

Kettle Creek Source Protection Area

APPROVED TERMS OF REFERENCE v1.1

**Work Plan for Development of the
Assessment Report and Source Protection Plan**

***Prepared by:
Lake Erie Region Source Protection Committee***

***Under the Clean Water Act, 2006
(Ontario Regulation 287/07)***

May 11, 2009

EXECUTIVE SUMMARY

Why should you read this document?

These Terms of Reference are a requirement of the *Clean Water Act, 2006* (CWA) and *Ontario Regulation 287/07*, both of which came into effect on July 3, 2007. This is your opportunity to provide advice and comment on the work being planned to complete the Assessment Report and Source Protection Plan.

The Assessment Report will identify the location and nature of potential risks to sources of municipal drinking water, and non-municipal drinking water where other such systems are added. These risks include things that are impacting, or could adversely impact the water quality or quantity of groundwater or surface water sources.

The Source Protection Plan will identify the actions required to reduce, manage or eliminate current risks to municipal drinking water sources as well as avoid future risks. The Plan will also set out requirements for regular monitoring and reporting on the progress on implementation of the Plan. When the Plan is approved, the Minister of the Environment will set the date by which the Plan must be reviewed and updated as necessary.

These Terms of Reference describe the tasks to be undertaken to prepare the Source Protection Plan but do not include details for these tasks. When the Ministry of the Environment provides the regulation and further guidance on the Source Protection Plan requirements, the Terms of Reference will be amended to include these details.

The Terms of Reference includes:

- A description of the Source Protection Planning process;
- Maps of the Source Protection Area and Region;
- Description of the Source Protection Area;
- List of Members of the Source Protection Committee;
- List of municipalities wholly or partially within the Source Protection Area;
- List of existing and planned municipal drinking water systems in the Source Protection Area;
- A list of matters that affect other source protection regions; and,
- High level cost estimates, schedules and assignment of responsibility for tasks.

The public comment period on the Terms of Reference began on September 5, 2008. Written and verbal comments were made up to October 10, 2008. In addition, the Source Protection Committee held public meetings in late-September and early October 2008 to provide more information and answer questions and receive comment. Details of the public consultation process for the Terms of Reference are outlined in **Section 3**.

What happens after you make comments?

The Source Protection Committee reviewed and reconsidered the draft Terms of Reference after consideration of all comments received on or before October 10, 2008.

The Source Protection Committee will send the final Terms of Reference, along with a summary of comments and issues raised, to the Kettle Creek Source Protection Authority for their review within the required timelines. Another opportunity for the public to make written comments will be available at that time (30 days).

All concerns that have been raised and the comments received by the Source Protection Authority will be sent, along with the Terms of Reference as prepared by the Source Protection Committee, to the Minister of the Environment.

The Minister of the Environment may approve the Terms of Reference or direct the Source Protection Authority to amend the Terms of Reference.

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1.0 INTRODUCTION

These Draft Terms of Reference have been prepared in accordance with the *Clean Water Act, 2006 (the Act)* and *Terms of Reference Regulation (O.Reg. 287/07)*, with input from municipal staff regarding the status of relevant technical work. The Terms of Reference include a work plan that outlines who will be responsible for specific components of the Assessment Report and Source Protection Plan development, how the work will be conducted, when various tasks/projects will be finished, and the estimated costs. The costs and responsibility assignments for the Source Protection Plan policy development are tentative and will be determined in more detail when the Ministry of the Environment (MOE) provides the regulation and further guidance required to complete the Source Protection Plan.

Where a municipality has been identified as the lead for a task, a resolution of the municipal council is required, agreeing to undertake the task and complete it within the time and budget limits.

Municipalities may also decide to designate non-municipal drinking water systems under the Act. In some cases, municipalities may identify municipal systems that will be taken out of service in the near future. These systems will not need to be included in the Assessment Report or Source Protection Plan.

The Ministry of the Environment has proposed additional regulations under the Clean Water Act that will outline the requirements for the Assessment Report and the Source Protection Plan. These regulations may require amendments to be made to this Terms of Reference since it was developed prior to the enactment of the Assessment Report and Source Protection Plan regulations.

1.1 Objectives and Outcomes

The key objectives of this process are the completion of locally-developed, science-based Assessment Reports and Source Protection Plans, in accordance with the Act, that protect current and future sources of drinking water.

The Assessment Report will summarize the technical studies that identify the nature and location of potential current and future risks to the quality or quantity of municipal drinking water sources. Within the Kettle Creek Source Protection Area, there is one groundwater and one Lake Erie municipal drinking water source.

The province is providing technical rules on the content of the Assessment Report technical studies, matters to be considered and the assessment of relative risks. Technical studies began in 2005 with funding from the province and have progressed substantially to date. Both municipalities and conservation authorities have received funding for specified work.

The Assessment Report must be submitted to MOE for approval within 14 months of approval of the Terms of Reference. Informal and formal public consultation opportunities will be available to review and comment on the assessment Report before it is approved.

The Source Protection Plan will contain policies to address drinking water threats that are identified in the Assessment Report. It will also contain policies for monitoring, policies to protect Great Lakes water sources, timelines for implementation and persons responsible for undertaking tasks. Public consultation will be carried out during the development of the Source Protection Plan.

The Source Protection Plan must be submitted to the Minister of the Environment by August 20, 2012 for approval. In addition, the MOE may appoint a hearing officer to deal with issues arising from the proposed Source Protection Plan. The MOE has advised that they will release a Source

Protection Plan discussion paper in the fall of 2008. These Terms of Reference will need to be amended to confirm cost estimates, schedules and assignment of responsibilities for the remaining tasks to develop the Source Protection Plan in accordance with this guidance.

After approval of the Source Protection Plan, annual monitoring reports and reports on progress on implementation will be required. Municipalities will be primarily responsible for the implementation and enforcement of the Source Protection Plan using existing powers, including those under the *Planning Act* and *Municipal Act*, as well as new powers under the Clean Water Act, 2006.

1.2 Legislation

The Act was introduced by the Ontario Government in 2006. In July 2007, the Act, along with the first five associated regulations, came into effect. The intent of this legislation is to ensure communities are able to protect their municipal drinking water supplies, as well as non-municipal supplies where added by municipalities or the Minister, now and in the future from overuse and contamination, through locally developed science-based source protection plans. The Act substantially implements the drinking water source protection recommendations made by Justice Dennis O'Connor in Part II of the Walkerton Inquiry Report.

1.3 Financial Assistance

Section 97 of the Act establishes the Ontario Drinking Water Stewardship Program. The purpose of the program is to provide financial assistance to those whose activities and properties may be affected by the implementation of the Source Protection Plan. The program also provides for outreach and education programs to raise awareness of the importance and opportunities for individuals to take actions to protect sources of drinking water. Ontario Regulation 286/07 (Miscellaneous) was amended in July 2008 to further clarify the details of the Ontario Drinking Water Stewardship Program. Early Action Programs funded by the Ministry of the Environment have already been directing grants to landowners within close proximity to municipal wells or surface water intakes to undertake projects to reduce existing potential contamination sources, along with communications and outreach efforts to persons and businesses in these areas. The program currently has funding through 2011 to provide grants to undertake early actions close to municipal drinking water systems, in advance of approved source protection plans. The Lake Erie Region Source Protection Committee will continue to request that the province funds the program beyond 2011 in order to provide financial assistance to property owners affected by new policies and risk reduction strategies that may result from approved source protection plans.

1.4 Source Protection Planning Process

The Source Protection Committee will identify the potential risks to local water sources to reduce or eliminate these risks. The task of plan development will involve residents working with municipalities, conservation authorities, property owners, farmers, industry, health officials, community groups and others. The Act allows for other water systems to be considered, including clusters of private wells, communal systems, and other non-municipal supplies. Only municipalities or the Minister of the Environment have the power to add additional systems.

