


TO: GENERAL COMMITTEE


SUBJECT: PROPOSED OFFICIAL PLAN AMENDMENTS FOR SOURCE WATER PROTECTION

WARD: ALL

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EXT. #4440

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CHIEF ADMINISTRATIVE OFFICER APPROVAL: C. LADD, CHIEF ADMINISTRATIVE OFFICER 

RECOMMENDED MOTION

1. That the following amendments to the City of Barrie Official Plan related to Source Water Protection Policies be approved:
 - a) Delete Schedule G "Wells and Wellhead Protection Areas" and replace it with an updated Schedule G titled "Drinking Water System Vulnerable Areas."
 - b) Add General Goals in Section 2 Community Context to provide for the long term protection of drinking water.
 - c) Add a new Section and policies for Drinking Water Protection in Section 3 General Policies, which proposes restrictions and provides guidance to prevent significant threats from locating within vulnerable drinking water areas identified on Schedule G.
 - d) Add location considerations for new municipal wells in Section 3 General Policies and provide policies to clarify that long term protection of drinking water sources take priority where conflicting policies apply.
 - e) Add policies to Section 3.6 Community Improvement Planning to enable the potential use of Community Improvement Planning tools where "existing conditions" have been identified.
 - f) Amend Section 5, Servicing and Transportation Policies and Section 6, Implementation policies to complement policy changes made in Section 3 General Policies for Source Water Protection.

2. That Parts A and B of Official Plan Amendment 24, attached as Appendix "A" to Staff Report PLN026-13, be approved.

PURPOSE & BACKGROUND

Report Overview

3. The purpose of this report is to recommend approval of an Official Plan Amendment which proposes to update mapping and related policies of the Official Plan to address Source Water Protection matters in accordance with the Clean Water Act, 2006.

Background

4. The CWA mandated that drinking water be protected at source using a multi barrier watershed-based approach, through a variety of tools, including municipal land use planning tools.
5. Source Protection Committees (SPCs) were established to assist municipalities to assess and review drinking water sources. The CWA mandated each Source Protection Region to prepare three (3) documents, namely:
 - a) A Terms of Reference to prepare an Assessment Report.
 - b) An Assessment Report to characterize the local watershed and available water supplies, and identify vulnerable areas and potential threats to contamination or overuse of water sources within those vulnerable areas.
 - c) A Source Protection Plan to identify strategic actions and measures that must be taken to address threats to protect surface and groundwater sources that supply municipal drinking water.
6. The Assessment Report was approved by the Province in January of 2012. The proposed Source Protection Plan was submitted in October 2012 and is currently under review by the Ministry of the Environment (MOE). Approval of the Source Protection Plan is anticipated sometime in 2014.
7. Once the Source Protection Plan is approved and in effect, the City will be required to comply and prevent future significant threats from occurring, whether planning documents are up to date or not. The planning stage is the best point in time to identify and prevent future threats from occurring, and it is in the interests of the municipality, the public and development sector to have planning documents and processes aligned as soon as possible to identify planning applications that may entail significant threats when they are submitted.
8. Section 2.2.1 of the Provincial Policy Statement (PPS) directs that planning authorities shall protect, improve and restore the quality and quantity of water by implementing necessary restrictions on development and site alteration to protect municipal drinking water supplies and *designated vulnerable areas*. The vulnerable areas identified in the Assessment Report fall within the definition of "*designated vulnerable areas*" defined under the PPS.
9. Planning staff are proposing to update the mapping and policies of the Official Plan based on the new information provided through the approved Assessment Report. This would constitute the first phase of an anticipated two phased approach to updating the City's land use planning documents for Source Water Protection.
10. Official Plan Amendment No. 24 attached as Appendix "A" to this Staff Report (PLN026-13) is intended to provide a broad policy framework for protection and prevention and to serve as a foundation for future implementation measures.

