REGIONAL MUNICIPALITY OF WATERLOO
PLANNING AND WORKS COMMITTEE
AGENDA

Tuesday, August 14, 2012
12:30 P.M.
Regional Council Chamber
150 Frederick Street, Kitchener, Ontario

1. MOTION TO RECONVENE IN OPEN SESSION

2. DECLARATIONS OF PECUNIARY INTEREST UNDER THE MUNICIPAL CONFLICT OF INTEREST ACT

3. DELEGATIONS (1:00 P.M.)
   a) Shane Mulligan, Local Initiative for Future Energy Co-operative Re: Request for Council’s support for renewable energy projects under the feed-in Tariff

4. REPORTS – TRANSPORTATION AND ENVIRONMENTAL SERVICES
   DESIGN AND CONSTRUCTION
   a) CR-RS-12-048, Authorization to Expropriate Lands (2nd Report) for Weber Street West Grade Separation and Road Improvements (College Street to Guelph Street), in the City of Kitchener
   b) E-12-073, Consultant Selection – Preliminary Design, Detailed Design and Construction Administration and Inspection Services, Bridge Street Reconstruction, University Avenue to Woolwich Street, City of Waterloo and City of Kitchener
   c) E-12-079, Consultant Selection – Preliminary Design, Detailed Design and Construction Administration and Inspection Services, Reconstruction of St. Andrews Street (Grand Avenue Southerly to Cambridge Boundary) and Cedar Street (Osborne Street Westerly to Cambridge Boundary), City of Cambridge
   d) E-12-080, Concrete Coating Systems for Regional Bridges - Research and Testing Results
   RAPID TRANSIT
   e) CR-RS-12-049, Authorization to Expropriate Lands (2nd Report) with respect to Phase 1 of Rapid Transit Project Stage 1 for Property and Interests on King Street South from John Street in the City of Waterloo to King Street West at Victoria Street in the City of Kitchener
f) **CR-RS-12-051**, Authorization to Expropriate Lands (1st Report) Designated as Phase II of Stage 1 of the Rapid Transit Project relating to Property and Interests from Eby Street South between Charles Street East and King Street East in the City of Kitchener to Borden Avenue South and Ottawa Street South in the City of Kitchener

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<th>Date</th>
<th>Time</th>
<th>Description</th>
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<tr>
<td>Sep. 11, 2012</td>
<td>1:00 P.M.</td>
<td>Planning and Works Committee</td>
<td>Council Chamber 2nd Floor, Regional Administration Building 150 Frederick Street Kitchener, Ontario</td>
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<tr>
<td>Sep. 25, 2012</td>
<td>1:00 P.M.</td>
<td>Planning and Works Committee</td>
<td>Council Chamber 2nd Floor, Regional Administration Building 150 Frederick Street Kitchener, Ontario</td>
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Planning, Housing and Community Services

Transportation and Environmental Services
August 7, 2012

Dear Mr Seiling and Council,

As you may be aware, in May 2009 the Province of Ontario established the "Green Energy and Green Economy Act" and a Feed in Tariff (FIT) program was implemented by the Ontario Power Authority (OPA).

The FIT program offers stable pricing under long-term OPA contracts and provides incentives for individuals, co-ops and corporations to develop renewable energy (RE) projects. To date the FIT program has created thousands of new jobs and has drawn billions of dollars of investment into Ontario.

The new FIT 2.0 program (the next version) will be launched shortly. As part of FIT 2.0, the Province of Ontario and OPA will award contracts based upon a “priority points” system. Points will be granted to an application if it is supported by the Municipality within which the project is located, by means of a Municipal Council Support Resolution or Blanket Support Resolution. The standard forms issued by the OPA for Council Endorsement are attached as Appendices of the City of London’s staff recommendation (approved by that Council in July 2012).

The priority points system will also allot points to community participation, in particular to projects with 15% to 50% equity investment from either a first nation or of a co-operative corporation which has among its membership 35 or more landowners who are resident in the municipality where the project is located (50 or more members are required for larger projects > 500kW).

There are at present at least two co-ops centered in Waterloo Region which may avail of these new FIT rules.

1) Local Initiative for Future Energy Co-operative was incorporated in 2006 with the objective of enabling community investment in renewable energy. LIFE now has over 120 members, 90 of whom are residents in Waterloo Region. As such, LIFE is in a position to contribute community equity points to projects, and is currently developing a portfolio of projects in collaboration with other developers and co-operatives.

2) The Solar City Co-op, incorporated in 2012, aims to facilitate RE projects by creating “project co-ops” that will focus investment in specific projects (as
opposed to a portfolio). SCC will focus on projects in which the membership is thus closely connected to the project site (as the employees in a company, or the residents of a housing complex).

On behalf of LIFE Co-op, I am requesting that Council provide its support to community-led projects and projects with significant community equity. We feel this will help the aforementioned co-ops in developing appropriate partnerships with developers, thereby enabling broader community investment in RE in the region.

We are requesting that Council provide support for any rooftop or ground-mounted solar projects located within the Region with substantial community participation, evidenced by the intent to secure 15-50% or more community equity in the project. We would also recommend that Council support renewable energy projects involving local charities and not-for-profit groups as projects hosts or owners.

By supporting the development of RE, Council will contribute to the aims of the Regional Official Plan, reducing carbon emissions while stimulating local commerce and participatory local investment. On the other hand, if Council does not resolve to support RE projects, these benefits are likely to pass to residents and businesses in other municipalities.

Attached are resolutions recently enacted by other municipal governments in the cities of Cambridge, London, and Sudbury, Ontario. As you can see, these vary somewhat in their details and recommendations. In particular, the City of Cambridge has placed limitations on the support it will give, based largely on the siting of the project and local zoning; along with London, Cambridge has delegated the assessment and approvals to staff (under certain conditions); and Sudbury has given a blanket approval for all forms of renewable energy projects. The staff recommendation to the City of London contains valuable background information on the FIT program and the new rules that may help your deliberations, along with the prescribed forms of the Resolutions as given by the Ontario Power Authority.