The overall objective of the Lake Erie Region Source Protection Committee, in partnership with local communities and the Ontario government, is to protect the quality and quantity of present and future sources of municipal drinking water in the Lake Erie Source Protection Region. We will work with others to gather technical and traditional (local and aboriginal) knowledge on which well-informed, consensus-based decisions can be made in an open and consultative manner. In developing the Source Protection Plan, the Lake Erie Region Source Protection Committee intends to propose policies that are environmentally protective, effective, economical, and fair to local communities. The committee will strive to develop policies that are practical and implementable, and that focus limited resources on areas that net the greatest benefit, while recognizing that the plan must address significant threats so that they cease to exist. Where

possible, the committee will strive to develop policies and programs that also provide a benefit to broader protection of water quality and quantity. The process to assess drinking water threats and issues will be based on the best available science, and where there is uncertainty we will strive to follow the precautionary approach.

1.5 Study Area

The province has organized the Source Protection Program using watershed boundaries, rather than municipal jurisdictions. This is appropriate for water management, since both groundwater and surface water flow across municipal boundaries.

These Terms of Reference are for the Kettle Creek Source Protection Area. For the purposes of source protection, the Kettle Creek Source Protection Area is partnered with the Grand River Source Protection Area, Catfish Creek Source Protection Area and Long Point Region Source Protection Area to create the Lake Erie Source Protection Region. The Lake Erie Source Protection Region is one of 19 regions established across the province. A map showing the boundaries of the Kettle Creek Source Protection Area is also presented in **Appendix A.1**. A second map showing the geographic extent of this region is shown in **Appendix A.2**

Municipalities within the Kettle Creek Source Protection Area are listed in **Appendix A.3**.

1.6 Partners in the Process

The source protection planning process is being directed by a group of 24 local stakeholders and a Chair, referred to in regulations as the Source Protection Committee. The committee members (**Table 1**) are municipal, First Nations, business, and public representatives that act as a Steering Committee and are responsible for the development of the Terms of Reference, technical Assessment Reports, and ultimately the Source Protection Plans for all four Source Protection Areas within the Lake Erie Source Protection Region.

Table 1: Members of the Lake Erie Region Source Protection Committee

Name	Seat Held	
Craig Ashbaugh	Chair	Appointed by the Minister of the Environment
Marguerite Ceschi-Smith	Public Interest	
Howard Cornwell	Municipal	Perth, Oxford
Paul General	First Nations	Six Nations of the Grand River
Mark Goldberg	Public Interest	
Roy Haggart	Municipal	Brant, Brantford, Hamilton
John Harrison	Public Interest	
Andrew Henry	Public Interest	Elgin Area Primary Water Board
Ken Hunsberger	Agriculture	
Ralph Krueger	Business and Industry	
Bryan LaForme	First Nations	Mississaugas of the New Credit
Janet Laird	Municipal	City of Guelph
Ian MacDonald	Business and Industry	
Chris Martin	First Nations	Six Nations of the Grand River
Dale Murray	Municipal	Grey, Dufferin, Halton, Wellington
Jim Oliver	Municipal	Haldimand, Norfolk
David Parker	Agriculture	
Lloyd Perrin	Municipal	Elgin, Middlesex, London
Geoff Rae	Public Interest	Nanticoke Grand Valley Water Supply
Thomas Schmidt	Municipal	Waterloo Region
Richard Seibel	Aggregate Industry	

Table 1: Members of the Lake Erie Region Source Protection Committee

Name	Seat Held	
Bill Ungar	Business and Industry	
Mark Wales	Agriculture	
Don Woolcott	Public Interest	
Wendy Wright-Cascaden	Public Interest	

Each task within the process must have an assigned lead. The assigned leads are either municipalities or the Conservation Authority on behalf of the Source Protection Authority. No matter which party takes the lead for undertaking a particular task, the Lake Erie Region Source Protection Committee has the decision-making authority regarding the acceptability of the work or findings to be included in the Assessment Report and Source Protection Plan to be submitted, through the Source Protection Authority, to the Minister of the Environment for final approval.

Where municipalities intend to take the lead on a task, a municipal council resolution will be required to assume the responsibility to undertake the task. Reassignment of leads to undertake the source protection plan policy development tasks, where necessary, will require amendment of the Terms of Reference.

Public involvement and consultation will be a key component of the work throughout the preparation of both the Assessment Report and Source Protection Plan. The local residents are key partners in the implementation of the Source Protection Plan and need to have a role in the development.

Funding for the Assessment Report and Source Protection Plan development tasks is being provided by the Province of Ontario. The province has provided funding since 2005 to municipalities and conservation authorities to undertake technical studies in advance of the legislation through March of 2008. Funds for new work will be provided by the province to the Grand River Conservation Authority on behalf of the lead source protection authority (Grand River Source Protection Authority). The Grand River Source Protection Authority has responsibility for fiscal management with parties undertaking tasks in the Lake Erie Region. Where a municipality is taking on the lead for tasks for future work, a Memorandum of Agreement between the Grand River Conservation Authority and the municipality will be required, setting out the legal and financial obligations, technical deliverables and schedules.

1.7 Scope of Work

Municipal drinking water supplies within this Source Protection Area include one groundwater well in Belmont, and one Great Lake intake on Lake Erie at Port Stanley; both of which are in the Municipality of Central Elgin. The scope of work described below covers all sources of municipal drinking water within the study area.

1.7.1 Assessment Report

The Assessment Report will be assembled in the following modules:

- Watershed Characterization;
- Groundwater Vulnerability Analysis;
- Surface Water Vulnerability Analysis;
- Issues Evaluation, Threats Inventory, Water Quality Risk Assessment; and
- Water Budget and Water Quantity Risk Assessment.

The **Watershed Characterization** contains descriptions of natural features, population size and distribution, land use and human-made influences, water quality (surface and groundwater), and water use. A preliminary list of land use activities that are known to pose a threat to the quality or quantity of drinking water and a summary of the issues and concerns that exist in the watershed.

The **Groundwater Vulnerability** module will identify wellhead protection areas around municipal drinking water supply wells, highly vulnerable aquifers, significant groundwater recharge areas, and future municipal supply areas. The relative vulnerability within each of these areas will be characterized as high, medium or low. The categorization is intended to reflect the susceptibility of the aquifer(s) in the vulnerable areas to surface (or near surface) sources of contamination. Vulnerable areas will be delineated and given intrinsic vulnerability scores and the level of uncertainty associated with each score – as required for the Water Quality Risk Assessment process.

The **Surface Water Vulnerability** module will identify Intake Protection Zones IPZ-1 (one kilometre radius for Great Lake intakes, 200 metres for river intakes), IPZ-2 (minimum two hour time of travel), IPZ-3 (the area that contributes water to the intake under specified conditions) for Lake Erie and riverine water supplies; assign a vulnerability score for each of the zones referring to the comparative likelihood of a contaminant of concern reaching an intake; and, analyze potential human-made pathways that may allow contaminants of concern to enter the water directly, such as storm sewers, sanitary sewers, combined sewers, cooling water discharge sewers, and open drainage ditches. Contaminants of concern reaching an intake in significant quantities would likely be associated with storm events, spills or upset conditions such as extended power outages or pipes rupturing where they cross water courses.

The Intake Protection Zones will be delineated and assigned vulnerability scores, obtained by multiplying the source vulnerability factor with the zone vulnerability factor and the level of certainty associated with each score. The Intake Protection Zones will be considered as vulnerable areas in the Water Quality Risk Assessment, and the vulnerability scoring will be used to rank threats to drinking water in the surface water quality risk assessment.

