quantities and flow, commitments to monitoring of discharges and emissions);
- assess plans to manage any potential environmental effects resulting from the proposed project or activity (i.e. development of mitigation measures); and,
- allow for the involvement of the public and government agencies in the review of the proposed project or activity.

The EPA, specifically section 27 (under Part V), requires proponents to obtain an ECA from the ministry prior to using, operating, establishing, altering, enlarging or extending a waste disposal site. The ECA includes stringent conditions that:

- identify the maximum volume and design requirements for the waste disposal site;
- approve a closure plan for the site or require a detailed closure be submitted based on the conceptual closure plan included in the site's Design and Operations Plan;
- approve plans such as Environmental Monitoring Plans, trigger mechanism plans, and contingency plans to ensure the long-term protection of the environment;
- require record keeping, inspections (daily, monthly and annual) and the submission of an annual report;
- state the ministry's requirements for buffer lands, and includes appropriate setbacks from wellheads or intake zones, as appropriate;
- require financial assurance (for privately owned sites) to ensure that if a proponent is unable or unwilling to meet their responsibilities for the site or whether the site is abandoned, the site is properly closed and maintained to ensure it does not pose a risk to the environment, including drinking water sources.

Existing program and regulatory requirements for the approval of waste disposal sites are consistent with the significant threat prescribed instrument policies. Therefore existing program requirements conform with source protection risk management policies.

The Risk Management Measures Catalogue ("**RMMC**") provides a means for a user to determine which management measure(s) and management targets is/are suitable to effectively manage a specific threat to the quality or quantity of source water, allowing the user to take local conditions into consideration. The RMMs were reviewed to determine if they are consistent with waste disposal site designs typically approved by the ministry. Site specific design criteria are submitted to the ministry with an application for a prescribed instrument (i.e. an ECA), as prepared by a Qualified Person (e.g. Professional Engineer).

Ministry Policy and Guideline Framework for each Waste Sub-threat Activity:

Waste Sub-threat Activity	Ministry's Policies and Guidelines
Landfarming Petroleum Refining Waste, threat #1a	• Section 27 of the EPA requires that an ECA be obtained from the ministry prior to using, operating, establishing, altering, enlarging or extending a waste disposal site. • To obtain an ECA for a new Landfarming Petroleum Refining Waste site, detailed technical assessments of the site must be carried out to identify any potential effects on the environment including groundwater, surface water, air and soil to show how these potential effects can be satisfactorily addressed (review completed by the ministry's regional technical support section and/or Environmental Approvals Branch review engineer(s)). • Regulation 347 (General Waste Management) made under the EPA, was amended in 2005 to establish a land disposal restrictions ("**LDR**") program in Ontario. Under these rules, hazardous wastes that are to be land disposed must be treated to meet prescribed treatment requirements prior to land disposal. • The ministry's LDR program prohibits the direct disposal of hazardous waste to land without meeting the treatment standards within Regulation 347. • The ministry receives very few ECA applications related to landfarms. • Hydrogeology and surface water studies would be a component of the application. During the technical review, site specific conditions may be included in the ECA to ensure that each specific site has adequate measures to protect drinking water sources including monitoring plans, inspection procedures, reporting requirements and contingency measures.
Landfilling Hazardous Waste and Liquid Industrial Waste, threat	• The EAA provides for the analysis of impact assessment, conservation and wise management of Ontario's environment by establishing a responsible

#1b	and accountable process for decision-making before a project is undertaken. Key components of an environmental assessment ("**EA**") include the mitigation and management of potential environmental impacts. The EA process for a proposal such as a Hazardous and Liquid Industrial Waste Disposal Site includes consideration and evaluation of alternatives. • Waste Management Projects are subject to O. Reg.101/07 made under the EAA. This regulation describes the waste management projects that are designated by the regulation and subject to the EAA and EA requirements. Under the regulation, waste management projects may be required to undertake an Individual EA or an Environmental Screening Processes ("**ESP**") to ensure that the intent of the EAA is met. • New landfills or expanding landfills that are proposed to have waste disposal volumes of less than 40,000 m^3 are not designated under the EAA. These landfills are required to meet the requirements of the EPA Regulation 347 (General Waste Management). • For landfills subject to the EAA requirements, numerous technical studies and impact assessments are required to be completed. This includes a hydrogeological assessment, surface water assessments and geotechnical assessments. Section 6 of the Landfill Standards and A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites (PIBS 3651E), outline the type of technical studies required. • **Hazardous and Liquid Industrial Waste Disposal (Landfill) Sites** are subject to Part V of the EPA and applicable regulation made under the Act (i.e. Regulation 347 and O. Reg. 232/98). Section 27 of the EPA requires that an ECA be obtained from the ministry prior to using, operating, establishing, altering, enlarging or extending a waste disposal site. The EPA is the overarching legislation that provides the basic legislative framework for waste management in Ontario. These landfills may also have requirements under the *Ontario Water Resources Act* ("**OWRA**").