11. A second phase amendment to further address Official Plan policies and update the comprehensive Zoning By-law will be necessary to implement the South Georgian Bay Lake Simcoe Source Protection Plan once it is approved by the MOE.
12. The scope of land use planning to implement Source Water Protection is largely confined to preventing *future threats* from occurring. The proposed Official Plan Amendment does not impact *existing* land uses that were identified as potential significant threats in the Assessment Report. The CWA provides for other tools to manage potential existing threat activities. Existing significant threats will be addressed through separate implementation processes such as threat verification through the Risk Management Office, and/or the Province, through amending provincial instruments such as Environmental Compliance Approval.
13. At this stage the focus of Official Plan Amendment No. 24 is to prevent *future, significant* threats from occurring in vulnerable areas. The merits of addressing *future moderate and low threats* through land use planning tools will also need to be considered in the second phase Source Water Protection amendments to planning documents.
14. There has been one change to the mapping since the public meeting, which is based on discussions with staff at the Ministry of Municipal Affairs and Housing (MMAH) and MOE. The transport pathways have been removed from the mapping. There is no need to show these features on the Official Plan Map Schedule as the vulnerability scoring and mapping in the Assessment Report has taken these features into account. The transport pathways are features which artificially enhance flow to an aquifer and thus increase the vulnerability score. A private well is an example of a feature that could be considered a transport pathway.
15. There are a number of changes to the wording of the policies that have also resulted from comments received from agencies and Ministry staff.

ANALYSIS

Vulnerable Areas: Wellhead Protection Areas, Intake Protection Zones and Issues Contributing Area

16. The primary purpose of Official Plan Amendment 24 is to provide updated mapping showing vulnerable areas identified and mapped in the Assessment Report. The key differences between the new Schedule G *Drinking Water Vulnerable Areas* and the current Schedule G *Wells and Wellhead Protection areas* are listed as follows:
 - a) The current Schedule G dealt only with groundwater supply whereas the updated Schedule G includes vulnerable areas around wells, Wellhead Protection Areas (WHPAs) and the surface water intake referred to as Intake Protection Zones (IPZs).
 - b) The current Schedule G shows time of travel areas around Well 10, however since the necessary steps are being taken to have this well removed from the Assessment Report, there is no need to show it on the proposed Schedule G.
 - c) The delineation of the vulnerable areas has changed as a result of work done in the Assessment Report, and different technical rules applied to their delineation. This is particularly true of the areas around Wells 12, 14, and 15 and Wells 3A, 4, 5, 7, and 17 and 19.
 - d) The Issues Contributing Areas (ICA) associated with elevated levels of sodium and chloride as identified in the Assessment Report have been added to Schedule G.

17. The WHPAs and IPZs located closer to the well or intake have a greater vulnerability based on the time it would take a contaminant to reach the well or the intake pipe. These areas are identified on the proposed Official Plan Schedule G, the science and technical work behind the vulnerability scores have been completed through the Assessment Report.
18. The majority of the wells in Barrie are located around and to the west of Kempenfelt Bay. The WHPAs around these wells cover most of the Urban Growth Centre and industrial and commercial lands to the west, including the 400 North Industrial Lands Planning Area. These land use designations are the ones most likely to include threat activities, and any proposed or future development will need to be screened for potential significant threat activities prior to considering planning proposals in these areas.

Threats

19. The Ministry of the Environment has listed 19 threat activities that may contaminate, pollute or diminish water quality (refer to Appendix "B" attached). The Assessment Report identifies where these activities would constitute a significant, moderate or low threat relative to the WHPAs and IPZs based on vulnerability scores.
20. At this time, water quantity related reports for Barrie have not been finalized, and the proposed Official Plan Amendments focus on the water quality related components of Source Water Protection.
21. According to the Assessment Report, all of the 19 threats would constitute a significant drinking water threat in the WHPA-A and IPZ-1 areas. The WHPA-A is the immediate area (100 metre radius) around the well. In addition, the handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs) constitutes a significant drinking water threat in WHPA-A, WHPA-B and WHPA-C areas.
22. The types of uses associated with DNAPLs include dry cleaning establishments, pole manufacturers, and certain industrial uses which may use DNAPLs as degreasers. Future proposals within the vulnerable areas will need to be screened to determine whether there may be a significant threat.
23. In addition, the Assessment Report identified road salt as an issue relative to certain wells within the City of Barrie and mapped an ICA. The SPC has agreed to support a policy that requires Risk Management Plans for the handling and storage of road salt in WHPA-A areas, and using education and outreach for the remainder of the ICA. The MOE is reviewing this policy.
24. The Official Plan policies proposed with Amendment 24 would require considerations to address salt impacts through design of storm water management, snow storage areas and parking for new subdivisions, condominiums and site plans, for proposed medium and high density residential, industrial, commercial and institutional uses in the ICA.
25. The Proposed Source Protection Plan also includes "transition provisions" which define an "existing use" as any use that has been deemed a "complete application" under the Planning Act. The proposed Official Plan Amendment clarifies technical studies needed for applications that are within vulnerable areas or which potentially impact drinking water sources and adds a *Threats and Issues Assessment – Water Quality Study* to the list of studies needed in order for development applications to be considered "complete" to capture development proposals that may constitute a significant threat in advance of development.