Following the above assessments, there will be an evaluation of risks, which will facilitate development of the assessment report and ultimately the Source Protection Plan. The objective will be to identify and evaluate threats and issues as they relate to the quality of drinking water in each vulnerable area. The **Threats Inventory and Issues Evaluation** will include the areas around each drinking water intake, wellhead, highly vulnerable aquifer, groundwater recharge area, and future municipal supply. A hazard rating associated with the inventoried drinking water threats will rate the likelihood of a chemical or pathogenic contamination of a drinking water source, as well as the potential severity of its impact. An inventory of pathways that contaminants can travel to a drinking water intake will be mapped and each threat will be categorized as significant, moderate or low, based on the qualitative assessments in the vulnerable areas. Because of uncertainties in the scope of the work plan details and work, the costs for these tasks should be considered as preliminary estimates.

The **Water Quality Risk Assessment** will identify the risk of specific threats (existing or future activity, or existing condition that results from a past activity) entering drinking water supplies. Threats inventoried within other vulnerable areas, such as highly vulnerable aquifer areas and significant recharge areas will also be assessed for risks.

The **Water Budget and Water Quantity Risk Assessment** process will:

- Estimate the quantity of water flowing through a watershed;
- Describe the pertinent processes and pathways water follows; and

- Assess the reliability and availability of current and future water supply sources from a quantity perspective.

The work will be completed in up to four stages, beginning with a conceptual water budget, and proceeding to a more detailed Tier 1, 2, or 3 studies in specific areas that may experience stress. Subwatersheds identified as "potentially stressed" in the Tier 2 process, may require localized Tier 3 studies using complex numerical models.

The overall goals of this assessment are to identify watershed communities where the reliability of municipal water supplies is questionable, and to highlight key factors that may limit the reliability, such that appropriate risk management activities can be completed.

1.7.2 Source Protection Plan

The Source Protection Plan is a document that sets out the policies to protect sources of drinking water against threats identified in the Assessment Report. The Plan will set out how drinking water threats will be reduced, eliminated or monitored, who is responsible for taking action, timelines, and how progress will be measured.

Implementation of the Source Protection Plan, once it has been approved by the Minister of the Environment, will be led by municipalities in most cases. In some cases, conservation authorities, public health units, or other organizations may be involved in implementing Source Protection Plans. The implementers will be able to use a range of programs and tools, including instruments or mechanisms such as zoning by-laws, and amendments to the Official Plans, or voluntary initiatives, if appropriate. Actions will be mandatory for significant risks. Risk management plans may be required for some activities and land uses within designated municipal wellhead protection areas deemed to be significant threats, in order to reduce their risk to the municipal drinking water source.

2.0 TERMS OF REFERENCE

2.1 Organization

These draft Terms of Reference outline the following items:

- The municipal drinking water systems covered by this Terms of Reference;
- The technical, planning and communications tasks relevant to the completion of the Assessment Report and Source Protection Plan;
- How the task will be completed;
- Who will be taking the lead on task coordination;
- Estimated timelines for completion of the various tasks; and,
- Estimated costs associated with each of the tasks.

2.2 Water Systems

These Terms of Reference were developed for all municipal drinking water supplies in the Kettle Creek Source Protection Area. At present, there is one drinking water system using groundwater supplies in Belmont, and one using water from Lake Erie in Port Stanley. More details of these systems are provided in **Appendix A.4**.

2.3 Methodology

The province introduced a proposed Assessment Report Regulation and draft Technical Rules in June 2008. The Rules provide direction, and a level of standardization and consistency for the development of the technical studies to complete the Assessment Report.

Appendix A.6 includes detail task cost estimates, timelines, descriptions, and leads for all watershed-wide tasks and municipal tasks. Additional details pertaining to the tasks included in this Terms of Reference are provided in **Appendix B** and **Appendix C**.

2.4 Task Leads

As the lead authority in the Lake Erie Source Protection Region, the Grand River Conservation Authority will lead the watershed-wide tasks, as indicated on the task sheets in **Appendix A.6**. The Elgin Area Primary Water Board has stated their intention to lead the development of Assessment Report components relative to the Lake Erie supply at Port Stanley.

2.5 Timelines

The timelines for the tasks mentioned above are detailed on the task sheets in **Appendix A.6** and are summarized in **Appendix D**.

The timelines are based on the following assumptions: the Assessment Report requirements (regulations and rules) will be finalized in November 2008; the technical studies that meet the minimum requirements for the Assessment Report can be completed for the most part by September 2009 and assembled by December 2009 to support the completion of a basic Assessment Report by August 2010; more detailed technical studies to reduce uncertainty will continue until September 2011 for inclusion with the Source Protection Plan; plan development initiatives will begin in January 2010 when the first draft of the basic Assessment Report has been completed and the Source Protection Plan requirements (plan regulations and rules and risk

management requirements) are finalized; plan development initiatives continue until January 2012 to support the completion of the Source Protection Plan by August 2012.

2.6 Budget

Detailed cost estimates are also provided for each task in **Appendix A.6**. **Appendix C** summarizes past and future costs for each task.

The costs for past expenditures are derived from municipal and conservation authority funding received up to March 31, 2008. The estimates for committed spending in 2008-09 are based on the provincially approved business plan for the Lake Erie Source Protection Region. The estimates for future costs beyond March 2009 are based on unapproved projections in the Lake Erie Region's business plan to August 20, 2012.

All of the project costs to March 31, 2008 have been funded by the province. The province has approved the 2008-2009 costs in the Lake Erie Region business plan, and funds were received in early July. The province has indicated that it will pay for the future costs to August 20, 2012 based on the approved Terms of Reference.

2.7 Matters Affecting Other Areas and Regions

There are a number of issues that affect other Source Protection Committees outside of the Lake Erie Source Protection Region. These are listed in **Appendix A.5**. These matters are ones that will require consultation with the affected Source Protection Region(s) staff and Source Protection Committee(s) in undertaking and completing the development of the Assessment Report and Source Protection Plans.

3.0 PUBLIC COMMENT

The public was invited to review and comment on the draft Terms of Reference on September 5, 2008. A 35-day public comment period ended on October 10, 2008, and included a public meeting in Port Stanley on October 7, 2008.

At the October 16 and November 6 Source Protection Committee meetings, the committee reviewed and considered all of the comments received during the public consultation period. The committee's responses to the comments are reflected in this Terms of Reference.

The Committee submitted the Terms of Reference to the Kettle Creek Source Protection Authority on November 6, 2008, and released the document for an additional 30-day **public comment period starting on November 7**, which closes on **December 6, 2008**. Please forward written comments to:

Source Protection Program
Kettle Creek Conservation Authority
44015 Ferguson Line
St. Thomas, Ontario, N5P 3T3

Comments can also be:

Faxed to 519-631-5026 (Attention: Source Protection Program)

OR

E-mailed to comments@sourcewater.ca.

Information on how to comment on the Proposed Terms of Reference will be posted at www.sourcewater.ca, and in newspapers across the watershed. Formal comments received will be submitted to the Minister of the Environment with the Proposed Terms of Reference by the Kettle Creek Source Protection Authority no later than December 20, 2008.

