Chapter 6 – Policies for Wellhead Protection Areas

6.1 Overview

There are three municipal residential supply wells in the Cataraqui Source Protection Area for which wellhead protection areas were identified in the Assessment Report:

- Cana, in the City of Kingston
- Lansdowne, in the Township of Leeds and the Thousand Islands
- Miller Manor Apartments, in the Township of Front of Yonge.

The reader is encouraged to review subsection 2.3.2 of the Plan, and Chapter 5 of the Assessment Report for detailed information about each of the wellhead protection areas including:

- how the areas were determined
- how the vulnerability of the areas were quantified
- specific details about the wells and surrounding areas
- an inventory of identified transport pathways, water quality issues and drinking water threats.

The policies in this chapter apply to the Cana Wellhead Protection Area, Lansdowne Wellhead Protection Area, and Miller Manor Wellhead Protection Area as shown on **Schedules B, C and D**, respectively. The policies in Chapters 4 and 5 may also apply to land in the Wellhead Protection Areas.

6.1.1 Cana Wellhead Protection Area

The Cana Wellhead Protection Area (WHPA) is located in Kingston Mills, which is within the City of Kingston (see **Schedule B**). The Cana well supply and associated water treatment plant is owned by the City of Kingston and operated by Utilities Kingston. The water treatment plant and the wastewater treatment facility are located in WHPA-A. These facilities service thirty-two homes in the Cana Subdivision. The majority of the homes are located in WHPA-A and WHPA-B. The wellhead protection area also contains a mix of privately serviced residential, institutional, commercial and industrial uses that are serviced by private wells and on-site sewage systems (e.g., septic systems).

A number of landowners in the WHPA have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

WHPA-A and part of WHPA-B have vulnerability scores of 10, the rest of WHPA-B has a vulnerability score of 8, WHPA-C has vulnerability scores of 8 and 6, WHPA-D has a score of 6, and WHPA-E has a score of 7, as identified in the Assessment Report. Certain activities could be

significant drinking water threats in WHPA-A, WHPA-B and WHPA-C.

6.1.2 Lansdowne Wellhead Protection Area

The Lansdowne Wellhead Protection Area (WHPA) encompasses most of the village of Lansdowne, and consists of a mix of residential, parkland, institutional, commercial and agricultural land uses (see **Schedule C**). There are approximately 750 people in the village that get their drinking water from two municipal wells that are owned by the Township of Leeds and the Thousand Islands and operated by the Ontario Clean Water Agency. Properties in the Wellhead Protection Area that are located north of the municipal wells are serviced by private wells and on-site sewage systems (e.g., septic systems).

The Township implemented measures in the past to protect the village's drinking water, such as making improvements to the water treatment process, and passing a by-law to regulate certain activities near the wells. A number of landowners and businesses in the WHPA have also implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

WHPA-A and WHPA-B have vulnerability scores of 10, WHPA-C has a vulnerability score of 8, WHPA-D has a score of 6 and WHPA-E has a score of 9, as identified in the Assessment Report. Certain activities could be significant drinking water threats in WHPA-A, WHPA-B and WHPA-C.

6.1.3 Miller Manor Wellhead Protection Area

The Miller Manor Wellhead Protection Area encompasses most of the village of Mallorytown (see **Schedule D**). The residents of a 17 unit apartment building obtain their drinking water from the subject well. Both the building and the well are owned by the United Counties of Leeds and Grenville.

The drinking water treatment system is operated by A.J.'s Water Treatment. Although the one apartment building has a treated drinking water supply the balance of Mallorytown relies on private wells for drinking water.

All of the development in Mallorytown is serviced by private wells and on-site sewage systems (e.g., septic systems). Mallorytown is primarily residential with some commercial uses, parkland and agriculture.

A number of landowners in the WHPA have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

WHPA-A and WHPA-B have vulnerability scores of 10, WHPA-C has a vulnerability score of 8, and WHPA-D has vulnerability scores of 6 and 4, as identified in the Assessment Report. Certain activities could be significant drinking water threats in WHPA-A, WHPA-B and WHPA-C.

6.1.4 Identified Drinking Water Threats

Significant drinking water threats exist or have the potential to occur at all three of the wellhead

protection areas, based on the vulnerability scores assigned to them. This means that the inherent risk of particular activities within the wellhead protection areas is high enough to warrant special attention including prohibition or binding requirements for their management. It does not mean that active pollution or specific problems with existing activities were found.

The Assessment Report included an inventory of drinking water threats for each of the wellhead protection areas, based on a specific list of activities provided by the Ministry of the Environment (refer to section 2.3.3).

The two most common existing activities that are significant, moderate or low threats to these sources of drinking water are:

- the handling and storage of liquid fuel
- on-site sewage systems (e.g. septic and holding tanks).

Where the activities listed above are significant drinking water threats, they occur on less than 15 properties in the Cana Wellhead Protection Area (WHPA), less than 50 properties in the Lansdowne WHPA, and less than 20 properties in the Miller Manor WHPA.

Other notable activities that were included in the inventory are the application:

- and storage of agricultural source material
- of commercial fertilizer
- and storage of pesticide
- of road salt.

The Source Protection Plan includes policies to address existing and potential significant threats to drinking water, and the most common existing moderate and low threats to drinking water, as well as those that have the potential to become established in the future. The Ministry of the Environment specifies what activities must be addressed in the Plan (refer to section 2.3.3). The Plan does not intentionally prohibit any existing activities.

The source protection policies are similar for the three wellhead protection areas except where the local situation warrants a different approach.

The policies for the Wellhead Protection Areas will benefit not only those residents who obtain their drinking water from the municipal sources, but all of the residents and businesses in the community that draw their drinking water from the same aquifers.

6.2 Policies for all Wellhead Protection Areas

On-site Sewage System Maintenance

Except for the 32 homes located in the Cana Subdivision that are serviced by a municipal wastewater treatment facility, the Kingston Mills community is serviced by on-site sewage systems. The village of Lansdowne is serviced by a municipal sanitary sewer network and wastewater treatment facility; however, there are properties outside the serviced area that use on-site sewage

systems in the Lansdowne Wellhead Protection Area. The entire community in and around the Miller Manor WHPA is serviced by on-site sewage systems.

The level of risk associated with these systems varies depending on their location:

- significant threat in WHPA-A and WHPA-B where the vulnerability score is 10
- moderate threat in the portions of WHPA-B and WHPA-C where the vulnerability score is 8
- low threat in WHPA-C where the vulnerability score is 6, and in WHPA-D and WHPA-E.

A septic tank (shown above) and tile bed are the main components of most on-site sewage or septic systems.

The Ontario Building Code requires ongoing maintenance of every on-site sewage system (e.g., septic system) and the remediation of unsafe or failing systems. It is the responsibility of Principal Authorities (e.g., municipalities or health units) to enforce the Building Code. Owners/operators are responsible for septic system maintenance.

In addition, the *Building Code Act, 1992* and the Building Code require mandatory maintenance inspections in vulnerable areas where these systems are identified as significant threats to a source of drinking water (e.g., wellhead protection areas A and B). The purpose of the mandatory inspection program is to confirm that on-site sewage systems are functioning properly and to require the remediation of failed and improperly functioning systems so that they do not release untreated or poorly treated sewage to groundwater and surface water. This program must be established by October 6, 2016 (i.e., within five years of the approval of the Assessment Report). The Act and Code contain provisions that allow the Principal Authority to establish maintenance inspection programs in other parts of the municipality.

This Plan encourages the City of Kingston, Township of Leeds and the Thousand Islands and the Township of Front of Yonge to also establish an on-site sewage system maintenance inspection program for the remainder of the Wellhead Protection Areas that are not serviced by the municipal wastewater treatment facility or where the systems are moderate or low threats, and to support both of these programs with targeted education and outreach initiatives. Such a program would normally be organized and/or delivered by a municipality's principal authority for Part 8 of the Ontario Building Code; in the case of these three municipalities it is either KFL&A Public Health or the Leeds, Grenville, Lanark and District Health Unit.