Public Meeting and Consultation

26. Prior to the public meeting, staff circulated the draft Official Plan Amendment to the MMAH for pre-consultation review, and have received feedback from the MMAH and MOE in the form of a written response and follow up conference call to discuss their comments.
27. Adjacent municipalities and agencies including the Conservation Authorities and Technical Standards and Safety Authority and Source Protection Committee were notified of the proposed Official Plan Amendment and public meeting, and other than comments received from the Conservation Authorities, no comments or issues have been raised from any of these groups.
28. Comments received from MOE through MMAH, and Lake Simcoe Region Conservation Authority have resulted in minor wording changes to the policies and removal of the "transport pathways" from Schedule "G" since the draft version of Official Plan Amendment 24 was last presented to Council in Staff Report PLN008-13, and at the public meeting held to consider the proposed amendment.
29. In Staff Report PLN008-13, staff advised that the Barrie Large Industrial Owners Group would be contacted. However, following discussion with Economic Development Services staff, Planning staff were advised that there is no core group of this description to contact, and thus no large industrial owners were specifically notified of proposed Official Plan Amendment No 24. Planning staff note that the proposed amendment affects future industrial developments. Existing industrial users, where applicable, will be contacted and where applicable significant threats will be addressed through other tools and processes required under the CWA.
30. As stated in Staff Report PLN008-13, the Barrie Land Developer's Association was contacted prior to the public meeting and no comments were received. However, in the process of preparing this report, staff have since established that this group no longer exists. The Simcoe Homebuilders Association has thus been contacted and advised of this proposed report and staff are attempting to contact Industrial Commercial and Institutional (ICI) developers in the impacted areas.

Public Meeting Comments

31. The public meeting was held on October 7, 2013. No written comments were received from the public and no oral comments were made by the public at the meeting.
32. Several questions were raised by members of Council which are responded to in greater detail as follows:
 - a) Councillor Ainsworth requested clarification on the terminology "well capture zone" referred to on the map schedule; inquired about the status of the existing plume in the area of the Wood Street well; the impact of the proposed amendment on residents in Ward 1; and implications for the City's landfill site.

The well "capture zone" is the area around the well that needs to be protected from contaminants and pathogens in order to protect the drinking water source. The closer to the well the greater the vulnerability score, which is based on a number of considerations including the time it takes a pollutant on the surface to reach the source of well.

With respect to the plume near the Wood Street well, it has been identified as an "existing condition", whereas the focus of the land use planning changes relate to future, new significant threats. There are however existing brownfield policies in the Official Plan which may present some potential for cleanup through Brownfield redevelopment on sites that have been contaminated by previous uses.

Existing uses, including existing residences and the landfill site are largely beyond the scope of land use planning measures. This is because legally existing uses are recognized as of right in the Planning Act, and the CWA has other tools available to manage existing threats.

It is also important to understand that most of the 19 threat activities identified by the Ministry of the Environment, would only pose a future significant threat in the WHPA-A areas. This is a limited area within a 100 metre radius of the wells. There are some chemical threats such as DNAPLs that would be a threat in WHPA-A to WHPA-C. These are generally associated with industrial, commercial and some institutional uses.