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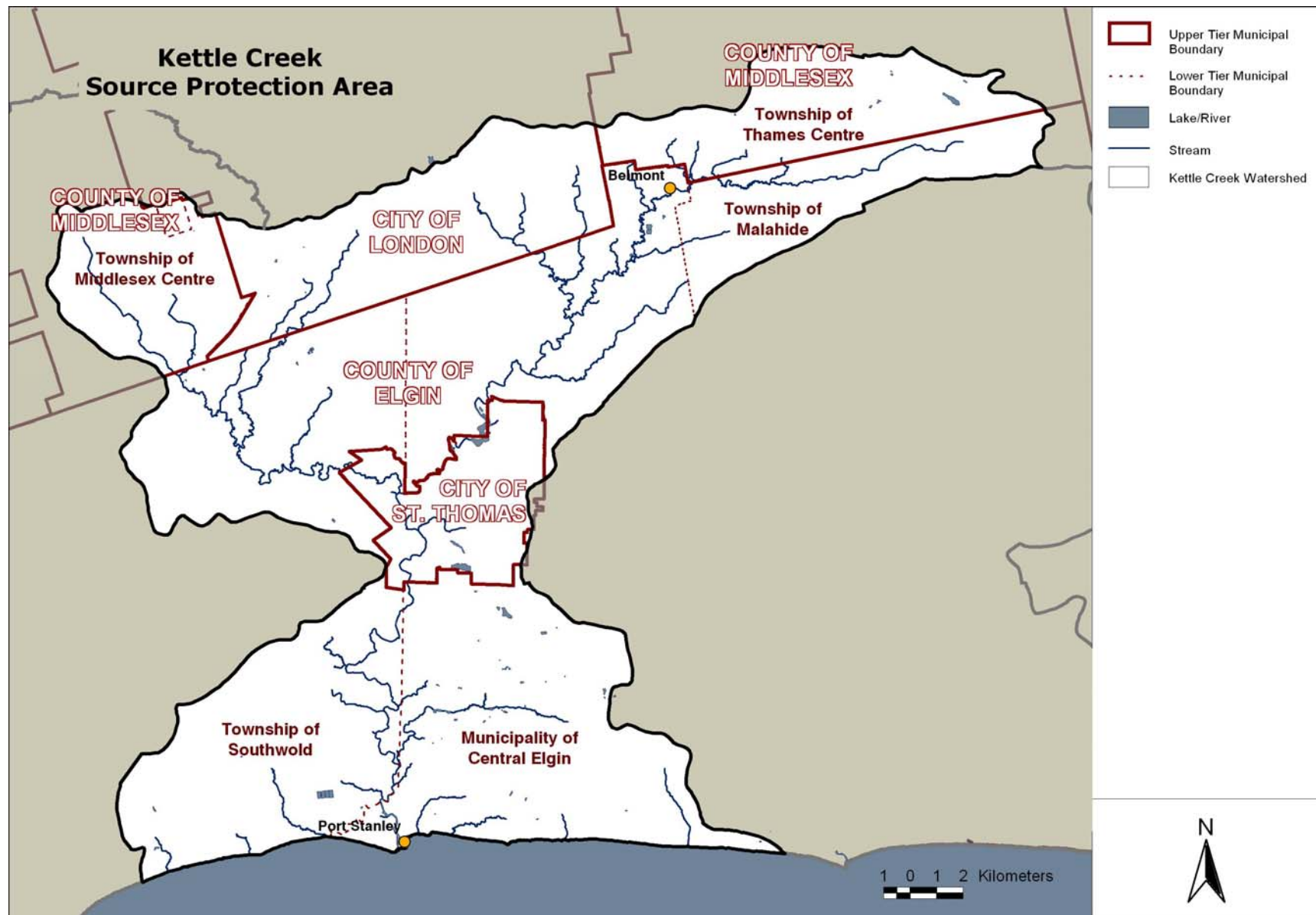
APPENDIX A

APPROVED TERMS OF REFERENCE (WORK PLAN)

Kettle Creek Source Protection Area

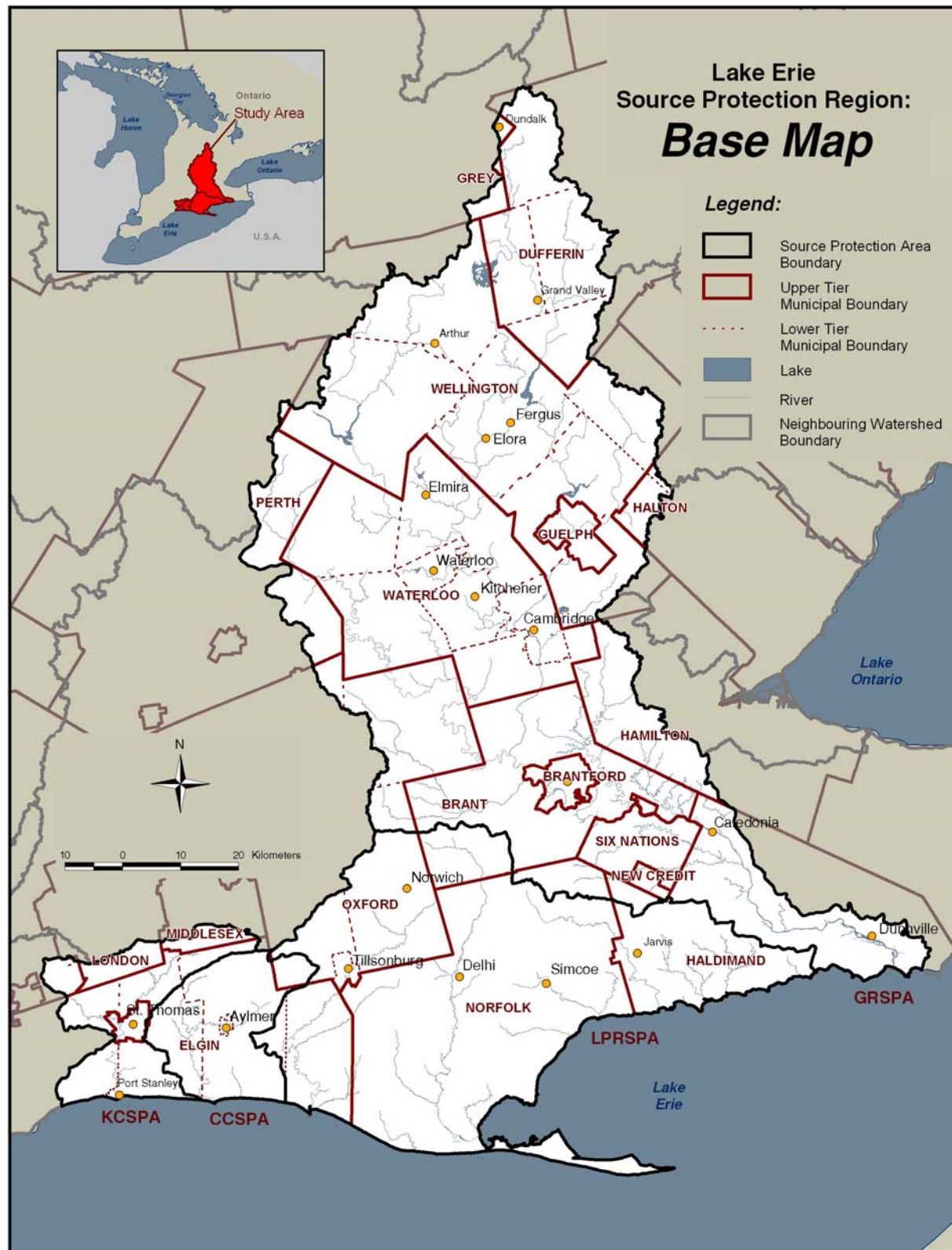
The following pages constitute the formatted version of the Terms of Reference/Workplan that was generated using the provincial template.