Because of timing constraints and a limited window of opportunity, we respectfully request that this endorsement be passed at the very next Council meeting. The endorsement should cover all community-oriented solar PV projects for a period of 12 months after adoption by Council.

Thank you very much for your time and consideration. We look forward to your support on this matter.

Shane Mulligan, PhD
Project Manager
Local Initiative for Future Energy Co-operative
APPENDIX “A”

City of Cambridge
Solar Infrastructure Protocol

The purpose of this protocol is to provide a framework for responding to requests for Council resolutions of support for solar infrastructure projects as required by the Ontario Power Authority. This protocol recognizes that any resolution adopted by Council or Council’s refusal to adopt a resolution of support does not affect the ability of the project to proceed under the Green Energy Act.

The objectives of this protocol include the following:

1. To provide a reasonable, consistent and timely process for the issuance of Council resolutions in support of the installation of solar infrastructure projects including rooftop and ground mount projects.
2. To work co-operatively with proponents, companies and landowners to facilitate the issuance of Council resolutions of support where the project meets the protocol.
3. To encourage the location and siting of solar energy infrastructure in a manner which minimizes visual impact.
4. To identify appropriate building types and locations where solar energy infrastructure should be located.
5. To provide an appropriate opportunity for municipal consultation for solar energy infrastructure that will be located in residential areas, core areas or on heritage structures.

Scope & Exemptions

This policy applies to all solar energy infrastructure in the City of Cambridge. It is acknowledged that under the Green Energy and Green Economy Act (2009), renewable energy projects are exempt from municipal requirements and regulations and that the municipality can only support such installations and not regulate or refuse to allow such installations.

For the purposes of interpretation of this protocol, the following installations shall be exempt from municipal review and Council resolutions of support shall be issued upon written request of the proponent.

1. Solar energy infrastructure that is located on the rooftop of existing buildings located in areas designated for industrial development;
2. Solar energy infrastructure located in the rear yard or side yard of a property designated for industrial uses where it is not visible from an existing street or intersection.
3. Solar energy infrastructure located on the rooftop of an existing or proposed building designated in the Official Plan and/or zoned for institutional or commercial uses.
4. Solar energy infrastructure may be permitted in locations other than rooftops on lands designated and/or zoned for institutional or commercial use provided a site plan with photos showing the visual impact are submitted and approved by Council prior to the adoption of a resolution of support.

5. Solar energy infrastructure may be supported on residential structures provided that a site plan showing the visual impact and elevations of the building and system are provided and approved by Council.

6. Requests for Council resolutions of support for properties located in residential areas, core areas and/or on heritage buildings will require a separate report to Council.

**Design Guidelines**

The following design guidelines should be taken into consideration when reviewing requests for a Council resolution in support of the installation of solar energy infrastructure.

1. Solar energy infrastructure should be mounted on the rooftop of an industrial, institutional and/or commercial building and should not be visible from the street or adjacent buildings. The rooftop installation should be set back the roof edge, wherever practical, to minimize its visual impact from the street.

2. Rooftop solar energy infrastructure should be screened where feasible to ensure integration into the rooftop architecture.

3. Solar energy installations not located on rooftops should be located in side and/or rear yards where they are not visible to the street or neighbouring property.

4. The location of the solar infrastructure should be sympathetic to the architecture and built form of the building.

5. In order to obtain a resolution of support for solar infrastructure projects, the municipality may require the proponent to submit a plan showing the location and dimensions of the infrastructure including photos showing the before and after visual impacts.

**Approval Process**

The City will prepare a formal application for proponents to request a Council Resolution of Support. Applications for the issuance of a Council resolution in support of the installation of solar energy infrastructure are to be submitted to the attention of the City’s Commissioner of Planning Services.

The application will require the proponent to identify the property on which the solar infrastructure is to be located, provide pictures of the existing building, provide pictures of the nature of the solar infrastructure and a photo showing the building once the infrastructure has been installed from the nearest street or neighbouring property. Where the request meets the requirements of this protocol and is located on the rooftop of an existing industrial, commercial and/or institutional and will not have any visual impacts, City Staff will be delegated the authority to issue the resolution.

Where the proposal for solar energy infrastructure is part of a new development and subject to an Official Plan amendment, zoning by-law amendment and/or site plan approval process, the location and conformity with the protocol shall be dealt with through the site plan approval process. The resolution of support shall be issued as part of that process.
Although the installation of solar energy infrastructure is not subject to municipal regulations or approval processes and as such are not required to obtain site plan approval under the Planning Act, the City’s Site Plan application process is an existing process which affords the City an opportunity to review and comment on new solar infrastructure installations as part of the review process for the site and buildings.

Conclusions

The City’s Commissioner of Planning Services will provide the Proponent and the Ontario Power Authority with Council’s resolution of support for each project that meets the criteria in the protocol and/or has been approved by Council. If the proposal does not conform with the City’s requirements and/or is located in a residential area, core area and or is a heritage structure, a report to Council will be prepared to seek direction as set out in this Protocol.
That, on the recommendation of the Director of Development & Compliance & Chief Building Official the following report **BE RECEIVED** for information regarding proposed changes (Program Rules) to the Feed-in-Tariff (FIT) Program operated by the Ontario Power Authority (OPA); and that Civic Administration **BE DIRECTED** to:

a) Undertake the process described in the recommendations below when the Draft FIT Program Rules (April 5, 2012), which are designed to assist renewable energy project developers obtain timely Municipal Council Support Resolutions, are finalized in the very near future; it being noted that if the FIT Program Rules are substantially changed when finalized, City staff will revise these recommendations and resubmit, if required;

b) Coordinate and review all requests for a Municipal Council Support Resolution and determine if the request falls into Category 1 Projects (all rooftop solar anywhere in London), Category 2 Projects (ground-mounted solar at specific locations in London) or Category 3 Projects (significant FIT projects such as wind, biomass and biogas at specific locations in London) **BE APPROVED**;