- b) Councillor Shipley inquired about the implications to surrounding residents in the vicinity of the existing golf course located at the north end of St. Vincent Street.

Future developments proposed within the vulnerable areas in this vicinity will need to address the implications for Source Water Protection, if any. For the most part this will affect some new commercial, institutional or industrial uses that would entail significant threat activities.

Existing uses will not be impacted by the proposed Official Plan Amendment. However, existing property owners which were flagged as potential threats will be contacted through the Risk Management Official to determine if they are engaging in activities that constitute a significant threat and there may be a need to consider potential cumulative impacts of fertilizers in the area, given the proximity to the golf course. These threats could be managed through a Risk Management Plan.

Staff are working with adjacent municipalities where WHPAs overlap to coordinate planning documents and processes.

- c) Councillor Prowse inquired as to whether the Wood Street well was closed. This was confirmed through an e-mail sent to Council from the Director of Engineering on October 8, 2013. The Wood Street well is no longer in service and is not part of the City's drinking water system and is not part of the City's Source Water Protection Assessment Report or Source Protection Plan. At this time is not planned to be decommissioned because it may be used for monitoring or mitigation purposes in the future.
- d) Mayor Lehman requested clarification on the mapping changes, including the removal of Well 10 near Huronia Road South of Big Bay Point Road. In addition, inquired as to whether there would be options for existing industrial uses impacted in the 400 North Industrial Area to use alternate practices.

With respect to the area around Well 10, the proposed mapping does not identify well no 10 and vulnerable areas shown which reduces the area of concern around some of the designated employment lands within the 400 East Planning Area.

With respect to the area around the 400 North Employment Lands located west of Bradford Street north of Tiffin Street and south of Edgehill Drive, proposed planning applications located in the vulnerable areas WHPA-A through WHPA-C will have to be screened for threats. In particular, some chemical threats such as DNAPLs will need to be addressed and receive sign off from the Risk Management Official before they submit their planning applications for new/proposed industrial uses that use these chemicals in their processes. The Risk Management Official confirmed that use of alternate practices or processes may be an option to manage existing threats.

ENVIRONMENTAL MATTERS

33. The following environmental matters have been considered in the development of the recommendation:
- a) Natural environmental and ecological benefits are embedded in protecting drinking water sources from contamination, pollution or overuse at its source.

ALTERNATIVES

34. There is one alternative available for consideration by General Committee:

Alternative #1 General Committee could maintain the existing Official Plan policy amendments and wait until such time as the Source Protection Plan is approved (i.e. Status Quo until the Source Protection Plan is approved).

This alternative is not recommended as the City's Mapping and Source Water policies require updating based on the approved Assessment Report to mitigate the risk of a significant threat activity jeopardizing the City's drinking water and to align the planning documents with the Clean Water Act, and the Provincial Policy Statement.

FINANCIAL

35. There are no short term financial implications for the Corporation resulting from the proposed recommendation to hold a public meeting.
36. If approved, the proposed policies that seek to acquire or restrict uses within the 100 metre radius of existing or proposed wells would have a financial impact. The options and financial implications, and business case would need to be addressed in the planning stages of a proposed new well or when a development application is submitted and considered on a case by case basis.
37. The costs of dealing with contaminated or inadequate water supply would be significant and thus the implementation of these Official Plan changes will ultimately support the City's financial sustainability.

LINKAGE TO 2010-2014 COUNCIL STRATEGIC PLAN

38. The recommendations included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
- Manage Growth and Protect the Environment
39. Natural environmental and ecological benefits are embedded from protecting drinking water sources from contamination, pollution or overuse at its source.
40. The proposed Official Plan Amendment is but one tool available to aid long term protection of municipal drinking water sources by adding a layer of measures to prevent significant threats from occurring and enabling future mitigation measures to reduce threats. Other measures and by-laws will need to be developed in collaboration with the Risk Management Official and other City departments.

Attachments: Appendix "A" – Official Plan Amendment No. 24
Appendix "B" – Threat Activities

APPENDIX "A"

OPA No. 24

PART A - THE PREAMBLE

Purpose

The purpose of this Amendment is to update mapping related to source water protection and align the related policies with up to date information stemming from work mandated under the *Clean Water Act 2006*.