	An application to obtain an ECA for a new or expanding landfill site must include reports that address the detailed technical assessments of the site carried out to identify any potential effects on the environment including groundwater, surface water, air and soil to show how these potential effects can be satisfactorily addressed. **Applicability of Regulation 232/98, under the EPA** • O. Reg. 232/98, Landfilling Sites contains comprehensive landfill standards that include requirements for site design, operation, closure, post-closure care and financial assurance. **Applicability of Regulation 347, under the EPA** • Regulation 347 is the general waste management regulation that provides an overview of waste management in the Province. **Guidelines** • Guideline B-7: Incorporation of the Reasonable Use Concept into MOEE Groundwater Management Activities establishes the basis for determining the "reasonable use" of groundwater on property adjacent to sources of contaminants and for determining the levels of contaminant discharges considered acceptable by the ministry. The Guideline applies to matters which fall under the authority of the EPA and OWRA.
Landfilling waste from municipal sources, threat #1c and Landfilling Industrial and Commercial waste, threat #1d	• Source protection policies were reviewed and it was determined that the ministry's current regulatory framework for municipal/industrial/commercial landfills meets the policy requirements. The current framework for waste threats #1c and #1d is the same as waste threat #1b described above.
Liquid Industrial Waste Injection into a Deep Well Disposal Site, threat #1e	• A waste disposal site ECA for activities under section 27 of Part V of the EPA is required for deep well injection of waste, except for oil field brine disposal which is regulated by the Ministry of Natural Resources

	and Forestry (MNRF) through the *Oil, Gas and Salt Resources Act*. • The ministry regulates deep well injection of waste through the Deep Well Disposal Regulation (Regulation 341) and Regulation 347 under the EPA. • Under Regulation 341 of the EPA, operators of a waste well disposal must provide the ministry's local district office Director with monthly reports showing the source, volume and chemical composition of the wastes received at the site, and the volume of wastes discharged into the well. • Regulation 347 was amended in 2005 to establish a Land Disposal Restriction (LDR) program in Ontario. Under these rules, hazardous wastes that are to be land disposed must be treated to meet prescribed treatment requirements prior to land disposal. • The ministry's LDR program prohibits the direct disposal of hazardous waste into deep wells without meeting the treatment standards within Regulation 347. This will not affect the disposal of non-hazardous fluids such as brine. ***Oil, Gas and Salt Resources Act*** • MNRF regulates disposal of brine through the *Oil, Gas and Salt Resources Act* (the disposal of brine is exempt from the EPA, and only regulated by MNRF if re-injected in wells). • Currently, there are no ministry approved deep well disposal sites operating in Ontario. The last two (2) ministry-approved deep well disposal sites were plugged in 2013.
Storage of Hazardous/Liquid Industrial Waste at Waste Disposal Sites, threat #1g	• Waste management projects are subject to O. Reg. 101/07 made under the EAA. This regulation describes the waste management projects that are designated by the regulation and subject to the EAA and EA requirements. Under the regulation, waste management projects for the storage of waste at transfer/processing sites may be required to undertake

	the Environmental Screening Process to ensure that the purpose of the EAA is met. • The EPA is the overarching legislation that provides the basic legislative framework for waste management in Ontario. Hazardous Waste and/or Liquid Industrial Waste Transfer and Processing Sites, Municipal Hazardous and Special Waste Depots (MHSW Depots) and hazardous waste thermal treatment facilities (all sites where storage of hazardous and liquid industrial occurs) are subject to Part V of the EPA and the regulations made under the EPA. • Section 27 of the EPA requires that an ECA be obtained from the ministry prior to using, operating, establishing, altering, enlarging or extending a waste disposal site. • Storage of hazardous waste and liquid industrial waste by a generator for more than 24 months requires an ECA (per section 17.2 of Regulation 347). • To obtain approval for a new Hazardous Waste Transfer and Processing site, MHSW Depot and /or Hazardous Waste thermal treatment facility, a technical assessment of the site must be carried out to identify any potential effects on the environment including groundwater, surface water, air and soil to show how these potential effects can be satisfactorily addressed. **Regulations and Guidelines** Regulations and guidelines for storage of hazardous waste and/or liquid industrial waste at transfer/processing sites include: • Regulation 347 limits the mixing, blending, bulking, etc. of hazardous waste. • Household Hazardous Waste Collection and Facility Guidelines, 1993. • Ministry's Guidelines of "Environmental Protection Measures at Chemical and Waste Storage Facilities", 2007.