c) For Category 1 Projects, the proposed resolution that the construction and operation of rooftop solar projects, having little or no potential for impacts on adjacent properties, be supported without reservation anywhere in London where permitted by the Province of Ontario’s Feed-In Tariff (FIT) Program rules **BE APPROVED** as set out in the Municipal Council Blanket Support Resolution attached hereto as Appendix “A”;

d) For Category 2 Projects, the proposed resolution that the construction and operation of ground-mounted solar projects, having little or no potential for impacts on adjacent properties, be supported at a specific location(s) identified by the project developer where permitted by the Province of Ontario’s Feed-In Tariff (FIT) Program rules **BE APPROVED** as at two step process:

i) Staff prepare a recommendation report to Planning & Environment Committee commenting on the proposed location,

ii) If supported by staff, submit a Municipal Council Support Resolution attached hereto as Appendix “B” as part of the report to Planning & Environment Committee;

e) For Category 3 Projects, staff will review and offer recommendations to Council on the required steps for undertaking these types of projects and opportunities for a Municipal Council Support Resolution **BE APPROVED**;

f) Coordinate the Municipal Council Support Resolution process through the Land Use Planning Division noting that liaison will take place with staff from Development & Compliance and Environmental & Engineering Services; and

g) the Mayor and City Clerk **BE AUTHORIZED** to sign any requested Council Resolution for Category 1 Projects using the Municipal Council Blanket Support Resolution (Appendix “A”), noting that these recommendations are solely for the purpose of enabling an applicant to the FIT Program to receive priority points under the new FIT Program rules, and may not be used for the purpose of any other form of municipal approval in relation to the application or project or any other purpose.
PREVIOUS REPORTS PERTINENT TO THIS MATTER

None

BACKGROUND

PURPOSE

The purpose of this report is to:

- highlight the proposed changes with the Provincial Government Feed-in-Tariff (FIT) Program operated by the Ontario Power Authority (Appendix "C")..

- establish a process to provide a Municipal Council Blanket Support Resolution to proponents of rooftop solar projects without the need for Administration and Council to review each individual project proposal; noting that the Support Resolution is solely for the purpose of enabling an applicant to the FIT Program to receive priority points under the new FIT Program rules, and may not be used for the purpose of any other form of municipal approval in relation to the application or project or any other purpose. Rooftop solar projects are considered Category 1 Projects.

- establish a review process to provide a Municipal Council Support Resolution to proponents of ground-mounted solar projects for the purpose of enabling an applicant to the FIT Program to receive priority points under the new FIT Program rules, and may not be used for the purpose of any other form of municipal approval in relation to the application or project or any other purpose. Ground-mounted solar projects are considered Category 2 Projects.

- identify the need for a review and approval process for all other renewable electricity generation proposals before a Municipal Council Support Resolution can be provided.

CONTEXT

The Ontario FIT Program applies to projects that are larger than 10 kilowatts in nameplate capacity. Projects at this scale are typically associated with commercial, institutional, industrial, and high-density residential properties. Projects on low-density residential rooftops are smaller than 10 kilowatts, and fall under the separate microFIT program. As part of the province of Ontario’s review of the FIT Program, the Ministry of Energy has proposed changes to the program that would prioritize proposals based on a new, ten-point system:

<table>
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<tr>
<th>Applicant Type</th>
<th>Local Participation Level</th>
<th>Points</th>
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<tr>
<td>Local Community with minimum 15% equity</td>
<td>Project includes 50 or more property owners who live in the municipality where the project is located</td>
<td>3</td>
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<tr>
<td>Aboriginal with minimum 15% equity</td>
<td>N/A</td>
<td>3</td>
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<tr>
<td>Public Schools, Colleges, Universities, Hospitals &amp; Long-Term Care Facilities with minimum 15% equity or project host</td>
<td>N/A</td>
<td>2</td>
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<tr>
<td>Other participants</td>
<td>N/A</td>
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**Additional Points**

- Municipal Council Support Resolution | 2
- Aboriginal Community Support Resolution | 2
- Project Readiness | 2
- System Benefit (water and bioenergy) | 1

These proposed changes were expected to come into effect in June 2012 but have been further delayed.

Staff anticipate that a significant number of requests for municipal council support could be received within a relatively short time frame this summer. Most of these are likely to focus on rooftop solar projects. To date, City staff and the Mayor have already received a number of such requests and/or inquiries about the process.

The Ontario Power Authority has also anticipated these requests for municipal council support, and have prepared templates for both a Municipal Council Blanket Support Resolution and a project-specific Municipal Council Support Resolution. City staff have amended the templates with details provided below.

It is also important to note that it is not mandatory for a private-sector project developer to obtain a Municipal Council Support Resolution in order to submit an application to the FIT Program.

**DISCUSSION**

The City of London, through the Rethink Energy London public engagement and action plan, has been an active supporter of sustainable energy initiatives. The City has developed its own renewable electricity generation projects at Tourism London, and provided financial and technical support for the community-led rooftop solar project at Landon Library. The City and has also partnered with London Hydro for the installation of ground-mounted solar tracking arrays at five locations across London.

To expedite the process of to receive Municipal Council Support Resolutions, City staff are recommending that three project categories be established to ensure that project developers receive timely support from City staff and receive the Council Resolution for appropriate projects.