A.1 Kettle Creek Source Protection Area



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A.2 Lake Erie Source Protection Region



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A.3 List of Municipalities Located in the Kettle Creek Source Protection Area

1	County of Middlesex	Upper Tier
2	Municipality of Thames Centre	Lower Tier
3	Municipality of Middlesex Centre	Lower Tier
4	City of London	Single Tier
5	City of St. Thomas	Single Tier
6	County of Elgin	Upper Tier
7	Township of Malahide	Lower Tier
8	Municipality of Central Elgin	Lower Tier
9	Township of Southwold	Lower Tier

A.4 Lists of Drinking Water Systems

A.4.1 List of Existing Municipal Residential Drinking Water Systems

Owner	DWS Number	DWS Name	Operating Authority	GW or SW
Municipality of Central Elgin	220002468	Belmont Water System	Municipality of Central Elgin	GW
Joint Board of Management for the Elgin Area Primary Water Supply System	210000871	Elgin Area Primary Water Supply System	American Water Canada Corp	SW

A.4.2 List of Planned Municipal Residential Drinking Water Systems

None identified at this time.

A.4.3 List of Drinking Water System(s) Included by Municipal Council Resolution

None identified at this time.

A.4.4 List of Drinking Water Systems Serving First Nations Reserves

None identified at this time.

A.4.5 List of Fully or Partially Exempted Municipal Residential Drinking Water System(s)

None identified at this time.

A.4.6 List of Drinking Water Systems Included by the Minister of the Environment

None identified at this time.

A.5 List of Matter(s) that Affect Other Source Protection Committees

Source Protection Committees Affected	Source Protection Area	Description of Matter
Thames-Sydenham and Region	Lower Thames Valley	The Elgin Area Primary Water Supply System in Port Stanley supplies drinking water to the City of London and Township of Southwold in Thames-Sydenham and Region. Ensure that consultation takes place to develop policies acceptable to both source protection committees.
		Significant recharge areas – Consultation regarding methods to ensure products are similar and allow edge matching for mapping products.
		Highly vulnerable aquifers – Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of map products
Thames-Sydenham and Region	Upper Thames Valley	Significant recharge areas – Consultation regarding methods to ensure products are similar and allow edge matching for mapping products.
		Highly vulnerable aquifers – Consultation regarding policies to ensure that they are in place and acceptable to both source protection committees as well as allow for edge matching of map products

A.6 Work Plans

A.6.1 Watershed-wide Work Plan to Complete the Assessment Report and Source Protection Plan

This section presents the components of the Assessment Report and Source Protection Plan that will be carried out on a watershed-wide basis and led by the Grand River Conservation Authority with support from Kettle Creek Conservation Authority. The tasks, costs for work completed or in progress, estimated costs for remaining work, start date, and estimated completion dates are presented below.

The costs are estimated and may need to be revised following the enactment of the Assessment Report regulation. "Work Completed or In Progress" was funded by the Ministry of Natural Resources under Memoranda of Agreement with the Conservation Authorities over the period 2005 through March, 2008. Additional funding for "Remaining Work" will be provided by the Ministry of Natural Resources to the Grand River Conservation Authority under a new Partnership Agreement.

A.6.1.1 Watershed-wide Work Plan to Complete the Assessment Report

Assigned Lead: Grand River Conservation Authority

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Coordinating and supporting projects for the assessment report	\$124,000	\$126,200	2005-Jan-01 to 2010-Aug-20	<ul style="list-style-type: none"> – Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the Assessment Report components and direct support to the Source Protection Committee.
Undertaking communications initiatives for the assessment report	\$1,200	\$3,000	2005-Jan-01 to 2010-Aug-20	<ul style="list-style-type: none"> – Local area engagement, outreach and creation of communications products that support the assessment report process. – Staff resource costs are included in Coordinating and supporting projects
Information management for the assessment report preparation	\$13,000	\$3,200	2005-Jan-01 to 2010-Aug-20	<ul style="list-style-type: none"> – Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance. – Staff resource costs are included in Coordinating and supporting projects.

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Undertaking a watershed characterization	\$1,700	\$0	2005-Jan-01 to 2010-Jan-20	<ul style="list-style-type: none"> - Draft report, Kettle Creek Watershed Characterization Report, Jan 2008, has been peer evaluated and posted on the website for public input and comment.
Conducting a conceptual water budget	\$14,700	\$0	2005-Jan-01 to 2007-Dec-31	<ul style="list-style-type: none"> - The overall flow system dynamics for the watershed including surface water and groundwater features, land cover, structures (e.g. dams) and water takings are described in the Long Point Region, Kettle Creek and Catfish Creek Watershed Water Budget and Water Quantity Stress Assessment Interim Report, Mar. 2008.
Conducting a Tier 1 water budget analysis	\$0	\$0		<ul style="list-style-type: none"> - Because of the advanced status of water quantity knowledge and studies in the Lake Erie Region, water budget studies proceeded directly from conceptual to Tier 2 water budget analysis. No Tier 1 water budget analysis has been conducted or is planned.
Conducting a Tier 2 water budget analysis	\$63,500	\$0	2007-Mar-01 to 2009-Jun-30	<ul style="list-style-type: none"> - Studies in progress to quantify available water supply & demand using numerical groundwater & surface water models and consultation with water users, and assess the potential for water quantity stress under existing, future & drought conditions. Each phase of work is peer reviewed by a team of qualified third-party professionals. - Significant recharge areas will be estimated using modeling tools developed as part of the Tier 2 water budget studies, and methods described in the Assessment Report Regulation & Rules. - Peer review of Significant Groundwater Recharge Areas is included in Tier 2 water budget study peer review.

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Delineating and applying vulnerability scores to Highly Vulnerable Aquifer areas	\$11,700	\$100	2007-Jul-01 to 2010-Jan-20	<ul style="list-style-type: none"> - The Aquifer vulnerability index method will be applied to delineate vulnerable areas with consideration of hydraulic setting. - Vulnerability ranking to be completed using methods described in the Assessment Report Regulation and Rules. - Staff resource costs are included in Coordinating and supporting projects. - Peer review of Highly Vulnerable Aquifers will be carried out by a qualified independent professional.
Identifying issues, inventorying threats and assessing hazards in Highly Vulnerable Aquifer Areas	\$0	\$0	2008-Oct-01 to 2010-Jan-20	<ul style="list-style-type: none"> - Hazards will be assessed using existing threats data (from municipal, provincial, and federal sources of information) and methods described in the Assessment Report Regulation and Rules. Staff resource costs are included in Coordinating and supporting projects.
Assessing risks in Highly Vulnerable Aquifer Areas	\$0	\$0	2008-Oct-01 to 2011-Sep-30	<ul style="list-style-type: none"> - Staff resource costs are included in Coordinating and supporting projects.
Peer review on vulnerability analysis, hazard analysis, issues analysis, and water quality risk assessment for WHPA and IPZ	\$700	\$36,000	2008-Mar-31 to 2011-Sep-30	<ul style="list-style-type: none"> - Vulnerability analysis for WHPA and IPZ has been peer reviewed by qualified GRCA staff as municipal technical studies have been completed. Where GRCA is administering studies on behalf of municipalities, a qualified independent professional has been retained to peer review vulnerability analysis. - The water quality peer review team has been engaged and is preparing to peer review hazard analysis, issues analysis, and water quality risk assessment for wells and intakes as the municipal studies reports become available in late 2008 (Tier 1). The peer review team will continue through 2009 as risk assessment information is refined (Tier 2).
Assessment Report Compilation	\$0	\$7,500	2009-Jan-20 to 2010-Jan-20	<ul style="list-style-type: none"> - Preparation of draft and final reports, as required.