	Technical Review Approval Process • The ministry's review engineers/evaluators with knowledge of hazardous waste and liquid industrial waste storage activities are assigned to review ECA applications for these proposed activities. Applicants of proposed hazardous waste and liquid industrial waste storage sites are required to submit supporting documentation, including storm water management plans, secondary storage containment plans, emergency spill procedures and contingency measures. • Review engineers will impose site specific terms and conditions in the ECA to ensure that each specific site has adequate measures to protect drinking water sources.
Storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste or clause (d) of the definition of liquid industrial waste (under Regulation 347)*, threat #1h	The source protection policies were reviewed and it was determined that the ministry's current regulatory framework for storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste or clause (d) of the definition of liquid industrial waste (under Regulation 347)* meets the policy requirements. The current framework for waste storage threats #1h is same as it is for hazardous waste storage threat #1g.

* For reader clarity, the sub-threat 1h, "Storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste or clause (d) of the definition of liquid industrial waste" is storage of non-hazardous waste at transfer/processing sites.

Clauses (p), (q), (r), (s), (t) or (u) of the definition of "hazardous waste" or clause (d) of the definition of "liquid industrial waste" ("Small Quantity Wastes") are time-accumulating and amount thresholds that determine how a waste is classified in Regulation 347. Generally, these clauses state that small amounts and/or accumulation of inherently hazardous waste can be managed as non-hazardous waste for the purposes of waste management. For the purposes of Source Protection, these materials can be a threat to drinking water.

Sewage Prescribed Threat Activities

Threat activities:

- Combined Sewer discharge from stormwater outlet to surface water, threat #2a
- Discharge of stormwater from a stormwater facility, threat #2b
- Industrial sewage effluent discharge, threat #2c
- Sanitary sewers and related pipes, threat #2d
- Septic system, threat #2e
- Sewage Holding tank, threat #2f
- Sewage Treatment Plant bypass, threat #2g
- Sewage Treatment Plant effluent discharge (includes lagoons), threat #2h
- Storage of Sewage, threat #2i
- Sewage – Mine tailings, storage, treatment and discharge, threat #1j

Prescribed Instrument:

ECA under Part II.1 of the EPA for activities under s.53 of the OWRA

Standard Operating Policy:

For sewage works governed by ECAs where the sewage works are located in areas where they are significant drinking water threats, the ministry will conform with source protection policies by applying design and operational measures (identified in the table below) to an ECA to manage the threat. The ministry has also introduced a new requirement for ECA applicants to submit a Source Protection Supplementary Report to outline how the activity for the sewage works is being managed and mitigated so that the activity will not become a significant drinking water threat. These requirements follow a precautionary and pollution prevention approach and will be applied on a consistent province-wide basis to protect drinking water sources. Some of the requirements identified below are currently implemented by the ministry on a site-specific basis. However, the ministry will now apply these requirements whenever the proposal would be considered a significant drinking water threat activity. The "General" section of the table is applicable to all sub-threat activities identified in the Table.

Sewage works that are significant threats to drinking water are not eligible for processing under the Transfer of Review Program. Only applications for approval of sewage works that have low technical complexity and low potential for significant environmental or public health impact and that are proposed to be located within certain designated municipalities are eligible to be processed under this program. An ECA application for sewage works that is excluded from the Transfer of Review Program must be submitted directly to the Environmental Approvals Access and Service Integration Branch of the ministry for review and processing. For additional information on the Transfer of Review Program, please refer the ministry's "Guide to Applying for an Environmental Compliance Approval, 2012".

Ministry staff are currently screening ECA proposals for sewage works to identify if the site is located in a vulnerable drinking water area and if the activity meets the circumstances as a significant threat to drinking water. Guidance documents will be developed and/or updated to outline the ministry's ECA requirements for source protection.