<table>
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<tr>
<th>Category 1 Projects – Any Rooftop Solar Project</th>
<th>In terms of those projects that warrant inclusion in a Municipal Council Blanket Support Resolution, City staff recommend that rooftop solar projects be included whether they have a specific address or not. All rooftop solar blankets should be provided a blanket Council Support Resolution (Appendix “A”) because these types of installations already exist across London and are encouraged by the Provincial Government through the FIT Program. It is anticipated that 90% of the requests will fall into this category.</th>
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<tr>
<td>Category 2 Projects – Ground-mounted Solar Project with a Specific Location</td>
<td>Ground-mounted projects require additional investigation by City staff prior to concurring that it is an appropriate location. In addition, it is not recommended that ground-mounted locations can be at any location in London. A two step process would be followed for this category of projects: i) Staff prepare a recommendation report to Planning &amp; Environment Committee commenting on the proposed location, ii) If supported by staff, submit a Municipal Council Support Resolution attached hereto as Appendix “B” as part of the report to Planning &amp; Environment Committee;</td>
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<td>Category 3 Projects – all Other Renewable Electricity Projects</td>
<td>Proponents may seek a Municipal Council Support Resolution for projects identified by OPA that require substantially more review and analysis such as: • on-shore wind projects on agricultural-zoned land anywhere in the City of London • biomass-fuelled Projects on agricultural-zoned land or industrial-zoned land anywhere in the City of London; and • biogas-fuelled Projects on agricultural-zoned land or industrial-zoned land anywhere in the City of London. Additional work would be completed and reported to the Planning &amp; Environment Committee. It is worth noting that projects undertaken on municipal properties such as the W12A Landfill, pollution control plants, or municipal buildings are already required to obtain project-specific approval of Municipal Council.</td>
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Process Coordination

Staff from Development & Compliance will coordinate the process for the City of London. As required, liaisons will take place with staff from Land Use Planning and Environmental & Engineering Services. This process will ensure timely responses to these requests as it is anticipated that a very short time frame will exist between the request and when the project developer needs to pull together all the necessary points to submit with their application to the OPA.

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<tr>
<td>JAMIE SKIMMING, P.ENG.</td>
<td>JAY STANFORD, M.A., M.P.A.</td>
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<tr>
<td>MANAGER, AIR QUALITY</td>
<td>DIRECTOR, ENVIRONMENT, FLEET &amp;</td>
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<tr>
<td>JOHN M. FLEMING, MCIP, RPP</td>
<td>JOHN BRAAM, P.ENG.</td>
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<tr>
<td>DIRECTOR OF LAND USE PLANNING &amp; CITY PLANNER</td>
<td>ACTING EXECUTIVE DIRECTOR, PLANNING, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</td>
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<td>GEORGE KOTSIFAS, P.ENG.</td>
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<tr>
<td>DIRECTOR OF DEVELOPMENT &amp; COMPLIANCE &amp; CHIEF BUILDING OFFICIAL</td>
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Appendix A Municipal Council Blanket Support Resolution

Appendix B Project-Specific Municipal Council Support Resolution

Appendix C Feed-in Tariff Program Review – April 5, 2012 Letter from Minister of Energy, Chris Bentley

c: Vinay Sharma, P.Eng, Chief Executive Officer, London Hydro
APPENDIX A

MUNICIPAL COUNCIL BLANKET SUPPORT RESOLUTION
(Section 6.1(c)(i) - FIT Rules, Version 2.0)

RESOLUTION NO.: ____________________________ DATE: __________________

WHEREAS the Province's FIT Program encourages the construction and operation of rooftop solar projects.

AND WHEREAS one or more rooftop solar project may be constructed and operated in the City of London, Ontario.

AND WHEREAS, pursuant to the rules governing the FIT Program (the “FIT Rules”), Applications whose Projects receive the formal support of Municipalities will be awarded priority points, which may result in these Applicants being offered a FIT Contract prior to other persons applying for FIT Contracts;

NOW THEREFORE BE IT RESOLVED THAT:

Council of the City of London supports without reservation the construction and operation of:

• rooftop solar projects anywhere in the City of London;

This resolution’s sole purpose is to enable the participants in the FIT Program to receive priority points under the FIT Program and may not be used for the purpose of any other form of municipal approval in relation to the Application or Projects or any other purpose.

This resolution shall expire twelve (12) months after its adoption by Council.

___________________________ Date:________________________
Joe Fontana
Mayor

___________________________ Date:________________________
Catharine Saunders
City Clerk
MUNICIPAL COUNCIL SUPPORT RESOLUTION  
(Section 6.1(c)(i) - FIT Rules, Version 2.0)

RESOLUTION NO.: ___________________________  DATE: _________________

WHEREAS [insert name of applicant] (the "Applicant") proposes to construct and operate a ground mount solar project (the "Project") on [insert description of the lands] (the "Property") in the City of London, Ontario under the Province's FIT Program.

AND WHEREAS the Applicant has requested that Council of the City of London indicate by resolution Council's support for the construction and operation of the Project on the Property.

AND WHEREAS, pursuant to the rules governing the FIT Program (the "FIT Rules"), Applications whose Projects receive the formal support of Municipalities will be awarded priority points, which may result in the Applicant being offered a FIT Contract prior to other persons applying for FIT Contracts;

NOW THEREFORE BE IT RESOLVED THAT:

Council of the City of London supports the construction and operation of the Project on the Lands.

This resolution’s sole purpose is to enable the Applicant to receive priority points under the FIT Program and may not be used for the purpose of any other form of municipal approval in relation to the Application or Project or any other purpose.

This resolution shall expire twelve (12) months after its adoption by Council.

___________________________ Date:________________________
Joe Fontana
Mayor

___________________________ Date:________________________
Catharine Saunders
City Clerk
APPENDIX C

FEED-IN TARIFF PROGRAM REVIEW - APRIL 5, 2012 LETTER FROM MINISTER OF ENERGY, CHRIS BENTLEY
June 18, 2012

Janet Gasparini  
Social Planning Council  
of Sudbury  
30 Ste Anne Road, Suite 105  
Sudbury, ON  P3C 5E1

Dear Ms. Gasparini:

Re: Community Based Power Projects through FIT Program

The following resolution #CC2012-217 was passed by Council of the City of Greater Sudbury on June 12, 2012:

WHEREAS the Province's Feed-in Tariff (FIT) Program encourages the construction and operation of rooftop solar, ground mount solar generation and on-shore wind projects (the "Projects");

AND WHEREAS one or more Projects may be constructed and operated in the City of Greater Sudbury;

AND WHEREAS, pursuant to the rules governing the FIT Program (the "FIT Rules"), applications whose Projects receive the formal support of Municipalities will be awarded priority points, which may result in these Applicants being offered a FIT Contract prior to other persons applying for FIT Contracts;

THEREFORE BE IT RESOLVED THAT the Council of the City of Greater Sudbury support, in principle, the construction and operation of Community Based Power Projects in the City of Greater Sudbury;

BE IT FURTHER RESOLVED THAT this resolution's sole purpose is to enable the participants in the FIT Program to receive priority points under the FIT Program, and may not be used for the purpose of any other form of municipal approval in relation to the Application or Projects or any other purpose;

AND BE IT FURTHER RESOLVED THAT this resolution shall expire twelve (12) months after its adoption by Council.