6.2.1-CW a. Municipalities, in consultation with their respective principal authorities, shall develop and implement an education and awareness program for the landowners in WHPA-A and WHPA-B where the vulnerability score is 10 and septic systems

and holding tanks are significant drinking water threats.

b. The program identified in **a.** should provide information to landowners about the proper operation and maintenance of their on-site sewage systems (i.e. septic systems and holding tanks), and about the benefits of a well maintained system.

c. This program is to begin before the start of the mandatory on-site sewage system maintenance inspection program that is required by the Ontario Building Code.

6.2.2-NB **a.** Municipalities, in consultation within their respective principal authorities, should consider establishing a discretionary on-site sewage system (i.e. septic system and holding tank) maintenance inspection program under the Ontario Building Code, and extending the education and awareness program specified in **6.2.1-CW** to the balance of the Wellhead Protection Areas where on-site sewage systems are moderate or low drinking water threats.

b. The principal authority for Part 8 of the Ontario Building Code for each of the municipalities should also provide notice of whether or not a discretionary sewage system (i.e. septic system and holding tank) maintenance inspection program(s) will be established, including the applicable areas and a rationale for the decision, by February 15 of the year following implementation.

6.2.3-CW By February 15 of the year following implementation of policy **6.2.1-CW**, the principal authority for Part 8 of the Ontario Building Code for each of the municipalities shall provide the Cataraqui Source Protection Authority with a summary of the results from the mandatory on-site sewage system (i.e., septic system and holding tank) maintenance inspection programs, including a copy of any orders or recommendations identifying any corrective actions that must or should be implemented to ensure proper system function, as well as copies of the educational materials used.

Land Use Planning and Development

Municipal Approvals

Municipalities regulate development through their powers under the *Planning Act* and the *Condominium Act*. The *Clean Water Act* requires decisions on planning matters to conform with significant threat policies or have regard to the moderate and low threat policies in the Source Protection Plan on the date the Plan takes effect.

The Official Plans for the City of Kingston, Township of Leeds and the Thousand Islands, and the Township of Front of Yonge must be amended to conform with the applicable Source Protection Plan policies regarding significant drinking water threats no later than at the time of the next five year review required under section 26 of the *Planning Act*.

Conformity of the official plan will ensure that decisions on planning matters conform with the significant threat policies and have regard to the moderate and low threat policies in the Source Protection Plan.

The intent of policies **6.2.5-CW** and **6.2.6-CW** is to ensure that the listed land uses, which are generally not currently permitted in Kingston Mills, Lansdowne and Mallorytown, never become established in areas where the associated activities would be significant drinking water threats.

6.2.5-CW a. Municipalities, via *Planning Act* or *Condominium Act* decisions, shall prohibit the following land uses in the future in WHPA-A and WHPA-B where the vulnerability score is 10:

i. waste disposal sites involving one or more of the following activities that would be significant drinking water threats: the application of agricultural source material, non-agricultural source material and untreated septage (i.e., hauled sewage) to land; storage of mine tailings; landfarming of petroleum refining waste; landfilling of hazardous, municipal and solid non-hazardous industrial or commercial waste; liquid industrial waste injection into a well and PCB waste storage.

ii. wastewater treatment facilities and related infrastructure that would be significant drinking water threats (i.e. sanitary sewers and related pipes (Cana and Lansdowne only), sewage treatment plant effluent discharges including lagoons and storage of sewage). This policy excludes the replacement, expansion or upgrade of existing facilities.

6.2.6-CW a. Municipalities, via *Planning Act* or *Condominium Act* decisions, shall prohibit the following land uses from becoming established in the future in WHPA-B and WHPA-C where the vulnerability score is 8:

i. waste disposal sites involving one or more of the following activities that would be significant drinking water threats: landfilling of municipal, solid non-hazardous industrial or commercial waste, and liquid industrial waste injection into a well.

ii. wastewater treatment facilities involving the storage of sewage (e.g., treatment plant tanks), which would be significant drinking water threats. This policy excludes the replacement, expansion or upgrade of existing facilities.

Municipalities can meet the intent of this policy in a number of ways:

- requiring up-front disclosure of activities
- site plan control
- development agreements
- conditional zoning.

Risk management measures like siting of storage facilities, spill containment and stormwater management can be implemented through site plan control or development agreements.

The intent of policies **6.2.7-HR** and **6.2.8-HR** is to ensure that proposed development associated with the listed activities incorporates appropriate risk management measures to protect the source of drinking water for these communities.

6.2.7-HR a. Municipalities reviewing proposals under the *Planning Act* or *Condominium Act* for new development and for expansions to existing development located in WHPA-B where

the vulnerability score is 8, WHPA-C, WHPA-D, or in Cana WHPA-E where it does not overlap with WHPA-A and involving one or more of the activities listed below, should incorporate measures/management practices to adequately manage the risk to groundwater quality associated with those activities. This policy contains examples of land uses associated with these activities, which are moderate or low drinking water threats, and is not considered to be an exhaustive list.

i. the handling and storage of more than 25 litres of organic solvents (e.g., metal manufacturing, electroplating and fabrication industries, automotive or equipment repair shops, furniture refinishing shops, dry cleaning establishments)

ii. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer and/or more than 250 kilograms or litres of pesticide at a facility where it is sold or stored for application at other sites, except where it is manufactured or processed (e.g., lawn and garden centres, farm supply stores, yard maintenance contractors, golf courses)

iii. the handling and storage of more than 2,500 litres of liquid fuel (e.g., gas stations)

iv. the handling and storage of more than 500 tonnes of road salt (e.g., public or private maintenance yards)

v. at or above-grade snow storage that is more than 1 hectare (e.g., public or private maintenance yards, snow dumps)

vi. the storage of PCBs (e.g., waste transfer stations).

b. For development proposals in WHPA-D, this policy should also apply to the handling and storage of more than 25 litres of DNAPLs (e.g., metal manufacturing, electroplating and fabrication industries, automotive or equipment repair shops, furniture refinishing shops, dry cleaning establishments).

Low impact development is an approach that employs techniques to manage stormwater as close as possible to its source. Its objective is to maintain water cycle balance and improved quality by considering the full spectrum of stormwater management.

6.2.8-HR Municipalities should consider how to incorporate low impact development techniques in *Planning Act* or *Condominium Act* decisions related to proposed stormwater management for new or expanding development, excluding single lot residential development, in the wellhead protection areas. These techniques should be used to reduce impervious surfaces, maintain pre-development recharge and use lot level controls to emphasize infiltration of clean water at the point of origin to improve the quality discharge of stormwater from a stormwater retention pond that would be a moderate or low drinking water threat.

6.2.9-CW In order to monitor the implementation of policies **6.2.5-CW** and **6.2.6-CW**, the municipalities shall provide the Cataraqui Source Protection Authority with a

copy of any approvals under the *Planning Act* or *Condominium Act* for applications for properties in their respective wellhead protection areas that relate to the activities listed in those policies.

6.2.10-NB In order to monitor the implementation of policies **6.2.7-HR** and **6.2.8-HR**, the municipalities should also provide the Cataraqui Source Protection Authority with a copy of any approvals under the *Planning Act* or *Condominium Act* for applications for properties in their respective wellhead protection areas that relate to the activities listed in those policies, when the Notice of Decision is issued.

Provincial Approvals

Provincial ministries have an important role to play in protecting municipal sources of drinking water from contamination, most notably through their decision-making frameworks for specific types of approvals, and through existing programs, policies and procedures.

The next few policies identify actions to be taken by the Ministry of the Environment to prohibit or manage activities that are threats to municipal wells.

These actions can be taken under the *Environmental Protection Act* or the *Ontario Water Resources Act*.

6.2.11-CW The Ministry of the Environment shall not permit establishment of new waste disposal sites where the following activities would be significant drinking water threats:

a. In Cana, Lansdowne and Miller Manor WHPA-A and WHPA-B where the vulnerability score is 10:

- **i.** the application of non-agricultural source material to land
- **ii.** the application of untreated septage (i.e., hauled sewage) to land
- **iii.** landfilling of petroleum refining waste
- **iv.** landfilling of hazardous waste
- **v.** landfilling of municipal waste
- **vi.** landfilling of solid non-hazardous industrial or commercial waste
- **vii.** liquid industrial waste injection into a well

b. In Cana, Lansdowne and Miller Manor WHPA-B and WHPA-C where the vulnerability score is 8:

- **i.** landfilling of municipal waste
- **ii.** landfilling of solid non-hazardous industrial or commercial waste
- **iii.** liquid industrial waste injection into a well

c. This prohibition does not apply to the application of non-agricultural source

material to land in Lansdowne WHPA-B provided that the land is suitable for this activity, and any approvals incorporate appropriate risk management measures to protect the source of drinking water.