Sewage Sub-Threat Activity	Requirements for ECA Applications
General (applicable to all sewage works included within this table)	In order to prevent potential risks from becoming a significant drinking water threat, the ministry is implementing the following requirements for the establishment of sewage works where the works have been identified as a significant drinking water threat. **Design Requirements** • Design must include a Source Protection Supplementary Report that demonstrates that the proposed design recognized the significant drinking water threat and has implemented mitigation measures to protect drinking water sources. The report should identify drinking water sources, how the sewage works has met the requirements of the CWA and the ministry's design and operational requirements and how the works considered the Risk Management Measures Catalogue (e.g., monitoring, reporting requirements), as amended, to address the risks • Designs must be accompanied with a monitoring and reporting plan. • Designs must be accompanied with a Spill Prevention and Contingency Plan, covering information requirements as per O.Reg. 224/07 to prevent, eliminate or ameliorate any adverse drinking water effects that result or may result from spills of pollutants. This includes steps taken in the event drinking water sources are contaminated for example, notifying members of the public who may be directly affected by a spill. **Operational Requirements** • The Spill Prevention and Contingency Plans must be kept up-to-date. • Regular and annual reports to include maintenance, inspections, and monitoring details.

	• All reports are required to be kept onsite (where the reports can be kept on-site) and at the operating authority's office. • All reports are required to be made readily available upon request by ministry staff, Source Protection Authority or any other parties identified in Source Protection Plans.
Stormwater management works	**Design Requirements** • Design must be based on providing Enhanced Level water **quality** control as per the ministry's Stormwater Management and Planning Manual, 2003. • Design must include an additional 20% water **quantity** control in addition to the requirements of the ministry's Stormwater Management and Planning Manual. • Design must be accompanied with erosion and sediment control measures to cover all phases of construction. **Operational Requirements** • The erosion and sediment control measures plan must be kept up-to-date with records of inspections and maintenance made available for inspection by the ministry. • The monitoring and reporting plan must be kept up-to-date and on-site or at the operating authority's office.
Combined sewers	New combined sewers are currently prohibited per the ministry's Design Guidelines for Sewage Works, 2008 and Procedure F-5-5. Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems are outlined in Procedure F-5-5. Combined sewer outflows are to be reported to the Spills Action Centre as per the obligations under Part X of the EPA. **Design Requirements** • Same as "General" section. **Operational Requirements** • Operational procedures established to include closed-circuit television (CCTV) inspections every 5 years with records made available for inspection by the ministry.

Sanitary sewers and related pipes	**Design Requirements** • New and replacement sewers are to be constructed of materials and with joints that are equivalent to watermain standards of construction and are to be pressure tested in accordance with Division 441 (formerly 701) of the Ontario Provincial Standards Specification (OPSS). **Operational Requirements** • Operational procedures established to include CCTV inspections every 5 years with records made available for inspection by the ministry.
Sewage treatment plant discharge via bypass	**Design Requirements** • Appropriate sizing to reduce bypasses-in adherence to the ministry's Sewage Works Design Guideline (2008) and provisions of Procedure F-5-5 and F-5-1. **Operational Requirements** • Response plan for unplanned bypasses.
Sewage treatment plant – storage/holding tanks	**Design Requirements** • Same as "General" section.
Sewage treatment plant effluent (including lagoons)	**Design Requirements** • Appropriate sizing to reduce bypasses-in adherence to the ministry's Sewage Works Design Guideline, 2008 and provisions of Procedure F-5-5 and F-5-1. • Design must include an inspection/maintenance frequency and strategy to prevent unplanned bypasses. • Response plan for pre-mature effluent discharge (i.e. in the event of seasonal lagoons).
Industrial effluent discharge	**Design Requirements** • Designs must include an industrial sewage discharge flood protection and risk assessment report, considering the 1:200

	year storm event, or an additional 0.5 metres freeboard elevation on any lagoon or wastewater containment area. • Decommissioning plan for every component of the sewage system. • Design must include a contingency plan for responding to effluent quality not complying with effluent criteria.
Industrial effluent discharge – mine tailings	**Design Requirements** • Designs must include an industrial sewage discharge flood protection and risk assessment report, considering the 1:200 year storm event, or an additional 0.5 metres freeboard elevation on any lagoon or wastewater containment area. • Design must include a contingency plan for responding to effluent quality not complying with effluent criteria. • Response plan for pre-mature effluent discharge (i.e. in the event of seasonal discharge from tailing ponds).
Onsite sewage systems	In order to prevent potential groundwater and shallow groundwater contamination and risks from becoming a significant drinking water threat, the establishment of all new onsite sewage systems must adhere to the following criteria. **Design Requirements** • Design must comply with site specific effluent requirements (objectives, limits, triggers, monitoring, reporting, contingencies, etc.) as established at early stage during pre-application consultation with ministry District/Regional Offices. **Operational Requirements** • Maintenance inspections by a qualified person. • Operational plan, which at a minimum shall include, but not limited to: o Pump out and inspection of sewage underground tanks (including septic, balancing tanks, etc.) of each sewage system identified as moderate and high risk in the Sewage System Assessment Report.