Yours truly,

[Signature]

Franca Bortolussi  
Council Assistant

cc: Councillor Dave Kilgour
Councillor Josh Matlow, seconded by Councillor Mike Layton, recommends that:

1. City Council support the construction and operation of the rooftop solar generation projects in the Province's Feed in Tariff (FIT) Program across the City of Toronto, subject to review by staff.

2. City Council confirm that this resolution’s sole purpose is to enable the participants in the FIT Program to receive priority points under the FIT Program and may not be used for the purpose of any other form of municipal approval in relation to the Application or Projects or any other purpose.

3. City Council confirm that this support shall expire twelve (12) months after adoption of this Motion by City Council.

Summary
The Province's Feed in Tariff (FIT) Program encourages the construction and operation of rooftop solar generation projects (the "Projects").

One or more Projects may be constructed and operated in the City of Toronto.

Pursuant to the rules governing the FIT Program (the “FIT Rules”), Applications whose Projects receive the formal support of Municipalities will be awarded priority points, which may result in these Applicants being offered a FIT Contract prior to other persons applying for FIT Contracts.

This Motion is urgent as Council will not meet again until October 2012 and it is anticipated that many of these requests for endorsement will be received over the summer.

(Submitted to City Council as MM25.56)
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: L07-90

SUBJECT: AUTHORIZATION TO EXPROPRIATE LANDS (2ND REPORT) FOR WEBER STREET WEST GRADE SEPARATION AND ROAD IMPROVEMENTS (COLLEGE STREET TO GUELPH STREET), IN THE CITY OF KITCHENER

RECOMMENDATION:

THAT Council of the Regional Municipality of Waterloo approve the expropriation of lands for the purpose of reconstruction of Weber Street West between College Street and Guelph Street, in the City of Kitchener, in the Region of Waterloo as detailed in Report CR-RS-12-048 dated August 14, 2012, described as follows:

Fee Simple Partial Taking:

a) Part of Lot 394, Plan 376, being Part 1 on Reference Plan 58R-17282, City of Kitchener, P.I.N. 22319-0047 (LT) (178 Louisa Street)
b) Part of Lot 16, Registered Plan 374, being Parts 1 and 2 on Reference Plan 58R-17285, City of Kitchener, P.I.N. 22319-0176 (R) and 22319-0175 (LT) (84 Victoria Street North)
c) Part of Lot 8 and 9, South side of Weber Street and West side of College Street, Plan 401, being Part 1 on Reference Plan 58R-17284 and Part 1, on Reference Plan 58R-17378, City of Kitchener, P.I.N. 22317-0073 (LT) (79-85 Weber Street West)
d) Part of Lot 17, Registered Plan 374, being Part 1 on Reference Plan 58R-17283, City of Kitchener, P.I.N. 22320-0071 (LT) (122 Weber Street West/ 110 Victoria Street North)
e) Part of Lot 3, Plan 131, being Part 1 on Reference Plan 58R-17363, City of Kitchener, P.I.N. 22325-0096 (LT) (40 Wilhelm Street)

Temporary Easement for Rail Line Detour:

f) Part of Lot 2, Subdivision of Lot 16, German Company Tract, being Part 2 on Reference Plan 58R-17281, City of Kitchener, P.I.N. 22319-0173 (LT) (282 Duke Street West)

Temporary Easement for Construction Yard:

g) Part of Lot 17, Registered Plan 374 , being Part 1 on 58R-17354, City of Kitchener, P.I.N. 22320-0071 (LT) (122 Weber Street West/ 110 Victoria Street North)

Full Taking:

a) Part Lot 16, Plan 374, Part Lot 19, Subdivision of Lot 3, German Company Tract, being Parts 1 and 2, on Reference Plan 58R-5402, City of Kitchener, P.I.N. 22319-0177 (LT) (100 Victoria Street North)
b) Part Lot 19, Subdivision of Lot 3, German Company Tract, Part Lot 221, Plan 376, being Part 1, on Reference Plan 58R-11146, City of Kitchener, P.I.N. 22319-0195 (LT) (125 Weber Street West)
c) Part Lot 81, Plan 376, City of Kitchener, P.I.N. 22319-0150 (LT) (135 Weber Street West)
d) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-
0159 (127 Weber Street West)
e) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-
0160 (131 Weber Street West)
f) Part Lots 1 to 5, Plan 389, being Parts 1 to 5 on Reference Plan 58R-6324, City of
Kitchener, P.I.N. 22315-0011 (LT) (108/110 Weber Street West)
g) Part Lot 80, Plan 376, as in 1236916, City of Kitchener, P.I.N. 22319-0148 (LT) (143 Weber
Street West)
h) Part Lot 267, Plan 376, City of Kitchener, P.I.N. 22319-0103 (LT) (162 Wellington Street
North)
i) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-
0161 (LT) (133 ½ Weber Street West)

AND THAT staff be instructed to register a Plan of Expropriation for the property within three months
of the granting of the approval to expropriate the property, as required by the \textit{Expropriations Act};

AND THAT the registered owners be served with a Notice of Expropriation and a Notice of
Possession for the property after the registration of the Plan of Expropriation;

AND THAT if no agreement as to compensation is made with an owner, the statutory Offer of
Compensation and payment be served upon the registered owners of the property in the amount of
the market value of the interests in the land as estimated by the Region’s appraiser in accordance
with the Expropriations Act;

AND FURTHER THAT the Regional Solicitor be authorized to discontinue expropriation proceedings
or any part thereof, in respect of the above described lands, or any part thereof, upon the
registration on title of the required documentation to complete the transaction.