Essentially the amendment replaces Schedule G – Wells and Wellhead Protection Areas with a New Schedule G titled Drinking Water System Vulnerable Areas, and updates some of the related policies with the objective of long term protection of drinking water sources.

Location

The Amendment applies to vulnerable areas affecting municipal drinking water supplies within the entire City of Barrie as shown on Schedule "G".

Policy changes apply to Sections 2.0 Community Context, 3.0 General Policies, including Section 3.5 Natural Heritage, Natural Hazards and Resources, Section 5 Servicing and Transportation Policies including Water and Wastewater, and Stormwater Management and Section 6 Implementation.

Basis

The Official Plan currently includes Schedule G Wells and Wellhead Protection Areas which were mapped as a result of the South Simcoe Groundwater Study undertaken in 2003. Since then some wells have been taken off line and the City has added a lake based source of water to its drinking water system. The policies of Section 3.5 of the Plan relate to Groundwater and Surface Water Protection, and an updated Schedule and new policies to address drinking water protection are to be added.

The CWA mandated that drinking water be protected at source using a multi barrier watershed-based approach, through a variety of tools, including municipal land use planning tools. Source protection committees were established to assist municipalities to assess and review drinking water sources. The CWA required each Source Protection Region to prepare 3 documents, namely:

- a) A Terms of Reference to prepare an Assessment Report.
- b) An Assessment Report to characterize the local watershed and available water supplies, and identify vulnerable areas and potential threats to contamination or overuse of water sources within those vulnerable areas.
- c) A Source Protection Plan to identify strategic actions and measures that must be taken to address threats to protect surface and groundwater sources that supply municipal drinking water.

The Assessment Report was approved by the Province in January of 2012, which included mapping of drinking water vulnerable areas and establishing vulnerability scores for the threat activities identified by the Ministry of the Environment.

Section 2.2.1 of the Provincial Policy Statement (PPS) directs that planning authorities shall protect, improve and restore the quality and quantity of water by implementing necessary restrictions on development and site alteration to protect municipal drinking water supplies and *designated vulnerable*

areas. The vulnerable areas identified in the Assessment Report fall within the definition of "*designated vulnerable areas*" defined under the PPS.

The policy changes proposed will enable restriction of development and site alteration in vulnerable areas where they would result in significant threats to drinking water sources. In addition, would allow for other implementation tools available under the Planning Act to be applied to protect drinking water source.

At this time the policy focus is on significant drinking water quality threats. Low, moderate and quantitative threats may be addressed through policies at a future date.

Once the Source Protection Plan is approved it is anticipated that further amendment to the Official Plan will be required to align the Official Plan Policies with the approved Source Water Protection Plan and enable implementation of the planning components of the Source Water Protection Plan.

PART B - THE AMENDMENT

Details of the Amendment

That the Official Plan be amended as follows:

1. Schedule G – Wells and Wellhead Protection Areas is replaced with a new Schedule G titled Drinking Water System Vulnerable Areas, which cover the entire municipal boundary, and is attached to this amendment.
2. Section 2.0 Community Context is amended as follows:
 - a. Amend the paragraph under the heading THE ENVIRONMENT by deleting the word "and" after the word "linkages," and adding the words - "and water resources" after the word "quality".
 - b. Add a new paragraph at the end of Section 2.0 as follows:

“WATER RESOURCES

The City of Barrie relies on groundwater sourced from a deep aquifer through a number of active wells, and from a surface water treatment plant which takes water from Kempenfelt Bay (Lake Simcoe) for its municipal drinking water.

Long term protection of this valuable resource from overuse, contamination and from land uses that could threaten or hinder existing and future drinking water supply is essential to maintaining human health, economic prosperity and quality of life.”