6.2.12-HR a. The Ministry of the Environment (MOE), when reviewing applications for the establishment of new waste disposal sites, should incorporate available source protection information in its decision-making process, and require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.

b. The action identified in **a.** applies to the following types of waste disposal sites where they would be a moderate or low drinking water threat as identified in the Assessment Report for the Cana, Lansdowne and Miller Manor Wellhead Protection Areas:

i. the application of non-agricultural source material to land

ii. the application of untreated septage (i.e., hauled sewage) to land

iii. landfarming of petroleum refining waste

iv. landfilling of hazardous municipal and solid non-hazardous industrial or commercial waste

v. liquid industrial waste injection into a well.

6.2.13-CWa. The Ministry of the Environment shall prohibit the establishment of new sewage works in Cana, Lansdowne and Miller Manor WHPA-A and WHPA-B where the vulnerability score is 10 for the following activities that would be significant drinking water threats including: sanitary sewers and related pipes (Cana and Lansdowne only), septic systems and holding tanks, sewage treatment plant effluent discharges including lagoons, and storage of sewage.

b. This prohibition does not apply to the replacement, expansion or upgrade of existing sewage works or facilities provided that the design incorporates appropriate risk management measures to protect the source of drinking water.

6.2.14-CW The Ministry of the Environment, when reviewing applications for the establishment, operation or maintenance of sanitary sewers and related pipes that would be a significant drinking water threat in Miller Manor WHPA-A and WHPA-B, should require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.

6.2.15-CW The Ministry of the Environment, when reviewing applications for the establishment of or improvement to on-site sewage systems (i.e. septic systems and holding tanks) where they would be significant drinking water threats in Cana, Lansdowne and Miller Manor WHPA-A and WHPA-B where the vulnerability score is 10 shall incorporate available source protection information in its decision-

making process, and require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.

6.2.16-HR The Ministry of the Environment, when reviewing applications for the establishment of new sanitary sewers and related pipes, or for the establishment of or improvement to wastewater treatment facilities or on-site sewage systems (i.e. septic systems) where they would be a moderate or low drinking water threat as identified in the Assessment Report in the Cana, Lansdowne and Miller Manor Wellhead Protection Areas, should incorporate available source protection information in its decision-making process, and require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.

6.2.17-CW Where existing on-site sewage systems (i.e. septic systems and holding tanks) are significant drinking water threats and have a certificate of approval or environmental compliance approval, the approval shall ensure that the activity ceases to be a significant drinking water threat. The Director at the Ministry of the Environment should consider including requirements for regular maintenance inspections every 5 years using a standard equal to or greater than the On-Site Sewage System Maintenance Inspections, March 2011 guidelines for on-site sewage system maintenance inspection programs under the Ontario Building Code.

6.2.18-NB a. If a municipality establishes an on-site sewage system maintenance inspection program for the balance of the wellhead protection area where these systems are moderate or low drinking water threats, the Ministry of the Environment should also consider conducting inspections during the same timeframe, using a standard equal to or greater than the On-Site Sewage System Maintenance Inspections, March 2011 guidelines for on-site sewage system maintenance inspection programs under the Ontario Building Code.

b. The Ministry should also include information about this policy is an annual summary of actions taken to achieve outcomes of source protection policies and make it available to the Cataraqui Source Protection Authority. It is recommended that the summary include information about the results of any inspections.

6.2.19-CW In order to monitor the implementation of policies **6.2.11-CW**, **6.2.13-CW**, **6.2.14-CW, 6.2.15-CW** and **6.2.17-CW**, the Ministry of the Environment shall publish information to demonstrate implementation in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

6.2.20-NB In order to monitor the implementation of policies **6.2.12-HR** and **6.2.16-HR** the Ministry of the Environment should publish information to demonstrate implementation in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

6.2.21-CW The Ministry of Agriculture, Food and Rural Affairs shall not approve NASM Plans for the application to land, handling and/or storage of non-agricultural source material where these activities are or would be significant drinking water threats in

i. Cana WHPA-A and WHPA-B where the vulnerability score is 10

ii. Lansdowne WHPA-A and WHPA-B

iii. Miller Manor WHPA-A and WHPA-B.

b. This prohibition does not apply to the application of non-agricultural source material to land in Lansdowne WHPA-B provided that the land is suitable for this activity, and any approvals incorporate appropriate risk management measures to protect the source of drinking water.

The next few policies identify actions to be taken by the Ministry of Agriculture, Food and Rural Affairs under *Nutrient Management Act* Regulation 267/03 (General) to prohibit or manage activites that are threats to municipal wells.

The following have been identified as significant drinking water threats in Cana, Miller Manor and Lansdowne Wellhead Protection Areas A and B:

- application, storage and handling of non-agricultural source material (such as sewage sludge)
- application, storage and management of agricultural source material (such as manure).

These are also considered to be either moderate or low threats in Wellhead Protection Areas C and D where the vulnerability score is at least 6.

6.2.22-CW Approvals for revised nutrient management strategies and/or plans should be conditional on the implementation of risk management measures and/or best management practices that address the storage of agricultural source material that is a significant drinking water threat for sites in Lansdowne and Miller Manor WHPA-A and WHPA-B.

6.2.23-HR Approvals for new and/or revised NASM plans or nutrient management strategies and/or plans should be conditional on the implementation of risk management measures and/or best management practices addressing the application to land and/or handling and storage of non-agricultural source material where there is a low drinking water threat for sites in:

i. Cana WHPA-C and WHPA-D

ii. Lansdowne WHPA-C and WHPA-D

iii. Miller Manor WHPA-C and WHPA-D where the vulnerability score is 6.

6.2.24-CW In order to monitor the implementation of policies **6.2.21-CW** and **6.2.22-CW**, the Ministry of Agriculture, Food and Rural Affairs and/or the Ministry of the Environment shall publish information to demonstrate that source protection considerations were made pertaining to these policies in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

6.2.25-NB The Ministry of Agriculture, Food and Rural Affairs or the Ministry of the Environment should publish information to demonstrate that source protection considerations were made pertaining to policy **6.2.23-HR** in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

Other Approvals

The creation of new transport pathways and the modification of existing transport pathways may change the delineation and vulnerability score of a wellhead protection area. Additional landowners and business owners may become subject to source protection policies as a result of this change.

Transport pathways to wellheads include wells (poorly constructed and improperly abandoned), ditches and service trenches.

Municipalities are required under subsection 27(3) of Ontario Regulation 287/07 (General) to provide notice to the Source Protection Authority and the Committee if a person applies for approval of a proposal that may result in the creation or modification of a transport pathway within a wellhead protection area. However, municipalities will only have the opportunity to provide notice when the proposed work requires their approval.

The Cataraqui Region Conservation Authority sometimes issues permits for work to create or modify transport pathways where no municipal review is needed. The following policy made under section 27 of Ontario Regulation 287/07 (General) is to fill this gap.

6.2.26-NB a. The Cataraqui Region Conservation Authority should notify the Cataraqui Source Protection Authority and the Cataraqui Source Protection Committee of any proposals under Ontario Regulation 148/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) to engage in activities within or in close proximity to the Cana, Lansdowne and Miller Manor Wellhead Protection Areas that may result in the creation of a new transport pathway or the modification of an existing transport pathway. This notice shall include a description of the proposal, the identity of the person responsible for the proposal and a description of the approvals the person requires to engage in the proposed activity.

b. The Cataraqui Source Protection Authority will use the information from **a.** to conduct an assessment to determine the potential impact of the proposal on the delineation and or the vulnerability score of the wellhead protection area, and may make recommendations to the municipality, or propose an amendment to the Source Protection Plan that relates to the implementation of the proposal, as per subsection 48(2) of Ontario Regulation 287/07 (General).

c. The notification specified in **a.** is not required in situations where the municipality having jurisdiction provides notification to the Source Protection Authority under subsection 27(3) of Ontario Regulation 287/07 (General).