\textbf{SUMMARY:}

NIL

\textbf{REPORT:}

Regional Council approved the reconstruction of the Weber Street West (Regional Road 8) corridor
from College Street to Guelph Street and a grade separation of Weber Street at the CN Railway
Tracks (GEXR), in the City of Kitchener on June 29, 2011 (the “Project”) with this Project the Region
seeks to achieve the following objectives:

a. to widen Weber Street from 2 lanes to 4 lanes to provide north/south capacity
improvements to accommodate future growth and reduce delays for vehicles and
transit;
b. to construct a grade separation at the crossing of the CN Rail corridor, which will
provide improvements to accommodate increases in rail traffic movements and
reduce traffic delays and conflicts at the existing level railway crossing; and
c. to enhance facilities for transit, cyclists and pedestrians and to reduce traffic
collisions.

Construction will be undertaken in two phases. Phase 1 from College Street northerly to Wilhelm
Street, including the grade separation, will be constructed in 2013-2014. Phase 2 from Wilhelm
Street north to Guelph Street, will be constructed in 2014.
Council approved the commencement of expropriation of the required lands for Phase 1, being either full buyouts or partial takings from 28 properties, on February 8, 2012, as detailed in Report CR-RS-12-007. The appropriate forms under the Expropriations Act were served in order to initiate formal proceedings under the Act for these properties. All of the affected property owners were previously contacted by Legal Services staff and informed of the project as well as the Region’s intention to commence the expropriation process and the Region’s Expropriation Information Sheet was provided to each of them. Legal Services staff also contacted all property owners and informed them of the Region’s intention to continue with the expropriation process in order to ensure that the construction timeline is maintained, including this report being presented to Council, as detailed in the Region’s Expropriation Information Sheet.

To date the Region has acquired through a negotiated purchase agreement 8 full buyout properties and 1 partial taking. There are purchase agreements for 5 of the above noted full/partial takings that are scheduled to be completed on or before September 4th, 2012. If these purchase transactions are completed by registration of a Transfer on title conveying interest in the lands to the Region as scheduled Legal Services staff will cease expropriation proceedings with those owners. Staff have also discontinued the expropriation process in respect of 1 property as a full 40-year title search revealed that the required lands are in fact part of the Weber Street road allowance and therefore owned by the Region. The remaining land acquisitions are partial takings for road widening purposes, and temporary easements for the rail line detour during construction of the grade separation and for a construction yard. Legal Services staff intends to continue attempts to negotiate with the remaining property owners and it is hoped that satisfactory agreements as to compensation can be reached.

As reported to Council in Report CR-RS-12-047 the Region received notices for a Hearing of Necessity from the owners of 157 Weber Street West and 8 commercial tenants of the plaza at 100 Victoria Street North. The hearing was held on April 20th, 2012 with follow up submissions on May 4, 2012. The Report of the Inquiry Officer was received on May 23, 2012 and in order to meet the requirements of the Expropriations Act, Regional Council considered the Report of the Inquiry Officer at its meeting on June 27, 2012 and approved the expropriation of 157 Weber Street West and 100 Victoria Street North. In the meantime, Legal Services staff negotiated the acquisition of 157 Weber Street West and title was transferred to the Region on July 20th, 2012.

The next step in the proceedings for the listed properties is for Council to approve the expropriation of those property interests. This approval will ultimately be endorsed upon a certificate of approval on the Plan of Expropriation for those properties not acquired under agreement. The Plan is then registered within three months of the approval. Ownership of the property vests with the Region upon the registration of the Plan. Notices of Expropriation are then served upon all registered owners, including tenants as shown on the assessment roll.

Once ownership by the Region is secured through the registration of the Plan, it is possible to serve the Notice of Possession. The date for possession can be no sooner than three months following the date of service of the Notice of Possession. The Notices of Expropriation and Notices of Possession may be served at the same time. In order to meet the construction timeline possession of all the required lands is needed before the end of December 2012 to commence utility relocations in January 2013 and construction in March-April 2013. Accordingly, Legal Services staff will be proceeding expeditiously to register the Expropriation Plan and serve the Notices of Expropriation and Notices of Possession following approval by Regional Council.

After registration of the Plan of Expropriation and prior to the taking of possession of the property the expropriating authority is required to serve the registered owners with an offer in full compensation of their interests in the land. The offer must be accompanied by the immediate payment of one hundred (100%) percent of the appraised market value of the land to the registered owners as
estimated by the Region’s appraiser. The registered owners are also to be served with a report appraising the market value of the property, which report formed the basis for the offer of compensation.

The expropriation of the lands is on an “as is” basis and upon registration of the Plan of Expropriation the Region assumes all responsibility for the lands.

The subject lands are shown on the plan attached as Appendix ‘A’.

CORPORATE STRATEGIC PLAN:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.

FINANCIAL IMPLICATIONS:

Transportation and Environmental Services staff advises that the 2012 Transportation Capital Program includes $11,135,000 in 2012 for this project to be funded from the Development Charge and Roads Capital Levy Reserve funds. There is sufficient allowance in the current budget for these property acquisitions.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Transportation and Environmental Services staff have been consulted in the preparation of this Report.