3. Section 2.3 Assumptions is amended as follows:
 - a. Add a new item after "(l)" as follows:

“(m) The long term protection of drinking water shall take priority where conflicting considerations apply.”
4. Section 3.5 Natural Heritage, Natural Hazards and Resources is amended as follows:
 - a. Insert the following subsections after subsection 3.5.2.3.4 (d)

“3.5.2.3.5 DRINKING WATER PROTECTION

3.5.2.3.5.1 Vulnerable Areas

- (a) The City will work in partnership with the County of Simcoe, adjacent municipalities, the Conservation Authorities, and the Source Protection Authorities within the South Georgian Bay Lake Simcoe Source Protection Region, Provincial ministries, the Health Unit and other partners to encourage and promote water conservation measures, and build awareness of best practices to prevent contamination or overuse through education and outreach programs.
- (b) Schedule G Drinking Water System Vulnerable Areas identifies areas of vulnerability for drinking water sources, including Wellhead Protection Areas (WHPAs), Intake Protection Zones (IPZs), and Issues Contributing Areas.

Schedule G is intended to be used as an overlay to Schedule A: Land Use, where the following policies shall apply:

- i) *Development, site alteration* and proposed land uses that involve the storage or manufacture of pathogens, chemicals or dense aqueous phase liquids shall be prohibited in vulnerable areas identified on Schedule G, where they would constitute a significant drinking water threat.
- ii) Proposed expansion, alteration or redevelopment of existing uses in an area identified in the Assessment Report as areas where an activity is or would be a significant drinking water threat, may be permitted if the Risk Management Official (RMO) is satisfied that the threat to drinking water ceases to be significant.
- iii) A 'Threats and Issues Assessment – Water Quality' study shall be required where it is necessary to determine whether a proposed development or use proposed within a vulnerable area identified on Schedule G would constitute a significant drinking water threat. (Refer to terms of reference for Threats and Issues Assessment – Water Quality Study.)
- iv) Development and site alteration in areas identified on Schedule G will be required to demonstrate that the vulnerability of the area would not increase the vulnerability and result in a new or expanded area where threats to drinking water could be significant.
- v) The Comprehensive Zoning By-law shall prohibit, or restrict land uses that involve significant threat activities in vulnerable areas.

3.5.2.3.5.2 Application and Development Process

- (a) Development, site alteration, proposed land uses or any proposal requiring land use planning review and comment, located within vulnerable areas identified on Schedule G shall include a Source Water Information Form prior to acceptance of the application as a complete application.
- (b) A 'Threats and Issues Assessment – Water Quality' study shall be required where it is necessary to determine whether development, site alteration or proposed land uses that involve the storage or manufacture of pathogens, chemicals or dense non-aqueous phase liquids will constitute a significant drinking water threat.
- (c) The City shall seek opportunities through conditions of planning applications, development plans, community improvement plans or other means to acquire lands, register easements or apply other methods to control activities within lands identified as a WHPA-A on Schedule G of this Official Plan. (Lands within 100 metre radius of municipal wells.)

- (d) All industrial, commercial, institutional, open space and high density residential areas located within vulnerable areas identified on Schedule G shall be subject to Site Plan Control.

3.5.2.3.5.3 Design Guidelines In The Issues Contributing Area

- (a) The design of parking lots, roadways, sidewalks and walkways shall minimize the need for road salt application (e.g. eliminate ponding) and implementation of salt management measures will be encouraged.
- (b) Expansions or retrofitting of existing storm water management facilities and wastewater treatment facilities may be permitted in vulnerable areas where such expansion or improvement will result in a reduction or elimination of an issue or threat.

3.5.2.3.5.4 New Municipal Wells

- (a) The location and establishment of new municipal drinking water wells shall be cognizant of the potential impact of existing uses and permitted uses in designations within the wellhead protection areas of the proposed well. Designations that permit uses that involve threat activities that may constitute a significant drinking water threat shall be avoided. Where no alternative is feasible, an amendment to the Official Plan will be required to designate lands within the wellhead protection areas such that the permitted uses would not constitute a potential drinking water threat.
- (b) In cases where a new municipal well is proposed, the City shall endeavour to acquire land or easements over land within a 100m radius of any new municipal well, or maintain control over the activities through land use restrictions.