Review of Regulation 903

Properly constructed wells are critical to protecting aquifers and water supplies from contamination. Although Regulation 903 (Wells) stipulates well construction standards in part to protect groundwater from becoming contaminated active enforcement of these requirements is lacking. Currently, the Ministry of the Environment manages its responsibility for enforcement of Regulation 903 using the following strategy:

1. education and outreach
2. response to incidents
3. voluntary abatement
4. orders
5. tickets and prosecutions.

The strength of this strategy should be tested by performing an inspection initiative based on an updated program analysis as recommended in the following transport pathway policy made under section 27 of Ontario Regulation 287/07 (General), followed by a re-evaluation of the strategy.

6.2.27-NB a. The Ministry of the Environment should undertake an updated analysis of the compliance and enforcement program associated with Regulation 903 – Wells, as amended, made under the *Ontario Water Resources Act*.

The program analysis should consider:

- **i.** increased Ministry of the Environment field presence with well contractors
- **ii.** prioritization of complaint response in instances where the presence of a transport pathway would endanger sources of municipal drinking water,
- **iii.** focusing resources in areas where improperly constructed, maintained or abandoned wells may increase the potential threat to municipal drinking water sources.

b. Action to implement this analysis should be initiated within two years of the Source Protection Plan taking effect and be completed in a timely manner. Beneficial program changes, as identified via the analysis, should follow.

c. The Ministry of the Environment should include information about this policy in an annual summary of actions taken to achieve outcomes of source protection policies and make it available to the Cataraqui Source Protection Authority.

Like all developed areas in Ontario, there are many improperly abandoned and unmaintained wells in the Cataraqui Source Protection Area (CSPA). The Ontario Groundwater Association estimates that there are more than 500,000 wells in Ontario that need to be properly decommissioned. A local groundwater study (Trow Consulting, 2007) stated that there were about 1,800 in and near the western portion of the CSPA alone. These sub-standard wells provide shortcuts for any pollution on the ground surface to reach and contaminate the underlying sources of drinking

water.

The following policy developed under section 27(1) of Ontario Regulation 287/07 (General) is to encourage the Ministry of the Environment to help reduce the number of improperly abandoned and unmaintained wells in Ontario.

6.2.28-NB a. The Ministry of the Environment should analyze the need to amend Regulation 903 (Wells) under the *Ontario Water Resources Act* to require well decommissioning when a replacement well is installed in a wellhead protection area, to prevent the creation of transport pathways from improperly abandoned or maintained wells.

b. The provision in **a.** would apply unless a specific exemption has been granted whereby the existing well is in good condition and will continue to be used or maintained for future use.

c. The Ministry of the Environment should include information about this policy in an annual summary of actions taken to achieve outcomes of source protection policies and make it available to the Cataraqui Source Protection Authority.

6.3 Policies Specific to Cana Wellhead Protection Area

Land Purchasing Strategy

The land in Cana WHPA-A immediately surrounds the supply well and therefore it is most important to ensure that any activities on the land surface do not cause contamination to the underlying aquifer. It is also important for preventing the establishment of new transport pathways. Although the City of Kingston does own a portion of the land in WHPA-A, large privately owned and currently vacant lands are also contained in this zone. In developing a land purchasing strategy, the City of Kingston will need to develop a set of criteria for land acquisition (e.g., any property or only vacant lands). This policy was made under subsection 26(1)(v) of Ontario Regulation 287/07 (General).

6.3.1-CW a. The City of Kingston shall consider developing a land purchase strategy for WHPA-A and prepare a set of criteria for securing those parcels of land deemed necessary to directly control the occurrence of any significant drinking water threats.

b. The action specified in **a.** shall be implemented within one year of the Source Protection Plan taking effect, and a copy of the strategy, if developed, shall be provided to the Source Protection Authority.

Part IV of the Clean Water Act

Part IV of the *Clean Water Act* provides municipalities with new tools to regulate existing and future activities that are significant threats to drinking water. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for some waste disposal and all sewage-related activities because they are subject to an environmental compliance approval or certificate of approval.

Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believes that the threat can be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.

What is a Risk Management Plan?

A document outlining the actions required to address a threat to drinking water. These actions manage the risk associated with the potential threat so that drinking water is better protected.

Some quick facts about these plans:

- they are site-specific and customized to fit the property, activity or business
- they account for risk management measures that are already in place — some property owners will only need to document what they are already doing to protect drinking water
- they can address multiple activities so that only one plan is required for a property that has fuel storage, pesticide storage and livestock, for example.

6.3.2-CW a. Under the following circumstances, the handling and storage of fuel are significant drinking water threats, and are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities in Cana WHPA-A and WHPA-B where the vulnerability score is 10:

i. the existing and future below grade or partially below grade storage of more than 250 litres but less than 2,500 litres of liquid fuel, and any associated fuel handling

ii. the existing storage of more than 2,500 litres of liquid fuel at any grade and any associated fuel handling, excluding above grade handling and storage at bulk plants and facilities that manufacture or refine fuel.

b. The risk management plan for the handling and storage of liquid fuel associated with oil for heating appliances (e.g., furnaces) should require, at a minimum, annual inspections by a certified Fuel Oil Burning Appliance Technician, confirmation of the repair and/or replacement of any defective equipment to the satisfaction of the certified Technician, and the implementation of best management practices as appropriate such as the installation of leak detection and spill containment equipment.

c. The risk management plan for the handling and storage of liquid fuel for purposes other than heating oil should consider, at a minimum, annual inspection, confirmation of repair and/or replacement of any defective equipment to the satisfaction of a TSSA inspector, and staff training.

d. If one or more of the activities listed in **a.** is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.

e. If the activity listed in **a. i.** is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activity becomes established.

How is a Risk Management Plan created?

The Risk Management Official works with the property owner to decide on the components of the plan.

- The process provides opportunity for discussion, flexibility and agreement
- The property owner receives recognition of previous efforts and good stewardship actions
- The Risk Management Official receives formal assurance that the property owner will continue effective risk reduction measures
- Where new risk reduction measures are needed, the property owner can be assured that these measures help to protect their property and assets from becoming a pollution problem

6.3.3-CW a. The handling and storage of a dense non-aqueous phase liquid (DNAPL) of any quantity in Cana WHPA-A, WHPA-B or WHPA-C and/or an organic solvent in WHPA-A or WHPA-B where the vulnerability score is 10, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing commercial or industrial uses.

b. The risk management plan should consider, at a minimum, the repair and/or replacement of defective equipment, staff training, and the implementation of best management practices as appropriate.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated is exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

6.3.4-CW a. In Cana WHPA-A and WHPA-B where the vulnerability score is 10, the following drinking water threats are significant and are designated for the purpose of section 58 of the *Clean Water Act*:

i. The storage of hazardous waste at waste disposal sites; and

ii. The storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General -Waste Management), as amended.

Therefore a risk management plan is required for these activities where they relate to existing or future uses and planned specific storage of the wastes, as identified above, is necessary and part of normal practice.

b. The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified person, as per Ministry of the Environment guidelines.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

Prohibition

Part IV prohibition is used for those activities which cannot be managed through land use planning (e.g., the handling and storage of pesticides), and do not require provincial approval through a prescribed instrument. The intent of the following policies is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

6.3.5-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Cana WHPA-A:

i. the application of agricultural source material to land

ii. the application of pesticide containing MCPA or Mecoprop on at least 1 hectare of land

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

iv. the use of land for livestock grazing or pasturing, outdoor confinement areas or a farm animal yard

v. the handling and storage of dense non-aqueous phase liquids (DNAPLs)

vi. the handling and storage of more than 2,500 kilograms of commercial fertilizer for the purpose of retail sale or application

vii. the handling and storage of pesticide where it is sold or used for applica-

tion at other sites, except where it is manufactured or processed, in the specified mass or volume and containing the specified active ingredient(s):

i. more than 250 kilograms containing MCPA or Mecoprop

ii. more than 2,500 kilograms containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor

vii. the handling and storage of more than 2,500 kilograms or litres of pesticide containing MCPA or Mecoprop, where it is stored at a facility where it is manufactured, distributed or processed.

viii. the storage of agricultural source material

ix. the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):

i. more than 25 litres containing carbon tetrachloride below or partially below grade

ii. more than 250 litres containing carbon tetrachloride above grade

iii. more than 250 litres containing carbon tetrachloride, chloroform, methylene chloride below or partially below grade

iv. more than 2500 litres containing carbon tetrachloride, chloroform, methylene chloride at any grade

v. more than 2500 litres containing pentachlorophenol below or partially grade

x. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed

xi. the handling and storage of more than 2,500 litres of liquid fuel above, below or partially below grade, excluding above grade handling and storage at bulk plants and facilities that manufacture or refine fuel

xii. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt

xiii. below grade snow storage that is more than 0.01 hectare or at or above-grade snow storage that is more than 1 hectare.