	○ Hydraulic test to assess for any leakage at the time of the pump out. ○ Removal of any trees, where they or their roots, are growing in the leaching beds. ○ Preparing public information brochure for distribution (in cases of larger sites with more than one resident on site) regarding taking care of septic systems. ○ Prohibit the construction of any structures such as decks, patios, or sheds over the disposal fields, as well as there should be no parking or driving vehicles over the surface of disposal fields and over any other components of the onsite sewage system.
Holding tanks	The ministry will not issue approvals for new underground holding tanks as current design and operational measures are not sufficient to ensure the activity will never become a significant drinking water threat. The proponent may only consider installation of above-ground tanks in compliance with the current requirements for holding tanks (Ministry Guideline F-9 and Ontario Building Code -OBC), subject to a site-specific review. **Design Requirements** • Same as "General" section. **Operational Requirements** • Inspections of holding tanks every five (5) years for assessment of holding tanks structural integrity including a hydraulic septic test to assess for any possible leakage, and complete with a written assessment and recommendations.

Hauled Sewage Prescribed Threat Activities

Threat activity:

- Application of hauled sewage to land (waste subthreat #1i)

Prescribed Instrument:

An ECA under Part II.1 of the EPA for activities under s.27 of the EPA.

Standard Operating Policy:

The application of hauled sewage to land in locations where it would be a significant drinking water threat cannot be adequately managed with an ECA, such that the activity would never become a significant drinking water threat. To conform with significant threat prescribed instrument policies, the ministry will not approve the land application of untreated hauled sewage in areas where it has been identified as a significant drinking water threat.

Details and Rationale:

Ministry experts determined that ECA terms and conditions could not adequately manage the land application of hauled sewage activity to ensure the activity never becomes a significant drinking water threat. This approach will address all of the parameters of concern associated with untreated hauled sewage as identified under the CWA (pathogens, nitrates and phosphorus).

Pesticides Prescribed Threat Activities

Threat activity:

- Application of Pesticides to Land, threat #10

Prescribed Instrument:

Pesticide permits for land exterminations issued under section 7 of the Pesticides Act are identified as Prescribed Instruments under the CWA.

Standard Operating Policy:

For activities that are identified as significant drinking water threats, the ministry will:

- ensure the permit includes appropriate terms and conditions that address emergency response measures and spill contingency plans for any pesticide

mixing, loading, and handling related to the proposed pesticide treatment which are protective of drinking water sources.

- ensure the permit includes applicable terms and conditions related to site specific setbacks to watercourses, timing restrictions (including consideration of weather events) and spills/runoff management or other measures necessary to manage the significant threat activity in order to protect sources of drinking water.

The additional terms and conditions will be included on all permits where the land application of pesticides is considered a 'significant' drinking water threat.

Details and Rationale:

The ministry will manage significant drinking water threat activities by including appropriate terms and conditions in all permits where the land application of pesticides is a significant drinking water threat.

These conditions will address emergency response measures and spill contingency plans as well as consideration for other measures necessary to manage the significant threat activity. Including these additional terms and conditions will help ensure broader environmental protection from the handling and use of pesticides and ensure a consistent approach to protecting source water across the province.

Permit to Take Water

Threat activity:

- 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, threat #19

Prescribed Instrument:

Section 34 of the Ontario Water Resources Act, with respect to the permits to take water" is defined as a prescribed instrument by s.1.0.1, O. Reg. 287/07 (General) under the CWA.

Standard Operating Policy:

No instrument changes are required at this time to address source protection prescribed instrument policy requirements. However, the ministry is engaged in a broader review of how information generated through the source water protection planning process can enhance a proponent's development of, and subsequent ministry review and evaluation of, water taking proposals that are subject to regulation by a permit. Pending the outcome of this review, best available science would be considered by proponents and

qualified person experts when preparing applications as well as by the ministry in the permit decision-making process, particularly those for higher risk groundwater takings.