5. Section 3.6 Community Improvement Planning is amended as follows:

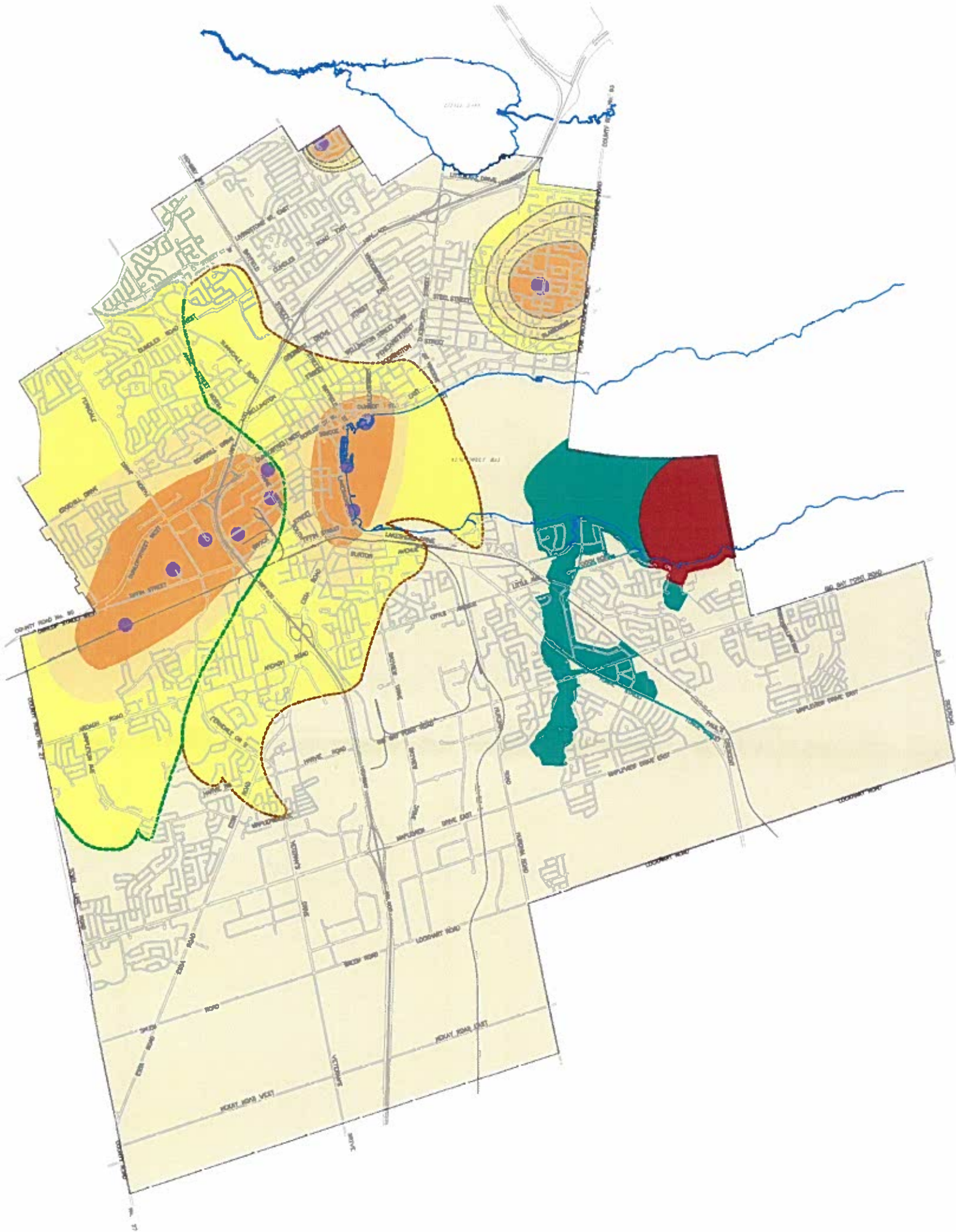
- a. Add a new item at the end of Section 3.6.2.3 Designation of Community Improvement Project Areas as follows:

“xvii. Identification of a potential existing condition, issue or threat to drinking water.”