6.3.6-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Cana WHPA-B where the vulnerability score is 10:

i. the application of agricultural source material to land

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

ii. the use of land as livestock grazing and pasturing land, an outdoor confinement area or a farm animal yard

ii. the handling and storage of dense non-aqueous phase liquids (DNAPLs)

iii. the handling and storage of pesticide at a facility where it is sold or stored for application at other sites, except where it is manufactured or processed,, in the specified mass or volume and containing the specified active ingredient(s):

i. more than 250 kilograms containing MCPA or Mecoprop

ii. more than 2,500 kilograms containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor

iv. the storage of agricultural source material

v. the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):

i. more than 25 litres containing carbon tetrachloride below or partially below grade

ii. more than 250 litres containing carbon tetrachloride above grade

iii. more than 250 litres containing carbon tetrachloride, chloroform or methylene chloride below or partially below grade

iv. more than 2,500 litres containing carbon tetrachloride, chloroform, methylene chloride at any grade

v. more than 2,500 litres containing pentachlorophenol below or partially below grade

vi. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed

vii. the handling and storage of more than 2,500 litres of liquid fuel above, below, or partially below grade, excluding above-grade handling and storage at bulk plants and facilities that manufacture or refine fuel

viii. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt

ix. below grade snow storage that is more than 0.01 hectares in area or at or above grade snow storage that is more than 1 hectare.

6.3.7-CW The handling and storage of a dense non-aqueous phase liquid (DNAPL) where it would be a significant drinking water threat is designated for the purpose of section 57 of the *Clean Water Act*. Therefore this activity is prohibited from becoming established in the future in Cana WHPA-B where the vulnerability score is 8, and in WHPA-C.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act.*

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* and *Condominium Act* or the Ontario Building Code in the specified areas of the Cana Wellhead Protection Area. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act* or
2. does not require a risk management plan under section 58 of the Act or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

6.3.8-CW The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the *Clean Water Act* for the Cana Wellhead Protection Area as follows:

a. All land uses are designated in WHPA-A and WHPA B where the vulnerability score is 10 for the handling and storage of fuel.

b. All land uses except residential are designated in WHPA-A where the vulnerability score is 10 for:

- **i.** the application of agricultural source material to land
- **ii.** the application of pesticides to land
- **iii.** the management of runoff that contains chemicals used in the de-icing of aircraft
- **iv.** the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
- **v.** the handling and storage of a DNAPL
- **vi.** the handling and storage of pesticide
- **vii.** the storage of agricultural source material

viii. the handling and storage of organic solvents

ix. the handling and storage of commercial fertilizer

x. the handling and storage of road salt

xi. the storage of snow

xii. the storage of hazardous wastes at waste disposal sites

xiii. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General-Waste Management), as amended.

c. All land uses except residential are designated in WHPA-B where the vulnerability score is 10 for:

i. the application of agricultural source material to land

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

iii. livestock grazing or pasturing, outdoor confinement areas and farm animal yards

iv. the handling and storage of a DNAPL

v. the handling and storage of pesticide

vi. the storage of agricultural source material

vii. the handling and storage of organic solvents

viii. the handling and storage of commercial fertilizer

ix. the handling and storage of road salt

x. the storage of snow

xi. the storage of hazardous wastes at waste disposal sites

xii. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General-Waste Management), as amended.

d. All land uses except residential are designated in WHPA-B where the vulnerability score is 8 and WHPA-C for the handling and storage of a DNAPL.

Municipal Operations

The City of Kingston and Utilities Kingston have a variety of responsibilities related to their operations that involve activities classified as drinking water threats. The following policies address significant drinking water threats associated with these operations, and outline other general protection measures that the City and Utilities Kingston should consider or must implement.

Wastewater Treatment Facility

The Cana Subdivision is serviced by a wastewater treatment facility that is located in WHPA-A of the Cana Wellhead Protection Area, and a related sanitary sewer network that is located in WHPA-A, WHPA-B and WHPA-E. These facilities are operated by Utilities Kingston on behalf of the City of Kingston.

The wastewater treatment facility and sanitary sewer network are significant drinking water threats in WHPA-A and WHPA-B where the vulnerability score is 10. The sewers are identified as moderate threats in WHPA-B where the vulnerability score is 8, and low threats in WHPA-E.

A Municipal Class Environmental Assessment (EA) is currently underway to determine the fate of the wastewater treatment facility, of which a 2009 assessment by J.L. Richards concluded, was in poor condition. Drinking water source protection is a topic considered as part of the Class EA.

6.3.9-CW a. The City of Kingston, in cooperation with Utilities Kingston, shall develop and deliver an education and outreach program to landowners in Cana WHPA-A and WHPA-B where the vulnerability score is 10 that are connected to the Cana sanitary sewers and related pipe network to identify any cracks or mis-alignments of the sewer laterals, within two years of the Source Protection Plan taking effect.

Sewer laterals are the privately-owned pipes that take sewage from a building out to the municipal sanitary sewer pipe.

b. Educational materials should identify the wellhead protection area and indicate that in order to protect the groundwater and optimize function and effluent quality at the wastewater treatment facility, it is important for landowners to repair any identified deficiencies.

c. The City shall provide a copy of any developed materials to the Cataraqui Source Protection Authority within 60 days of its completion.

6.3.10-NB The City of Kingston, in cooperation with Utilities Kingston should consider extending the education and outreach program specified in **6.3.9-CW** to the balance of the area that is connected to this sanitary sewer and related pipes network, where it is a low drinking water threat.

6.3.11-CW a. The City of Kingston, in cooperation with Utilities Kingston, shall implement the Cana Wastewater Treatment Plant Annual Cleaning and Inspection Standard Operating Procedure (WWT4-S-01), as amended from time to time, in relation to the sewage tank (i.e. sewage storage) located in WHPA-A, and ensure that if a problem with the tank is identified that prioritization of corrective action takes into consideration the risk posed by the tank's proximity to the Cana Supply Well.

b. The City shall provide a copy of the record of inspection and any resultant repairs to the Cataraqui Source Protection Authority within 60 days of its completion.

Local Drainage

There is a ditch located approximately 20 metres south of the Cana Well Supply in WHPA-A, which was identified as a potential transport pathway in the Assessment Report. Cattails grow in the ditch and debris becomes trapped, reducing its ability to transmit water freely over time. Blockages in the ditch cause localized ponding so that the surface water has a greater opportunity to soak into the ground and potentially impact the relatively shallow Cana Supply Well and aquifer instead of quickly flowing out of WHPA-A as it would if the ditch was not blocked.

To formalize and solidify the current practice of Utilities Kingston to check the drainage swale for blockages, the following policy is made under section 27(2) of Ontario Regulation 287/07 (General).

6.3.12-NB a. Utilities Kingston should revise its Standard Operating Procedure to include a routine check of the drainage swale located approximately 20 metres south of the Cana Well Supply for any blockages to ensure that the transport pathway ceases to endanger the raw water supply for the drinking water system.

b. The Standard Operating Procedure should be updated within six months of the Source Protection Plan taking effect.

c. If any blockages are observed, Utilities Kingston should advise the City of Kingston Public Works Department, and request that positive drainage be restored as soon as practical so that localized ponding does not occur.

6.4 Policies Specific to Lansdowne Wellhead Protection Area

Land Purchasing Strategy

The land in Lansdowne WHPA-A immediately surrounds the supply wells and therefore it is most important to ensure that any activities on the land surface do not cause contamination to the underlying aquifer. It is also important to prevent the establishment of new transport pathways. Although the Township of Leeds and the Thousand Islands does own a portion of the land in WHPA-A, opportunities may arise to acquire additional lands. In developing a land purchasing strategy, the Township will need to develop a set of criteria for land acquisition (e.g., any property or only vacant lands). This policy was made under subsection 26(1) (v) of Ontario Regulation 287/07 (General).