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Consultation on the overall proposed assessment report	\$0	\$0	2009-Jan-20 to 2010-Aug-20	- Consultation on vulnerability analysis in early 2009 and hazards/issues analysis and risk assessment in late 2009. Staff resource costs and SPC costs are included in Coordinating and supporting projects.
TOTAL	\$230,500	\$176,000		

A.6.1.2 Watershed-wide Work Plan to Complete the Assessment Report

Assigned Lead: Grand River Conservation Authority

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Coordinating and supporting projects for the Source Protection Plan (SPP)	\$0	\$176,600	2010-Jan-20 to 2012-Aug-20	<ul style="list-style-type: none"> Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the Source Protection Plan components and direct support to the Source Protection Committee.
Undertaking communications initiatives for the Source Protection Plan	\$0	\$4,100	2010-Jan-20 to 2012-Aug-20	<ul style="list-style-type: none"> Local area engagement, outreach and creation of communications products that support the source protection planning process. Staff resource costs are included in Coordinating and supporting projects
Information management for source protection plan preparation	\$0	\$4,300	2010-Jan-20 to 2012-Aug-20	<ul style="list-style-type: none"> Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance. Staff resource costs are included in Coordinating and supporting projects.
Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	\$0	\$24,800	2010-Jan-20 to 2012-Jan -20	<ul style="list-style-type: none"> Staff resource and SPC costs are included in Coordinating and supporting projects. To assist with local choices, prepare Region-wide discussion papers analyzing various policy approaches to reduce and prevent risk, including establishing evaluation criteria for selecting policies. Task scope will be refined when more information and direction are available.
Policy development for monitoring drinking water threats or issues (where required, advisable and/or permissible in Act & Regs)	\$0	\$9,300	2010-Jan-20 to 2012-Jan -20	<ul style="list-style-type: none"> Staff resource costs and SPC costs are included in Coordinating and supporting projects. Prepare Region-wide discussion papers analyzing various policy approaches to monitor threats. Task scope will be refined when more information and direction are available.

Task	Costs for Work Completed or In Progress	Estimated Costs for Remaining Work	Start Date & Estimated Completion Date	Comments
Policy development for Great Lakes elements (where required/permissible in Act & Regs)	\$0		2010-Jan-20 to 2012-Jan -20	<ul style="list-style-type: none"> Staff resource costs and SPC costs are included in Coordinating and supporting projects. Task scope will be refined when more information and direction are available.
Establishing timelines for policy implementation	\$0	\$0	2010-Jan-20 to 2012-Jan -20	<ul style="list-style-type: none"> Staff resource costs are included in Coordinating and supporting projects.
Source Protection Plan Compilation	\$0	\$0	2010-Jan-20 to 2012-Jan-20	<ul style="list-style-type: none"> Preparation of draft and final source protection plan documents. Staff resource costs are included in coordinating and supporting costs.
Other Source Protection Plan preparation task	\$0	\$0	2010-Jan-20 to 2012-Aug-20	<ul style="list-style-type: none"> Staff resource costs are included in 'Coordinating and supporting projects'. The Elgin Area Primary Water Supply System at Port Stanley in the Municipality of Central Elgin services municipalities in the Long Point Region and Catfish Creek Source Protection Areas. Ensure that consultation takes place to develop policies acceptable to each municipality and Source Protection Area.
Consultation on the overall proposed source protection plan	\$0	\$0	2012-May-01 to 2012-Aug-20	<ul style="list-style-type: none"> Staff resource costs and SPC costs are included in Coordinating and supporting projects. Disbursements included in Undertaking communications initiatives.
TOTAL	\$0	\$219,100		

A.6.2 Municipal Work Plans to Complete the Assessment Report and Source Protection Plan

This section presents the components of the Assessment Report and Source Protection Plan that are municipality-specific. The tasks, costs for work completed or in progress, estimated costs for remaining work, start date and estimated completion date and assigned lead are presented below. The costs are estimated and may need to be revised following the enactment of the Assessment Report and Source Protection Plan regulation. Completed work and work-in-progress has been funded through two rounds of grants from the Ministry of the Environment to municipalities and Conservation Authorities. Additional funding for remaining work was provided by the Ministry of the Environment in April 2008.

A.6.2.1 Municipality of Central Elgin

A.6.2.1.1 Municipality of Central Elgin Assessment Report

Task	Costs for work completed or In Progress	Estimated Costs for remaining work	Start Date & Estimated Completion Date	Assigned Lead	Comments
Delineating and applying vulnerability scores to all Wellhead Protection Areas	\$34,000	\$5,000	2005-Jan-01 to 2009-Jun-30	GRCA	<ul style="list-style-type: none"> Wellhead Protection Areas were delineated using a numerical groundwater model (MODFLOW). Vulnerability was calculated using an aquifer-specific Intrinsic Susceptibility Index. Vulnerability scoring was completed with consideration for preferential pathways. Includes local area engagement, outreach and creation of communication products.
Identifying issues, inventorying threats and assessing Hazards in Wellhead Protection Areas	\$45,000	\$12,000	2005-Jan-01 to 2010-Jan-20	GRCA	<ul style="list-style-type: none"> Water quality trends and issues were assessed. Updating list based on new definition and thresholds. Issues may need to be re-investigated based on the Assessment Report regulations and technical rules. Land use activities that are or would be drinking water threats will be listed. Activities and conditions that are significant drinking water threats will be identified based on the technical rules for the Assessment Report.

Task	Costs for work completed or In Progress	Estimated Costs for remaining work	Start Date & Estimated Completion Date	Assigned Lead	Comments
Assess risk in Wellhead Protection Areas	\$0	\$11,000	2005-Jan-01 to 2010-Jan-20	GRCA	<ul style="list-style-type: none"> Where significant threats in wellhead protection areas and other vulnerable areas are identified but there is uncertainty associated with either the hazard or vulnerability score, refinement of the risk assessment will be undertaken, to the extent that time and available resources permit and in accordance with methods described in Assessment Report regulations and technical rules. Includes local area engagement regarding water quality risk assessment, outreach and creation of communications products. Synthesizing information from MOE District files. Land owner surveys. Site investigations to confirm significant threats (activities & conditions). Early consultation on vulnerable areas delineation and vulnerability scoring.
TOTAL	\$79,000	\$28,000			

A.6.2.1.2 Municipality of Central Elgin Source Protection Plan

Task	Costs for work completed or In Progress	Estimated Costs for remaining work	Start Date & Estimated Completion Date	Assigned Lead	Comments
Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	\$0	\$25,000	2010-Jan-20 to 2012-Jan-20	KCCA	<ul style="list-style-type: none"> – Investigate local choices for policy approaches to address drinking water threats. Task scope will be refined when more information and direction are available. – Includes local area engagement, outreach and creation of communications products that support the source protection plan process. CA staff resource costs are included in watershed-wide Coordinating and supporting projects
Policy development for monitoring drinking water threats or issues (where required, advisable and/or permissible in Act & Regs)	\$0	\$10,000	2010-Jan-20 to 2012-Jan-20	KCCA	<ul style="list-style-type: none"> – Investigate local choices for policy approaches for monitoring drinking water threats. Task scope will be refined when more information and direction are available.
Establishing timelines for policy implementation	\$0	\$0	2011-Sep-01 to 2012-Jan-20	KCCA	<ul style="list-style-type: none"> – Task scope will be refined when detailed requirements and guidance are available.
Other Source Protection Plan Preparation Task	\$0	\$0	2010-Jan-20 to 2012-Jan-20	KCCA	<ul style="list-style-type: none"> – Belmont WHPAs cross into Municipality of Thames Centre and Township of Malahide within the KCSPA. Ensure that consultation takes place to develop policies acceptable to each municipality.
TOTAL	\$0	\$35,000			

A.6.2.2 Elgin Area Primary Water Board*A.6.2.2.1 Elgin Area Primary Water Board Assessment Report*