6. Section 5.1 Servicing is amended as follows:

- a. Insert the following items after subsection 5.1.2.1 (a) General Policies, and renumber subsections 5.1.2.1(b) to (n):
 - (b) New sewage treatment facilities, waste disposal sites, wastewater treatment or stormwater management facilities shall not be permitted in vulnerable areas where the activity would be a significant drinking water threat.
 - (c) Expansions or retrofitting of existing facilities that are located in vulnerable areas where they are or would be a significant threat, may be permitted where no feasible alternative is available and the risk is not increased, or where the risk is reduced as result of the expansion or retrofit.”

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- b. Add the words "and where they do not constitute a significant drinking water threat" after the word "system" in the last sentence in subsection 5.1.2.1 (g), as renumbered.
7. Section 5.2 Water and Wastewater is amended as follows:
- a. Insert the following item after subsection 5.2.1(a) Goals, and renumber subsections (b) to (d):
- "(b) To ensure long term protection of drinking water resources."
- b. Replace the word "plant" with the word "facility" in subsection 5.2.2.2 New and Expanded Sewage Treatment Plants, subsection 5.2.2.2 (a) and 5.2.2.2 (c) i) and ii), and replace the word "plants" with the word "facilities" in subsection 5.2.2.2 (b), 5.2.2.2 (b) i), and ii), and 5.2.2.2 (c).
- c. Insert the following item after subsection 5.2.2.2 (b) ii):
- "iii) new sewage treatment facilities are located outside of vulnerable areas where they would be a significant drinking water threat."
- iv) expansions to existing sewage treatment facilities would not increase the risk to drinking water."
8. Section 6.11 Required Studies in Support of Development Applications is amended as follows:
- a. Add the following items at the end of Section 6.11 as follows:
- "(ee) Source Water Information Form
(ff) Threats and Issues Assessment – Water Quality' Study
- b. Replace (dd) with (ff) in the 2nd paragraph of Section 6.11.
- c. Delete the word "and" after the words "drainage by-laws" in the last sentence of subsection 6.11.1 and add wording after the words "emissions by-laws as follows:
- "change of use by-laws, sewer use by-laws, or by-laws, to control the application, handling, storage or use of pathogens, chemicals and dense non-aqueous phase liquids that may constitute a threat to municipal drinking water"



- CITY BOUNDARY
- MUNICIPAL WATER SUPPLY WELL
- WELL HEAD PROTECTION AREA (WHPA)
 - WHPA-A (100m RADIUS OFFSET FROM OPERATIONAL MUNICIPAL WELL)
 - WHPA-B (2 YEAR CAPTURE ZONE)
 - WHPA-C (5-10 YEAR CAPTURE ZONE)
 - WHPA-D (25 YEAR CAPTURE ZONE)

INTAKE PROTECTION ZONES

- IPZ-1
- IPZ-2

ISSUES CONTRIBUTING AREAS

- ISSUE CONTRIBUTING AREA WFL 11, 12, 14 CHLORIDE AND SODIUM
- ISSUE CONTRIBUTING AREA WELL 3A CHLORIDE
- ADJACENT WELL FIELD WHPA

Schedule G

Drinking Water System Vulnerable Areas

Note: Office consolidation, please consult the Planning Services Department for an accurate reference. Not to be reproduced without permission from the City of Barrie Planning Services Department.

APPENDIX "B"

THREAT ACTIVITIES

There are 21 Threats

19 Threats which affect Water Quality and are listed below:

- Waste disposal sites
- Sewage systems (including septic)
- Agricultural and non-agricultural source material applied to land, stored, handled or managed
- Commercial fertilizer applied, handled or stored
- Pesticides applied to land, handled or stored
- Road salt applied, handled or stored
- Snow stored
- Fuel handled or stored
- Livestock grazing, pasturing, outdoor confinement areas and farm-animal yards
- Organic solvents handled or stored
- The handling and storage of a dense non-aqueous phase liquid (DNAPL) (e.g., oil & solvents)
- Chemicals used in the de-icing of aircraft

2 Threats that Affect Water Quantity and are listed below:

These are not part of this Source Protection Plan because this is being reviewed in greater detail at this time.

- Activities taking water from an aquifer(groundwater) or surface water body (lake or river)
- Activities reducing recharge of an aquifer's underground water sources (e.g., pavement)