ATTACHMENTS

Appendix ‘A’ – location map of lands

PREPARED BY: Fiona McCrea, Solicitor, Property

APPROVED BY: Gary Sosnoski, Commissioner, Corporate Resources
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: C04-30, 5576

SUBJECT: CONSULTANT SELECTION – PRELIMINARY DESIGN, DETAILED DESIGN AND CONSTRUCTION ADMINISTRATION AND INSPECTION SERVICES, BRIDGE STREET RECONSTRUCTION, UNIVERSITY AVENUE TO WOOLWICH STREET, CITY OF WATERLOO AND CITY OF KITCHENER

RECOMMENDATION:

THAT the Regional Municipality of Waterloo enter into a Consultant Services Agreement with Walter Fedy of Kitchener, Ontario to provide consulting engineering services for the preliminary design, detailed design, contract administration and construction inspection for Bridge Street Reconstruction from University Avenue to Woolwich Street in the City of Waterloo and City of Kitchener at an upset limit of $204,528.33 plus applicable taxes for the preliminary design and detailed design phases with contract administration and construction inspection to be paid on a time basis.

SUMMARY:

The Region of Waterloo wishes to proceed with the Bridge Street Reconstruction from University Avenue to Woolwich Street in the City of Waterloo and City of Kitchener in 2016. This project includes improvements to address poor pavement condition, replacement of some storm sewer sections due to deterioration, installation of infill sidewalks on the east side of Bridge Street, cycling lanes on both sides of the road, consideration of various intersection improvements and replacement of the City of Kitchener watermain from Woolwich Street to the Kitchener/Waterloo boundary.

The Project Team will include staff representatives from the City of Waterloo and City of Kitchener as well as local ward councillors Scott Davey (Kitchener) and Mark Whaley (Waterloo).

In order to meet the 2016 construction timeline, an engineering consultant must be hired now to undertake the preliminary design, detailed design and construction administration.

An invitation for Letters of Interest to provide engineering services was advertised in the Waterloo Region Record. Twelve (12) firms submitted proposals, out of which four (4) were short-listed.

Based on the evaluation criteria, review of the detailed work plans, schedules and upset fees provided by the shortlisted consultants, the Evaluation Team recommends that Walter Fedy be retained to undertake this assignment at an upset fee limit of $204,528.33 plus applicable taxes for the preliminary design and detailed design phases with contract administration and construction inspection to be paid on a time basis.
1. **Background**

Bridge Street from University Avenue to Woolwich Street is identified in the Region’s 2012 Ten Year Transportation Capital Program for reconstruction in 2016 in order to address the deteriorated road condition and storm sewer replacement needs. Other improvements to be considered include various intersection improvements, the repair/replacement of deteriorated pedestrian facilities (west side), new infill pedestrian facilities on the east side of Bridge Street including pedestrian and cycling refuge crossings to accommodate connections to local trails and pathways and consideration of cycling facilities as part of the proposed reconstruction. Planning of these improvements will be completed in accordance with Schedule ‘A+’ requirements of the Municipal Class Environmental Assessment (Class EA).

The Bridge Street project limits are from University Avenue to Woolwich Street as shown in Appendix “A”. Bridge Street is a two lane roadway with an urban road cross-section and auxiliary lanes at University Avenue, Bridle Trail and the Bechtel Park entrance within the project limits. The posted speed limit is 50 km/hr.

Under the Region’s Transportation Corridor Design guidelines, Bridge Street is designated as an “Urban Neighborhood Connector – Avenue” and the abutting land on Bridge Street is a mix of residential, institutional and commercial uses.

Bridge Street has two signalized intersections (University Avenue and Bridle Trail) within the project limits as well as unsignalized intersections at the Bechtel Park entrance, University Downs Plaza and Woolwich Street. The following intersection improvements are under consideration as part of this project;

- Extension of the northbound left turn storage lane at University Avenue
- Improvements at the Bechtel Park entrance to improve traffic flow
- Northbound right turn lane at Bridle Trail and southbound left turn storage lane extension at Bridle Trail
- Right in and right out only with a centre median at the Woolwich Street intersection.

Regional staff is fully committed to other capital projects at this time and therefore staff recommends that an external consultant be hired to complete this project. Staff has determined that it is necessary to commence the engineering for this project now, in order to provide sufficient time to complete the design phases, acquire any necessary property and complete utility relocations, if necessary, in advance of construction.

2. **Consultant Selection**

An invitation for Letters of Interest to provide engineering services for this project was advertised in the Waterloo Region Record on May 23, 2012. Twelve (12) consultants submitted Letters of Interest. Following a review of the submissions, four (4) firms were short-listed based on their qualifications. The detailed work plans and upset fee quotes for design activities, plus an estimate of fees for contract administration and construction inspection services from the short listed consultants were then reviewed and a final selection was made based on the evaluation criteria.
The four short-listed consultants were:
- IBI Group
- MTE Consultants Inc.
- Walter Fedy, and
- Stantec Consulting Limited

The Team involved with the consultant selection consisted of:

Bob Wheildon, Sr. Project Manager, Design and Construction
Gary MacDonald, Head, Transportation Rehabilitation Program, Design and Construction
Mike Henderson, Project Manager, Design and Construction

The evaluation criteria used for selecting the successful consultant were in accordance with the Region’s Purchasing By-law and included price as a factor in the selection process. These evaluation criteria and their respective weightings were as follows:

**Quality Factors**
- Project Approach and Understanding: 35%
- Experience of the Project Manager: 20%
- Experience of the Project Support Staff: 10%
- Experience on Similar Projects: 15%

**Equity Factors**
- Current Workload for Region: 3%
- Local Office: 2%

**Price Factor**
- Upset Price: 15%

The Letters of Interest submitted by the four short-listed consultants demonstrated a good understanding of the project, capable project teams and experience on similar projects. When considering all quality, equity and price factors, the submission from Walter Fedy scored the highest. Walter Fedy had the lowest upset fee submission. Based on the above evaluation criteria, including the review of the detailed work plans, project approach, schedules and upset fees provided, the Project Team recommends that Walter Fedy be retained to provide the preliminary design, detail design, contract administration and construction inspection services for this project.