Details and Rationale:

A Permit to Take Water (PTTW) Director, when considering an application for a PTTW, is required under section 4, O. Reg. 387/04 (Water Taking), under the OWRA, to consider issues, including those relating to water availability, such as may concern municipal residential drinking water systems and any planned municipal use of water that has been approved. A PTTW Director is provided statutory discretion to impose terms and conditions deemed proper to safeguard Ontario waters. The current administration of the PTTW program implements requirements prescribed by prevailing statute, regulation and program policy, and in doing so ensures future proposed and existing water takings which are subject to PTTW are not significant drinking water threats.

As specific examples of this, a signing Director considering an application for a PTTW is required by regulation to consider matters that include but are not limited to those relevant to source protection policies such as:

- the need to sustain ecological and hydrological integrity of key hydrologic features, functions and aquatic systems,
- the need for implementation of water conservation and efficient use measures, and
- the need to protect existing and approved future municipal water supply (i.e., ensure municipal water supply requirements are not interfered with by other permitted water takings.

Therefore, no changes to the terms and conditions already included in PTTWs instrument are recommended to further control water taking in geographic areas identified as significant drinking water quantity threats recognizing that the broader review of how source protection water quantity information can be factored into the PTTW application and decision-making processes is underway.

Section 2: Summary of Ministry Actions to be Taken to Have Regard To Source Protection Prescribed Instrument Policies for Moderate and Low Threat Activities

It has been determined that the ministry's review and approval processes for instruments that manage moderate and low drinking water threats for waste, sewage, water taking and application of pesticides drinking water threat activities, are adequate to meet the requirements of source protection prescribed instrument policies. For activities that are identified as moderate or low drinking water threats, no additional measures beyond the existing approval requirements are required.

However, for moderate and low drinking water threats for the application of hauled sewage to land threat activities, the ministry's SOP does identify review and approval process changes.

Hauled Sewage Moderate and Low Threat Activities SOP

If the ministry issues an ECA authorizing the land application of hauled sewage in locations where the activity would be a moderate or low threat, it will include terms and conditions that require the site to be designed, constructed and operated in a manner that meets acceptable standards that are protective of the environment and drinking water sources. The ministry is strengthening application and review requirements in these locations.

Updated requirements for surface application will include:

- a supplemental application checklist
- the ECA will:
    - be issued for less than 2 years duration
    - include terms and conditions that address spill prevention procedures
    - restrict land application activities to sites meeting specified standards relating to: maximum permitted slope, soil permeability requirements, minimum setbacks, storage requirements, prohibition on winter spreading and record keeping requirements.

Updated requirements for dewatering trenches will include:

- a supplemental application checklist
- the requirements of the ministry's "Draft Guide to Disposal of Septage in Dewatering Trenches, Ministry of the Environment, September 2008"
- the ECA will:
    - include terms and conditions that require the facility to be designed, constructed and operated in compliance with specific standards including maximum permitted slope, soil permeability requirements, minimum setbacks to surface water and to wells, storage and maximum application rate requirements,
    - include terms and conditions that require the facility to be closed as per the site specific closure plan.

APPENDIX B – MECP'S IDENTIFICATION OF RISKS TO SOURCES OF DRINKING WATER

CITY OF WOODSTOCK STORMWATER SYSTEM (CLI-ECA #323-S701)

City of Woodstock

Identification of Risks to Sources of Drinking Water

Components of sewage systems may present a risk to municipal drinking water sources, and therefore be subject to source protection plans made under the *Clean Water Act, 2006* (CWA). This document is intended to assist owners and operators of sewage systems to identify which components of their systems can present a risk as well as comply with relevant conditions in their Environmental Compliance Approval to protect sources of drinking water.

Introduction

The purpose of the *Clean Water Act* is to protect Ontario's sources of drinking water as part of an overall commitment to safeguard human health and the environment. Under the CWA, communities across the province are protecting their existing and future drinking water supplies through prevention – by developing collaborative, watershed-based source protection plans that are locally driven and based on science. The plans apply within 38 source protection areas across Ontario, covering the areas where 95% of the population live.

These plans identify the **vulnerable areas** around municipal drinking water sources (i.e. wells or surface water intakes) where certain activities such as operating sewage works, fuel storage or manure spreading pose a risk of contaminating the source.

You can learn more about source protection in Ontario and the locally developed source protection plans at: www.ontario.ca/page/source-protection.