6.4.1-CW a. The Township of Leeds and the Thousand Islands shall consider developing a land purchase strategy for WHPA-A and prepare a set of criteria for securing those parcels of land deemed necessary to directly control the occurrence of any significant drinking water threats.

b. The action specified in **a.** shall be implemented within one year of the Source Protection Plan taking effect, and a copy of the strategy, if developed, shall be provided to the Source Protection Authority.

Part IV of the Clean Water Act

Part IV of the *Clean Water Act* provides municipalities with new tools to regulate existing and future activities that are significant drinking water threats. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for some waste disposal and all sewage-related activities because they are subject to an environmental compliance approval or certificate of approval.

Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believed that the significant risk could be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.

6.4.2-CW **a.** Under the following circumstances, the handling and storage of liquid fuel are significant drinking water threats, and are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities in Lansdowne WHPA-A and WHPA-B:

- **i.** the existing and future below grade or partially below grade storage of more than 250 litres but less than 2,500 litres of liquid fuel, and any associated fuel handling
- **ii.** the existing storage of more than 2,500 litres of liquid fuel at any grade and any associated fuel handling, excluding above-grade handling and storage at bulk plants and facilities that manufacture or refine fuel.

b. The risk management plan for the handling and storage of liquid fuel associated with oil for heating appliances (e.g., furnaces) should require, at a minimum, annual inspections by a certified Fuel Oil Burning Appliance Technician, confirmation of the repair and/or replacement of any defective equipment to the satisfaction of the certified Technician, and the implementation of best management practices as appropriate such as the installation of leak detection and spill containment equipment.

c. The risk management plan for the handling and storage of liquid fuel for purposes other than heating oil should consider, at a minimum, annual inspection, confirmation of repair and/or replacement of any defective equipment to the satisfaction of a TSSA inspector, and staff training.

d. If one or more of the activities listed in **a.** is engaged in immediately before the

Source Protection Plan takes effect, the risk management plan shall be agreed to within two years of the Source Protection Plan taking effect.

e. If the activity listed in **a. i.** is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be agreed to before the activity becomes established.

6.4.3-CW a. The following activities, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act.* Therefore a risk management plan is required for these activities in the specified areas of the Lansdowne Wellhead Protection Area:

- **i.** in WHPA-A:
  - *i.* the existing storage of agricultural source material
  - *ii.* the existing use of land as livestock grazing or pasturing, an outdoor confinement area or farm animal yard.
- **ii.** in WHPA-B:
  - *i.* the existing and future application of agricultural source material to land
  - *ii.* the existing and future application of commercial fertilizer to land
  - *iii.* the existing and future application of pesticide to land containing MCPA or Mecoprop on at least 1 hectare
  - *iv.* the existing and future application of pesticide to land containing Atrazine, Dicamba, 2,4-D, 1,3 Dichloropropene, MCPB, Metalaxyl, Metolachlor or s-Metolachlor on at least 10 hectares
  - *v.* the existing and future use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard
  - *vi.* the existing storage of agricultural source material.

b. A risk management plan is not required where the activity listed in **a.** is already managed by a nutrient management strategy and/or plan through Ontario Regulation 267/03 (General), or through municipal By-law 06-056.

c. The risk management plan should be consistent with the requirements of Ontario Regulation 267/03 and agricultural best management practices, and recognize existing good management practices, as appropriate.

d. If one or more of these activities is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.

e. If one or more of these activities is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activ-

ity becomes established.

6.4.4-CW a. The handling and storage of a dense non-aqueous phase liquid (DNAPL) of any quantity in Lansdowne WHPA-A, WHPA-B, or WHPA-C and/or an organic solvent in WHPA-A or WHPA-B, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing commercial or industrial uses.

b. The risk management plan should consider, at a minimum, the repair and/or replacement of defective equipment, staff training, and the implementation of best management practices as appropriate.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated are exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

6.4.5-CW a. In Lansdowne WHPA-A and WHPA-B, the following drinking water threats are significant and are designated for the purpose of section 58 of the *Clean Water Act*:

i. the storage of hazardous waste at waste disposal sites and

ii. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General – Waste Management), as amended.

Therefore a risk management plan is required for these activities where they relate to existing or future uses and planned specific storage of the wastes, as identified above, is necessary and part of normal practice.

b. The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified person, as per Ministry of the Environment guidelines.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

Prohibition

Part IV prohibition is used for those activities which cannot be managed through land use planning (e.g., the handling and storage of pesticides), and do not require provincial approval through a prescribed instrument. The intent of the following policies is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

6.4.6-CW a. The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Lansdowne WHPA-A.

- **i.** the application of agricultural source material to land
- **ii.** the application of commercial fertilizer to land (this applies only to WHPA-A for Supply Well 2)
- **iii.** the application of pesticide containing the specified active ingredient(s) on the specified land area:
  - ***i.*** MCPA or Mecoprop on at least 1 hectare
  - ***ii.*** Atrazine, Dicamba, 2,4-D, 1,3 Dichloropropene, MCPB, Metalaxyl, Metolachlor or s-Metolachlor on at least 10 hectares
- **iv.** the management of runoff that contains chemicals used in the de-icing of aircraft
- **v.** the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard
- **vi.** the handling and storage of a dense non-aqueous phase liquid (DNAPL)
- **vii.** the handling and storage of pesticide at a facility where it is sold or used for application at other sites, except where it is manufactured or processed, in the specified mass or volume and containing the specified active ingredient(s):
  - ***i.*** more than 250 kilograms or litres containing MCPA or Mecoprop
  - ***ii.*** more than 2,500 kilograms or litres containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor
- **viii.** the handling and storage of more than 2,500 kilograms or litres of pesticide containing MCPA or Mecoprop, where it is stored at a facility where it is manufactured, distributed or processed
- **ix.** the storage of agricultural source material
- **x.** the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):
  - ***i.*** more than 25 litres containing carbon tetrachloride below or partially

below grade

ii. more than 250 litres containing carbon tetrachloride above grade

iii. more than 250 litres containing carbon tetrachloride, chloroform or methylene chloride below or partially below grade

iv. more than 2,500 litres containing carbon tetrachloride, chloroform, methylene chloride at any grade

v. more than 2,500 litres containing pentachlorophenol below or partially below grade

xi. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed

xii. the handling and storage of more than 2,500 litres of liquid fuel above, below or partially below grade, excluding above grade handling and storage at bulk plants and facilities that manufacture or refine fuel

xiii. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt

xiv. below-grade snow storage that is more than 0.01 hectares or at or above-grade snow storage that is more than 1 hectare.

6.4.7-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Lansdowne WHPA-B:

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

ii. the handling and storage of a dense non-aqueous phase liquid (DNAPL)

iii. the handling and storage of pesticides at a facility where it is sold or used for application at other sites, except where it is manufactured or processed, in the specified mass and containing the specified active ingredient(s):

i. more than 250 kilograms or litres containing MCPA or Mecoprop

ii. more than 2,500 kilograms containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor

iv. the storage of agricultural source material

v. the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):

i. more than 25 litres containing carbon tetrachloride below or partially

below grade

ii. more than 250 litres containing carbon tetrachloride above grade

iii. more than 250 litres containing carbon tetrachloride, chloroform or methylene chloride below or partially below grade

iv. more than 2,500 litres containing carbon tetrachloride, chloroform, methylene chloride at any grade

v. more than 2,500 litres containing pentachlorophenol

vi. the handling and storage of more than 2,500 kilograms or liters of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed

vii. the handling and storage of more than 2,500 liters of liquid fuel above, below or partially below grade, excluding above grade handling and storage at bulk plants and facilities that manufacture or refine fuel

viii. the storage and handling of road salt

ix. below grade snow storage that is more than 0.01 hectare or at or above grade snow storage that is more than 1 hectare.

6.4.8-CW The handling and storage of any volume of a dense non-aqueous phase liquid (DNAPL) where it would be a significant drinking water threat, is designated for the purpose of section 57 of the *Clean Water Act*. Therefore, this activity is prohibited from becoming established in the future in Lansdowne WHPA-C.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act*.