Task	Costs for work completed or In Progress	Estimated Costs for remaining work	Start Date & Estimated Completion Date	Assigned Lead	Comments
Delineating and applying vulnerability scores to Intake Protection Zones	\$114,000	\$23,000	2005-Jun-01 to 2010-Jan-20	Elgin-Area Primary Water Board	IPZs were delineated in accordance with the Oct 2006 guidance module 4. More specifically the in-water portion of IPZ 2 was delineated using a hydrodynamic model. Vulnerability scores have been assigned and were based on attributes of the source water, characteristics of the intake area, possible local influences and the raw water quality
Identifying issues, inventorying threats and assessing Hazards in Intake Protection Zones	\$36,500	\$45,500	2005-Jun-01 to 2010-Jan-20	Elgin-Area Primary Water Board	Issues have been identified in a draft report through a review of the raw water chemical and microbiological data. A threats inventory has been completed through a windshield survey and consultation of existing landuse activity datasets. Hazard Ratings have been developed by the consultant through an interpretation of the Oct. 2006 guidance modules. This will have to be revised once the province releases the approved hazard scores.
Assess risk in Intake Protection Zones	\$11,000	\$9,000	2006-Jun-01 to 2011-Sep-30	Elgin-Area Primary Water Board	A preliminary tier 1 risk assessment has been completed using the above mentioned hazard scores. This will have to be revised once the province releases the approved hazard scores. Includes early landowner contact and communications initiatives for the assessment report. Land owner surveys. Site investigations to confirm significant threats (activities & conditions). Early consultation on vulnerable areas delineation and vulnerability scoring.
TOTAL	\$161,500	\$77,500			

A.6.2.2.2 Elgin Area Primary Water Board Source Protection Plan

Task	Costs for work completed or In Progress	Estimated Costs for remaining work	Start Date & Estimated Completion Date	Assigned Lead	Comments
Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	\$0	\$60,000	2010-Jan-20 to 2012-Jan-20	KCCA	Investigate local choices for policy approaches to address drinking water threats. Task scope will be refined when more information and direction are available. Includes local area engagement, outreach and creation of communications products that support the source protection plan process. CA staff resource costs are included in watershed-wide Coordinating and supporting projects
Policy development for monitoring drinking water threats or issues (where required, advisable and/or permissible in Act & Regs)	\$0	\$25,000	2010-Jan-20 to 2012-Jan-20	KCCA	Investigate local choices for policy approaches for monitoring drinking water threats. Task scope will be refined when more information and direction are available.
Establishing timelines for policy implementation	\$0	\$0	2011-Sep-01 to 2012-Jan-20	KCCA	Task scope will be refined when detailed requirements and guidance are available.
Other Source Protection Plan Preparation Task	\$0	\$0	2010-Jan-20 to 2012-Jan-20	GRCA	Elgin Area Primary Water Supply services municipalities in Catfish Creek and Long Point Region SP Areas. Ensure that consultation takes place to develop policies acceptable to each municipality and Source Protection Area.
TOTAL	\$0	\$85,000			

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APPENDIX B

FULL TASK DESCRIPTIONS

Full Task Descriptions

Subject Area	Task Name	Full Task Description
Assessment Report Preparation	Coordinating and supporting projects for the assessment report	Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the assessment report components and direct support to the source protection committee.
Assessment Report Preparation	Undertaking communications initiatives for the assessment report	Local area engagement, outreach and creation of communications products that support the assessment report process.
Assessment Report Preparation	Information management for the assessment report preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.
Assessment Report Preparation	Undertaking a watershed characterization	Identifying and describing watersheds in the source protection area. May include water quality analysis and peer review for water quality analysis. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a conceptual water budget	Describing the overall flow system dynamics for each watershed in the source protection area taking into consideration surface water and groundwater features, land cover (e.g. proportion of urban vs. rural uses), human-made structures (e.g. dams, channel diversions, water crossings), and water takings. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 1 water budget analysis and stress assessment	Conducting a tier 1 water budget analysis, stress assessment, and delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 2 water budget analysis and stress assessment	If determined necessary from a tier 1 water budget analysis and stress assessment, conducting a tier 2 water budget analysis and stress assessment, and refining the delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Conducting a tier 3 water budget analysis and water quantity risk assessment	If determined necessary from a tier 2 water budget analysis and stress assessment, conducting a tier 3 water budget analysis and water quantity risk assessment. May include identifying significant, moderate and low water quantity

Subject Area	Task Name	Full Task Description
		threats. May also include consultation with property owners/residents/stakeholders impacted by a significant drinking water threat scoring and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Delineating and applying vulnerability scores to HVAs	Delineating the location and extent of highly vulnerable aquifers in the source protection area and applying vulnerability scores. An uncertainty analysis may be included in this task. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in HVAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assessing risks in HVAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Applying vulnerability scores to SGRAs	Applying vulnerability scores to significant groundwater recharge areas in the source protection area (delineated in the water budget process). Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in SGRAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assessing risk in SGRAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.

Subject Area	Task Name	Full Task Description
Assessment Report Preparation	Delineating and applying vulnerability scores to WHPAs	Delineating the location and extent of the vulnerable area around a drinking water system (wellhead protection areas for drinking water systems using groundwater or intake protection zones for drinking water systems withdrawing from surface water) in the source protection area and applying a vulnerability score. Uncertainty analysis and peer review may be required. In addition, consultation with property owners/residents/stakeholders affected by the delineation and scoring for these two vulnerable areas may be required. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Identifying issues, inventorying threats and assessing hazards in WHPAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in wellhead protection areas and/or intake protection zones. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Assess risk in WHPAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in wellhead protection areas or intake protection zones. Consultation may be required with stakeholders impacted by significant drinking water threats scoring. Consultation with adjacent source protection areas or regions may also be required for shared Great Lakes drinking water issues. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Consultation on the overall proposed assessment report	Meeting the legislative and regulatory requirements on the consultation and submission process of the proposed assessment report. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.
Assessment Report Preparation	Other Assessment Report Preparation Task:	If required, add other tasks to complete the assessment report. Describe in detail.
Source Protection Plan Preparation	Coordinating and supporting projects for the source protection plan (SPP)	Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the source protection plan components and direct support to the source protection committee.
Source Protection Plan Preparation	Undertaking communications initiatives for the source protection plan	Local area engagement, outreach and creation of communications products that support the source protection plan process.

Subject Area	Task Name	Full Task Description
Source Protection Plan Preparation	Information management for source protection plan preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.
Source Protection Plan Preparation	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Policy development to address drinking water threats (where required and/or permissible in the Act and source protection plan regulation). Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Policy development for monitoring activities (where required, advisable and/or permissible in the Act and source protection plan regulation), including determining who is responsible for implementing these policies. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Policy development for Great Lakes associated elements (where directed by the Minister and required or permissible in the Act and source protection plan regulation), including monitoring policies to assist in implementing and determining the effectiveness of achieving Great Lake target(s) policies, determining who is responsible for implementing those policies, and determining the need to identify any of these policies as "designated Great Lakes policies". Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Establishing timelines for policy implementation	Establishing timelines for policy implementation after all policies for the SPP are developed, giving consideration to the policies developed, key players affected, capacity for implementation, the assessed risks, and natural, social, and economic considerations, including local community interests/needs. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Consultation on the overall proposed source protection plan	Consultation and submission process of the overall proposed source protection plan. Details on how to conduct the consultations on the overall proposed source protection plan will be provided in the Source Protection Plan regulation and guidance document when they are developed.
Source Protection Plan Preparation	Other Source Protection Plan Preparation Task:	If required, add other tasks to complete the source protection plan. Describe in detail.