Drinking Water Threats

Ontario Regulation 287/07 under the CWA lists 22 **drinking water threats**; activities that can contaminate or deplete a drinking water source. One of these activities is "**the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage**." Depending on the circumstances, sewage works may be a **significant drinking water threat**. Every significant threat is addressed by policies in the local source protection plan.

The new Consolidated Linear Infrastructure Environmental Compliance Approvals (ECAs) for both municipal sanitary sewage collection systems as well as municipal stormwater management systems contain special requirements that apply to elements of the works that are significant drinking water threats. Whether you are designing a new sewage collection or stormwater collection system, expanding an existing system, or conducting normal operations and maintenance, it is important to be able to identify where components of your system (e.g. sanitary sewers, pumping stations, holding tanks, stormwater outfalls, etc.) may be significant drinking water threats, in order to comply with the ECA.

Below are some resources that can help you do this.

Source Protection Tools

STEP 1: Use the Source Protection Information Atlas (SPIA) to find out if the Works are located in a source protection area or vulnerable area.

- SPIA is an online mapping tool that will provide source protection details for any point or property in Ontario including the specific **source protection area, vulnerable area and vulnerability score**.
- Vulnerable areas include:
    - Wellhead Protection Areas (WHPA) around groundwater wells
    - Intake Protection Zones (IPZ) around surface water intakes
    - Issues Contributing Areas (ICA)
    - Event Based Areas (EBA)
    - Significant Groundwater Recharge Areas (SGRA) and Highly Vulnerable Aquifers (HVA)
    - Learn more about these vulnerable areas in the **Help and Resources** tab in SPIA – A Document of Definitions.

Select the link to explore SPIA: Source Protection Information Atlas

Learn more about source protection **vulnerable areas** in the Help and Resources tab in SPIA

- Vulnerability score:
    - An assigned number (2 to 10) which indicates how vulnerable (i.e. sensitive) the drinking water source is to contamination.
    - The vulnerability of a drinking water source is affected by the natural characteristics of the system, such as the type of soil and rock in the area, how quickly water can travel through it, the type of source (e.g. lake or river), water flow and wind conditions, rainfall, the slope of the land, land cover, soil type and the source vulnerability (e.g. depth of intake or well, distance from shoreline).
    - Generally, the higher the vulnerability score, the more sensitive the drinking water source.

- You can use SPIA to determine the vulnerable areas and vulnerability score for a single point (e.g. a pumping station) or an **entire** property (e.g. a wastewater treatment plant). There may be more than one vulnerable area or vulnerability score within a single property.
- SPIA will provide a link to the local source protection plan for any result within a source protection area.
- If you have questions or require assistance using SPIA, use the **Help and Resources** tab at the bottom of the SPIA page.

STEP 2: Use the Threats Tool to find out if the Works pose a risk to sources of drinking water.

- The 22 prescribed drinking water threats are categorized into threat subcategories in the Tables of Drinking Water Threats, which are amended from time to time. These tables set out the circumstances including **vulnerability scores**, where activities pose a risk to drinking water.
- The Threats Tool is an interactive online tool that allows users to quickly search the Tables of Drinking Water Threats.
- The Threats Tool was created to allow users to easily identify significant, moderate or low threats to municipal drinking water sources.
- This Tool allows users to search the Tables of Drinking Water Threats by:
    - Vulnerable zone (WHPA, IPZ) and vulnerability score
    - Threat category (i.e. sewage) and subcategory (e.g. sanitary sewers)
    - Parameters of concern (chemical and pathogens).

Access the Threats Tool here: http://swpip.ca/

Alternatively, you can use the Help and Resources link in the Source Protection Information Atlas

- Search the Threats Tool for the current or proposed sewage works using the *Search* function. For Works eligible for pre-authorization, the currently applicable subcategories under the sewage threat are below:
    - Wastewater Collection Facilities and Associated Parts: Sanitary Sewers (includes sanitary forcemain, rising main, gravity sanitary sewer, or partially separated sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances);
    - Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel that store sewage;
    - Combined Sewer Overflow (CSO) outfall, a Sanitary Sewer Overflow (SSO) from a manhole or a sewage pumping station overflow (PSO) from a wet well;
    - Stormwater drainage system or stormwater management facilities including Low Impact Developments (LID) and outfalls.