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* and *Condominium Act* or the Ontario Building Code in the specified areas of the Lansdowne Wellhead Protection Area. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act* or
2. does not require a risk management plan under section 58 of the Act or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

6.4.9-CW The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the Clean Water Act for the Lansdowne Wellhead Protection Area as follows:

a. All land uses are designated in WHPA-A and WHPA B for the handling and storage of fuel.

b. All land uses except residential are designated in WHPA-A:

- **i.** the application of agricultural source material to land
- **ii.** the application of commercial fertilizer to land (this applies to WHPA-A of Supply Well 2 only)
- **iii.** the application of pesticide to land
- **iv.** the management of runoff that contains chemicals used in the de-icing of aircraft
- **v.** the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
- **vi.** the handling and storage of a DNAPL
- **vii.** the handling and storage of pesticide
- **viii.** the storage of agricultural source material
- **ix.** the handling and storage of organic solvent
- **x.** the handling and storage of commercial fertilizer
- **xi.** the handling and storage of road salt
- **xii.** the storage of snow
- **xiii.** the storage of hazardous waste at waste disposal sites
- **xiv.** the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General - Waste Management), as amended.

c. All land uses except residential are designated in WHPA-B:

- **i.** the application of agricultural source material to land
- **ii.** the application of commercial fertilizer to land
- **iii.** the application of pesticide to land
- **iv.** the management of runoff that contains chemicals used in the de-icing of aircraft
- **v.** the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard

vi. the handling and storage of a DNAPL

vii. the handling and storage of pesticide

viii. the storage of agricultural source material

ix. the handling and storage of organic solvents

x. the handling and storage of commercial fertilizer

xi. the handling and storage or road salt

xii. the storage of snow

xiii. the storage of hazardous waste at waste disposal sites

xiv. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General - Waste Management), as amended.

d. All land uses except residential are designated in WHPA-C for the handling and storage of a DNAPL.

Municipal Operations and By-laws

The Township of Leeds and the Thousand Islands has a variety of responsibilities related to their operations that involve activities that are a threat to drinking water. The following policies address significant drinking water threats associated with these operations, and suggest other general protection measures that the Township should consider for implementation.

Wastewater Treatment Facility

The village of Lansdowne is serviced by a sanitary sewer network and sewage lagoons that are owned by the Township of Leeds and the Thousand Islands and operated by the Ontario Clean Water Agency. The sewers are significant threats in WHPA-A and WHPA-B, moderate threats in WHPA-C and low threats in WHPA-D. The sewage lagoons, which are located in WHPA-C and WHPA-D, pose a low risk in WHPA-C at current capacity.

6.4.10-CW a. The Township of Leeds and the Thousand Islands shall prepare a Standard Operating Procedures manual that outlines sewer network evaluation and repair requirements such that the entire sewer network in at least Lansdowne WHPA-A and WHPA-B is evaluated no less frequently than every ten years, and repaired as necessary, in order to prevent sewage losses to the source water since the sanitary sewers and the related pipes are a significant drinking water threat.

b. The Standard Operating Procedures manual specified in **a.** shall be prepared within two years of the Source Protection Plan taking effect.

c. The Township shall provide a copy of the Standard Operating Procedure and sewer network evaluations to the Cataraqui Source Protection Authority.

6.4.11-NB **a.** The Township of Leeds and the Thousand Islands should develop a monitoring plan for the Lansdowne Sewage Lagoons at King Street East located in WHPA-C and WHPA-D to identify any sewage treatment plan effluent discharge losses to the sub-surface and take corrective action to remedy any identified concerns. The existing sewage lagoon, at current capacity, is a low drinking water threat in WHPA-C.

b. The action specified in **a.** should be implemented within two years of the Source Protection Plan taking effect.

c. If the foregoing is undertaken by the Township, the Township should provide a copy of the monitoring plan to the Cataraqui Source Protection Authority within 60 days of its completion or after its endorsement by Council, if applicable.

Local Drainage

Drainage in the vicinity of the Lansdowne Supply Wells, and especially near Supply Well #2, requires consideration for improvement. There is an existing ditch located in WHPA-A identified as a transport pathway in the Assessment Report. Both wells have inputs from six metres below the surface (i.e., cascading water just below the well casing) and improved drainage may help to reduce the potential surface influence that could affect the quality of the source water. The following policy was prepared under subsection 27(1)(b) of Ontario Regulation 287/07 (General).

6.4.12-NB **a.** The Township of Leeds and the Thousand Islands should prepare a master drainage plan to improve drainage in the Lansdowne Wellhead Protection Area to ensure that local drainage ceases to endanger the raw water supply of the Lansdowne drinking water system. The plan should address, at a minimum, the existing drainage ditch east and north of supply Well #2, which was identified as a transport pathway in the Assessment Report, and runoff from the recreational fields to the west. The drainage plan will consider an alternate route for the drainage ditch and will address the historical water ponding observed in the vicinity of the supply wells.

b. The master drainage plan should be prepared within three years of the Source Protection Plan taking effect.

c. If the foregoing is undertaken by the Township, the Township should provide a copy of the master drainage plan to the Cataraqui Source Protection Authority within 60 days of its completion or after its endorsement by Council, if applicable.

Public Works Yard

The municipal road salt storage building that is located in Lansdowne WHPA-B is ranked as a low drinking water threat in consideration of the covered storage and volume stored. The following best management practices are currently implemented at the facility:

- salt deliveries are made during dry, calm weather whereby salt and sand are dumped outside, and mixed and delivered into the storage building using a conveyor

- all salt storage is in an enclosed building
- road maintenance vehicles back up to the storage building doors to be loaded
- loading areas are cleaned up after each storm event.

There is public concern about the location of the road salt storage building and its potential impact on the groundwater. As a result, a monitoring program is recommended in order to determine if the current best management practices are sufficient to protect the groundwater.

6.4.13-CWa. The Township of Leeds and the Thousand Islands should develop and implement a water quality monitoring program to track runoff from the municipal buildings and parking lot(s) located in WHPA-B where road salt storage and handling is a low drinking water threat to determine if additional measures are required to limit migration of road salt from the salt storage building and parking lots.

b. The action specified in **a.** should be implemented within two years of the Source Protection Plan taking effect.

c. The Township should provide a copy of the monitoring plan to the Cataraqui Source Protection Authority within 60 days of its completion or after its endorsement by Council, if applicable; and an annual record of the water quality results by February 15 of each year.

Enforcement of By-law 06-056

Township By-law 06-056 regulates manure management in Lansdowne WHPA-A and WHPA-B. The following policy builds on the existing by-law and requires that monthly compliance inspections be completed by Township of Leeds and the Thousand Islands staff.

6.4.14-CWa. The Township of Leeds and the Thousand Islands shall maintain By-law 06-056, as amended, regarding the timely removal of agricultural source material from the subject lands in WHPA-A and WHPA-B where land is used as an outdoor confinement area and this activity is a significant drinking water threat. Monthly compliance inspections shall be performed by the Township.

b. The Township shall provide a record of the monthly compliance inspections to the Cataraqui Source Protection Authority by February 15 of each year.

6.5 Policies Specific to Miller Manor Wellhead Protection Area

Part IV of the Clean Water Act

Part IV of the Clean Water Act provides municipalities with new tools to regulate existing and future activities that are significant threats to drinking water. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for some waste disposal and all sewage-related activities because they are subject to an environmental compliance approval or certificate of approval.

Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believed that the threat could be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.

6.5.1-CW

a. Under the following circumstances, the handling and storage of liquid fuel are significant drinking water threats, and are designated for the purpose of section 58 of the *Clean Water Act.* Therefore a risk management plan is required for these activities in Miller Manor WHPA-A and WHPA-B:

- **i.** the existing and future below grade or partially below grade storage of more than 250 litres but less than 2,500 litres of liquid fuel, and any associated fuel handling.

b. The risk management plan for the handling and storage of liquid fuel associated with oil for heating appliances (e.g., furnaces) should require, at a minimum, annual inspections by a certified Fuel Oil Burning Appliance Technician, confirmation of the repair and/or replacement of any defective equipment to the satisfaction of the certified Technician, and the implementation of best management practices as appropriate such as the installation of leak detection and spill containment equipment.

c. If these activities are engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be agreed to within two years of the Source Protection Plan taking effect.

d. If these activities are to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be agreed to before the activity becomes established.