APPENDIX C

SUMMARY OF ESTIMATED COSTS FOR MUNICIPAL AND WATERSHED-WIDE TASKS

Kettle Creek Source Protection Area

Summary of Estimated Costs for Municipal and Watershed-wide Tasks

Watershed Wide			
Task	Costs of Work Completed or In Progress	Costs of Work Remaining	Total
Coordinating and supporting projects for the assessment report	\$124,000.00	\$126,200.00	\$250,200.00
Undertaking communications initiatives for the assessment report	\$1,200.00	\$3,000.00	\$4,200.00
Information management for the assessment report preparation	\$13,000.00	\$3,200.00	\$16,200.00
Undertaking a watershed characterization	\$1,700.00	\$0.00	\$1,700.00
Conducting a conceptual water budget	\$14,700.00	\$0.00	\$14,700.00
Conducting a Tier 1 water budget analysis	\$0.00	\$0.00	\$0.00
Conducting a Tier 2 water budget analysis	\$63,500.00	\$0.00	\$63,500.00
Conducting a tier 3 water budget analysis and water quantity risk assessment	\$0.00	\$0.00	\$0.00
Delineating and applying vulnerability scores to Highly Vulnerable Aquifer areas	\$11,700.00	\$100.00	\$11,800.00
Identifying issues, inventorying threats and assessing hazards in Highly Vulnerable Aquifer Areas	\$0.00	\$0.00	\$0.00
Assessing risks in Highly Vulnerable Aquifer Areas	\$0.00	\$0.00	\$0.00
Peer review on vulnerability analysis, issue analysis, hazard analysis, and water quality risk assessment for WHPA and IPZ	\$700.00	\$36,000.00	\$36,700.00
Assessment Report Compilation	\$0.00	\$7,500.00	\$7,500.00
Consultation on the overall proposed assessment report	\$0.00	\$0.00	\$0.00
Coordinating and supporting projects for the source protection plan (SPP)	\$0.00	\$176,600.00	\$176,600.00
Undertaking communications initiatives for the source protection plan	\$0.00	\$4,100.00	\$4,100.00
Information management for source protection plan preparation	\$0.00	\$4,300.00	\$4,300.00
Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	\$0.00	\$24,800.00	\$24,800.00
Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	\$0.00	\$9,300.00	\$9,300.00
Policy development for Great Lakes elements (where required/permissible in Act & Regs)	\$0.00	\$0.00	\$0.00
Establishing timelines for policy implementation	\$0.00	\$0.00	\$0.00
Source Protection Plan Compilation	\$0.00	\$0.00	\$0.00
Consultation on the overall proposed source protection plan	\$0.00	\$0.00	\$0.00
TOTAL	\$230,500.00	\$395,100.00	\$625,600.00

Municipal			
Task	Costs of Work Completed or In Progress	Costs of Work Remaining	Total
Delineating and applying vulnerability scores to all Wellhead Protection Areas	\$148,000.00	\$28,000.00	\$176,000.00
Identifying issues, inventorying threats and assessing Hazards in Wellhead Protection Areas	\$81,500.00	\$57,500.00	\$139,000.00
Assess risk in Wellhead Protection Areas	\$11,000.00	\$20,000.00	\$31,000.00
Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	\$0.00	\$85,000.00	\$85,000.00
Policy development for monitoring drinking water threats or issues (where required, advisable and/or permissible in Act & Regs)	\$0.00	\$35,000.00	\$35,000.00
Establishing timelines for policy implementation	\$0.00	\$0.00	\$0.00
Other Source Protection Plan Preparation Task: Cross-Municipal Boundary Matters	\$0.00	\$0.00	\$0.00
TOTAL	\$240,500.00	\$225,500.00	\$466,000.00

APPENDIX D

TASK TIMELINE

TASK TIMELINES																																				
Tasks	2004/2005				2005/2006				2006/2007				2007/2008				2008/2009				2009/2010				2010/2011				2011/2012				2012/2013			
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar				
Terms of Reference Development																																				
Submission of Terms of Reference to Minister																																				
Submission of Assessment Report to Director																																				
Submission of Source Water Protection Plan to Minister																																				
Coordinating and supporting projects for the assessment report																																				
Undertaking communications initiatives for the assessment report																																				
Information management for the assessment report preparation																																				
Undertaking a watershed characterization																																				
Conducting a conceptual water budget																																				
Conducting a Tier 2 water budget analysis																																				
Delineating and applying vulnerability scores (WHPAs & IPZs)																																				
Delineating and applying vulnerability scores (HVAs)																																				
Identifying issues, inventorying threats and assessing hazards (WHPAs & IPZs)																																				
Identifying issues, inventorying threats and assessing hazards (HVAs)																																				
Risk Assessment (WHPAs & IPZs)																																				
Risk Assessment (HVAs)																																				
Peer review on vulnerability analysis, issue analysis, hazard analysis, and water quality risk assessment for WHPA and IPZ																																				
Assessment Report Compilation																																				
Consultation on the overall proposed assessment report																																				
Coordinating and supporting projects for the Source Protection Plan																																				
Undertaking communications initiatives for the source protection plan																																				
Information management for source protection plan preparation																																				
Policy development to address drinking water threats																																				
Policy development for monitoring drinking water threats or issues																																				
Policy development for Great Lakes elements																																				
Establishing timelines for policy implementation																																				
Source Protection Plan Compilation																																				
Consultation on the overall proposed source protection plan																																				
Cross-Municipal Boundary Matters																																				

APPENDIX E

PROCESS CHECKLIST

Process Checklist

Regulatory Process	Completion Date	Done By
Notify municipal clerks on the commencement of the terms of reference.	2008-Feb-27	SP Committee
Notify band Chiefs on the commencement of the terms of reference.	2008-Mar-20	SP Committee
Give copy of draft proposed ToR to groups created pursuant to Great Lakes Water Quality Agreement & involved in developing/implementing RAPs & LaMPs.	2008-Sep-05	SP Committee
Make the draft proposed terms of reference available at other locations.	2008-Sep-05	SP Committee
Notice for consultation on draft proposed ToR includes information on public meeting scheduled at least 21 days after newspaper notice is published.	2008-Sep-05	SP Committee
Notice for consultation on draft proposed ToR includes requests for comments submitted within 35 days of notice published in the newspaper.	2008-Sep-05	SP Committee
Post draft proposed terms of reference on Internet.	2008-Sep-05	SP Committee
Provide a copy of draft proposed terms of reference to the clerks of municipalities located in the source protection area.	2008-Sep-05	SP Committee
Provide a copy of draft to the chiefs of bands whose reserves are located in the source protection area.	2008-Sep-05	SP Committee
Provide copy of draft proposed ToR to chairs of SPCs who have been listed in table that describes matters that affect other source protection areas.	2008-Sep-05	SP Committee
Publish newspaper notice to publicly view draft proposed ToR on Internet and at other locations (as determined by the source protection committee).	2008-Sep-05	SP Committee
Make provisions to consider Great Lakes Agreements.	2008-Nov-05	SP Committee
Municipal council resolutions have been passed agreeing upon work.	2008-Nov-05	SP Committee
Make the proposed terms of reference available at other locations.	2008-Nov-07	SP Committee
Post proposed terms of reference on the Internet for 30 days.	2008-Nov-07	SP Committee
Provide a copy of proposed terms of reference to the chiefs of bands whose reserves are located in the source protection area.	2008-Nov-07	SP Committee
Provide a copy of proposed terms of reference to the clerks of municipalities located in the source protection area.	2008-Nov-07	SP Committee
Provide a copy of proposed terms of reference to the source protection authority.	2008-Nov-07	SP Committee
Provide any unresolved comments from municipalities and bands to the source protection authority on the draft proposed terms of reference.	2008-Nov-07	SP Committee
Receive comments from the 30 day Internet posting from the public, municipalities, bands, and other stakeholders.	2008-Nov-07	SP Authority
Give a copy of the comments on proposed terms of reference to the source protection committee.	2008-Dec-08	SP Authority
Provide any unresolved comments from municipalities and bands to the Minister as part of the approval package for the proposed terms of reference.	2008-Dec-20	SP Authority