- Search for **significant, moderate and low threats** in both the chemical and pathogen table.
- The results will show which **vulnerable area** and **vulnerability score** the chemical and / or pathogen is a significant drinking water threat. For example:
    - Sanitary sewers and associated parts are a significant drinking water threat when located in wellhead protection areas (WHPAs) scoring 10, as well as in certain kinds of Issue Contributing Areas (nitrogen, phosphorus, *E. coli*) and Event Based Areas (sanitary trunk sewer breaks).
    - Stormwater Management Facilities and Drainage Systems outfalls may be a significant

threat when located in surface water intake protection zones (IPZs / WHPA-Es) scoring 8 or greater, or when located in WHPAs scoring 10 depending on the Storm Water Management Facility associated land uses and proportion of impervious areas, as well as certain Issue Contributing Areas.

- Alternatively, you can search by vulnerable area to see which activities would be significant drinking water threats.
- Please note that the above guidance reflects the 2021 Technical Rules which are amended from time to time.

Consider the **vulnerable areas** and **vulnerability scores** at your site and any overflow or discharge locations against the circumstances specified for drinking water threats to assess if the Works are a significant, moderate or low drinking water threat at that location.

Issues Contributing Areas (ICA) are vulnerable areas associated with groundwater or surface water systems, WHPA-ICA or IPZ-ICA, respectively, where activities and conditions may contribute to a parameter of concern identified in the raw water. Certain types of sewage works can contribute to the parameter of concern (chemical or pathogen) and can be either a low, moderate, or significant threat within the protection zone where the ECA activities are located. If the parameter causing the issue is associated with the sewage works proposed at the site – namely chloride, sodium, nitrogen, phosphorus and *E. coli* for Stormwater Management Facilities and Drainage Systems, and nitrogen, phosphorus and *E. coli* for sanitary sewers, sewage pumping stations and CSOs – then the activity typically poses a significant threat **regardless** of the vulnerability score. Check the Assessment Report and Source Protection Plan to confirm any local refinements to the list of activities that may contribute to an issue.

If you have any questions, or need assistance during the threat assessment, please contact the source protection authority listed in the plan for assistance. Additionally, **Conservation Ontario** has resources available at https://conservationontario.ca/conservation-authorities/source-water-protection.

The location within a vulnerable area (e.g. WHPA-A score 10) and type of work (e.g. sanitary sewers and associated parts) and the risk associated with the Works (i.e. significant, moderate or low drinking water threat) can be used for the source protection reporting requirements within your ECA as included in **Section 7** (7.2) of the Sanitary Sewers ECA or **Section 8** (8.2) of the Stormwater ECA.

STEP 3: Check the Source Protection Plan

Access Conservation Ontario's Source Protection Plans and Resources

- If you have determined that one or more of your sewage system components are a significant drinking water threat within your municipality after using SPIA and the Threats Tool there may be source protection policies which apply.
- Use the **source protection area** identified on SPIA to look up the corresponding **Source Protection Plan** to see what policies may apply.
- Source protection plans contain policies for the activities that pose a significant risk to drinking water. The Plan may also contain policies for activities that pose a moderate or low risk.
- Determine if there are any source protection plan policies which relate to your proposed Works (there may be more than one).
- If you have questions regarding the source protection plan policies, please contact the Source Protection Authority listed in the plan for assistance.

STEP 4: Incorporate features into the Works to mitigate risks to sources of drinking water

- If any of the works are a significant drinking water threat and source protection plan policies apply, features should be incorporated in the design, operation, and maintenance that mitigate the risk to drinking water sources as indicated in your ECA, such as:
    - Adopting design, construction, operation and maintenance considerations included in the ministry's Standard Operating Policy for Sewage Works (section 1.2.8) and implementing any actions summarized in the Standard Operating Policy for Source Protection Prescribed Instruments published on the Environmental Registry (posting #012-2968), as amended from time to time. The Sewage SOP was developed in 2014, reflecting the Technical Rules and drinking water threat circumstances in effect at that time and is available using the archive search tool.
    - Features and considerations included in the MECP Design Criteria document section 1.3 – Protection of Water Supplies
    - Any source protection plan policy requirements pertaining to the Works
- MECP includes **guidelines and conditions** for significant drinking water threats as part of its provincial obligations under source protection plan policies:
    - For **new, altered or modified works**: refer to the design criteria guidelines for significant drinking water threats. This may include requirements for operations, maintenance, record keeping, and reporting.
- Fulfil reporting and other requirements included in your ECA including those in **Section 7** (Sanitary Sewers ECA) or **Section 8** (Stormwater ECA) for the protection of drinking water sources.