6.5.2-CW a. The following activities, where they are or would be significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act.* Therefore a risk management plan is required in the specified areas of the Miller Manor Wellhead Protection Area:

- **i.** in WHPA-A:
  - ***i.*** the existing use of land as livestock grazing or pasturing, an outdoor confinement area or farm animal yard
  - ***ii.*** the existing storage of agricultural source material.
- **ii.** in WHPA-B:
  - ***i.*** the existing and future application of agricultural source material to land
  - ***ii.*** the existing and future application of commercial fertilizer to land for agricultural purposes
  - ***iii.*** the existing and future use of land as livestock grazing and pasturing, an outdoor confinement area or farm animal yard.

b. A risk management plan is not required where the activity listed in **a.** is already managed by a nutrient management strategy and/or plan through Ontario Regulation 267/03 (General).

c. The risk management plan should be consistent with the requirements of Ontario Regulation 267/03 and agriculture best management practices, and recognize existing good management practices, as appropriate.

d. If one or more of the activities listed in **a.** is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.

e. If one or more of the activities listed in **a. ii.** is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activity becomes established.

6.5.3-CW a. The handling and storage of a dense non-aqueous phase liquid (DNAPL) of any quantity in Miller Manor WHPA-A, WHPA-B or WHPA-C and/or an organic solvent in WHPA-A or WHPA-B, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing commercial or industrial uses.

b. The risk management plan should consider, at a minimum, the repair and/or replacement of defective equipment, staff training, and the implementation of best management practices as appropriate.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated are exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

6.5.4-CW **a.** In Miller Manor WHPA-A and WHPA-B, the following drinking water threats are significant and are designated for the purpose of section 58 of the Clean Water Act:

i. the storage of hazardous waste at waste disposal sites and

ii. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General – Waste Management), as amended.

Therefore a risk management plan is required for these activities where they relate to existing or future uses and planned specific storage of the wastes, as identified above, is necessary and part of normal practice.

b. The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified person, as per Ministry of the Environment guidelines.

c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

Prohibition

Part IV prohibition is used for those activities which cannot be managed through land use planning (e.g., the handling and storage of pesticides), and do not require provincial approval through a prescribed instrument. The intent of the following policies is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

6.5.5-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Miller Manor WHPA-A:

i. the application of agricultural source material to land

ii. the application of commercial fertilizer to land

iii. the application of pesticide to land containing MCPA or Mecoprop on at least 1 hectare

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

v. the use of land for livestock grazing or pasturing, an outdoor confinement area or farm animal yard

vi. the handling and storage of dense non-aqueous phase liquids (DNAPLs)

vii. the handling and storage of pesticide at a facility where it is sold or used for application at other sites, except where it is manufactured or processed, in the specified mass or volume and containing the specified active ingredient(s):

  i. more than 250 kilograms or litres containing MCPA or Mecoprop

  ii. more than 2,500 kilograms or litres containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor

viii. the handling and storage of more than 2,500 kilograms or litres of pesticide containing MCPA or Mecoprop at a facility where it is sold or used for application at other sites or at a facility where it is manufactured, distributed or processed

ix. the storage of agricultural source material

x. the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):

  i. more than 25 litres containing carbon tetrachloride below or partially below grade

  ii. more than 250 litres containing carbon tetrachloride above grade

  iii. more than 250 litres containing carbon tetrachloride, chloroform or methylene chloride below or partially below grade

  iv. more than 2,500 litres containing carbon tetrachloride, chloroform or methylene chloride at any grade

  v. more than 2,500 litres containing pentachlorophenol below or partially below grade

xi. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed

xii. the handling and storage of more than 2,500 litres of liquid fuel above, below or partially below grade, excluding above grade handling and storage at bulk plants and facilities that manufacture or refine fuel

xiii. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt

xiv. below grade snow storage areas that are more than 0.01 hectare in area or above grade snow storage that is more than 1 hectare.

6.5.6-CW a. The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*. Therefore, these activities are prohibited from becoming established in the future in Miller Manor WHPA-B:

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

ii. the handling and storage of dense non-aqueous phase liquids (DNAPLs)

iii. the handling and storage of pesticide at a facility where it is sold or used for application at other sites, except where it is manufactured or processed, in the specified mass and containing the specified active ingredient(s):

i. more than 250 kilograms or litres containing MCPA or Mecoprop

ii. more than 2,500 kilograms or litres containing Dicamba, 2,4-D, 1,3 Dichloropropene, MCPA, Metalaxyl, Metolachlor or s-Metolachlor

iv. the storage of agricultural source material

v. the handling and storage of organic solvents in the volume specified and containing the specified chemical(s):

i. more than 25 litres containing carbon tetrachloride below or partially below grade

ii. more than 250 litres containing carbon tetrachloride above grade

iii. more than 250 litres containing carbon tetrachloride, chloroform or methylene chloride below or partially below grade

iv. more than 2,500 litres containing carbon tetrachloride, chloroform, methylene chloride at any grade

v. more than 2,500 litres containing pentachlorophenol below or partially below grade.

vi. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer at facilities where it is sold or used for application at other sites, except where it is manufactured or processed

vii. the handling and storage of more than 2,500 litres of liquid fuel above, below or partially below grade, excluding above-grade handling and storage at bulk plants and facilities that manufacture or refine fuel

viii. the handling and storage of road salt

ix. below-grade snow storage that is more than 0.01 hectare or above-grade snow storage that is more than 1 hectare.

6.5.7-CW The handling and storage of any volume of a dense non-aqueous phase liquid (DNAPL) where it would be a significant drinking water threat, is designated for the purpose of section 57 of the Clean Water Act. Therefore, this activity is prohibited from becoming established in the future in Miller Manor WHPA-C.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act*.

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* and *Condominium Act* or the Ontario Building Code in the specified areas of the Lansdowne Wellhead Protection Area. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act* or
2. does not require a risk management plan under section 58 of the Act or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

6.5.8-CW a. The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the *Clean Water Act* for the Miller Manor Wellhead Protection Area as follows:

i. all land uses are designated in WHPA-A and WHPA B for the handling and storage of liquid fuel

ii. all land uses except residential are designated in WHPA-A for:

i. the application of agricultural source material to land

ii. the application of commercial fertilizer to land

iii. the application of pesticide to land

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

v. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard

vi. the handling and storage of a DNAPL

vii. the handling and storage of pesticides

viii. the storage of agricultural source material

ix. the handling and storage of an organic solvent

x. the handling and storage of commercial fertilizer

xi. the handling and storage of road salt

xii. the storage of snow

xiii. the storage of hazardous waste at waste disposal sites

xiv. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General - Waste Management), as amended.

iii. All land uses except residential are designated in WHPA-B for:

i. the application of agricultural source material to land

ii. the application of commercial fertilizer to land

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

iv. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard

v. the handling and storage of a DNAPL

vi. the handling and storage of pesticides

vii. the storage of agricultural source material

viii. the handling and storage of an organic solvent

ix. the handling and storage of commercial fertilizer

x. the storage and handling of road salt

xi. the storage of snow

xii. the storage of hazardous waste at waste disposal sites

xiii. the storage of wastes at waste disposal sites as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste in Ontario Regulation 347 (General - Waste Management), as amended.

iv. All land uses except residential are designated in WHPA-C for:

i. the handling and storage of a DNAPL.

Municipal Operations

The Township of Front of Yonge and the United Counties of Leeds and Grenville have a variety of responsibilities related to their operations that involve activities that are a threat to drinking water. The following policy addresses a transport pathway and is made under section 27(1)(b) of Ontario Regulation 287/07 (General).

Local Drainage

The Miller Manor Supply Well is located in close proximity to County Road 2 and the associated roadside ditch which is identified as a transport pathway in the Assessment Report. Road side ditches are intended to collect runoff from roads and transmit it to the nearest watercourse or water body. If the ditches are not functioning as they should, runoff collects, sits and more readily infiltrates to the underlying aquifer carrying not only water, but any contaminants.

6.5.9-NB The United Counties of Leeds and Grenville should ensure that the ditch along County Road 2 to the south of the Miller Manor Apartments supply well is properly conveying water and perform any necessary improvements to prevent water from pooling in this location, within six months of the Source Protection Plan taking effect.