### 3. Scope of Work

For this engineering assignment, the consultant will:
- undertake a complete review of required infrastructure for existing and future conditions;
- develop and assess transportation improvement/reconstruction alternatives;
- conduct a public participation program;
- complete the preliminary and detailed design for the road improvements/reconstruction;
- assess the advantages and disadvantages of different construction staging alternatives;
- make presentations to City of Waterloo and City of Kitchener Councils and Regional Planning and Works Committee;
- prepare contract drawings, specifications and tender documents;
- obtain all necessary agency approvals;
- assist during the tendering period; provide contract administration and site inspection services during construction;
- prepare record drawings; and provide post-construction services during the warranty period.

A breakdown of the successful consultant’s upset fee is included in Appendix B attached to this report.
4. Schedule

Subject to Council’s approval of the consultant assignment, the proposed implementation schedule is as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Plan, Preliminary Design and Generation of Alternatives</td>
<td>Fall 2012 – Summer 2013</td>
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<tr>
<td>Public Consultation Centre</td>
<td>Fall 2013</td>
</tr>
<tr>
<td>Council Approval of Recommended Alternative</td>
<td>Winter 2014</td>
</tr>
<tr>
<td>Property Acquisition, Utility Relocations, Final Design and Tendering</td>
<td>Spring 2014 – Spring 2016</td>
</tr>
<tr>
<td>Start of Construction</td>
<td>Spring 2016</td>
</tr>
<tr>
<td>Construction Completion</td>
<td>Fall 2016</td>
</tr>
</tbody>
</table>

5. Consultant’s Upset Fee

The short-listed consultants provided an upset fee for professional services for public consultation and engineering design, and also an estimate of contract administration and construction inspection fees. On road and bridge projects, the time required for contract administration and construction inspection can vary significantly depending on weather conditions, unforeseen developments during construction, contractor performance, and other unknown variables. Because an upset fee does not lend itself well to these types of services, it has been the Region’s practice on road and bridge projects to pay for contract administration and construction inspection services on a time basis. It is recommended that this same practice be followed for this project. For budgetary purposes, staff has estimated the cost of contract administration and construction inspection services to be $207,000 which is based on the preliminary estimate of fees submitted by Water Fedy and a review of costs on similar projects.

The upset limit for Walter Fedy to undertake the preliminary and detailed design phases of this project is $204,528.33 (plus applicable taxes) for consultant fees and disbursements.

The total estimated construction cost for this overall project including both the Region’s and City work is $2,700,000. The upset fee for the design phases is $204,528.33 and approximately represents 7.6% of this estimated construction value which is considered competitive for a project of this magnitude and complexity. The upset fee includes the assembly of base plans, investigation of various alternatives, coordination with concerned agencies, a public participation program, preliminary design, detail design and preparation of tender documents.

CORPORATE STRATEGIC PLAN:

This project meets the Region’s (2011-2014) Corporate Strategic Plan objective 2.2 to “Develop, optimize and maintain infrastructure to meet current and projected needs” under Focus Area 2 “Growth Management and Prosperity”.

FINANCIAL IMPLICATIONS:

The Region's approved 2012 Ten Year Transportation Capital Program (TCP) includes $1,235,000 in years 2012-2016 inclusive for this project to be funded from the Road Rehabilitation Reserve Fund. The revised estimate of construction cost for the Region's share of the work is $2,200,000 which will be presented for consideration in the 2013 TCP. The estimated construction cost has increased to accommodate expansion of the project scope for the provision of pedestrian and
cycling facilities, for pedestrian and cycling refuge islands, extension of the left turn storage lane or provision of a north bound right turn lane at Bridle Trail and extension of the northbound left turn storage lane at University Avenue.

Based on the $204,528.33 upset fee limit of Walter Fedy the net cost of this consulting assignment is $208,128.44 as per the following breakdown:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Walter Fedy</td>
<td>$204,528.33</td>
</tr>
<tr>
<td>H.S.T (13%)</td>
<td>+$26,588.68</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>$231,117.01</td>
</tr>
<tr>
<td>Less: Municipal Rebate of 86.46% of HST</td>
<td>-$22,988.57</td>
</tr>
<tr>
<td>Total</td>
<td>$208,128.44</td>
</tr>
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</table>

Walter Fedy’s total fees for the preliminary and detailed design and contract administration/construction inspection are within the consulting fee allowance provided for in the total budget for this project, which is all to be funded from the Roads Rehabilitation Reserve Fund. The approved 2012 Ten Year Transportation Capital Program includes $100,000 for this project in 2012, which is sufficient funding to cover the scheduled consultant expenditures in 2012.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:
NIL

ATTACHMENTS:

Appendix A: Project Key Plan
Appendix B: Breakdown of Consultant’s Upset Fee

PREPARED BY: *Bob Wheildon*, Sr. Project Manager, Design and Construction.

APPROVED BY: *Thomas Schmidt*, Commissioner, Transportation and Environmental Services.
REGIONAL ROAD No. 52 (BRIDGE STREET)
UNIVERSITY AVENUE TO WOOLWICH STREET
CITY OF WATERLOO AND CITY OF KITCHENER
APPENDIX B

PRELIMINARY AND DETAILED DESIGN FOR BRIDGE STREET RECONSTRUCTION,
UNIVERSITY AVENUE TO WOOLWICH STREET
CITY OF WATERLOO AND CITY OF KITCHENER

BREAKDOWN OF CONSULTANT'S UPSET FEE

Region of Waterloo Related Work

<table>
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<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Initiation/Data Collection/Base Plan Preparation</td>
<td>$73,852.07</td>
</tr>
<tr>
<td>2. Class EA and Preliminary Design</td>
<td>$59,781.09</td>
</tr>
<tr>
<td>3. Detailed Design and Approvals</td>
<td>$57,736.18</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>$204,528.33</strong></td>
</tr>
<tr>
<td><strong>HST</strong></td>
<td><strong>$26,588.68</strong></td>
</tr>
<tr>
<td><strong>Total Upset Fee</strong></td>
<td><strong>$231,117.01</strong></td>
</tr>
</tbody>
</table>
REPORT E-12-079

REGION OF WATERLOO
TRANSPORTATION AND ENVIRONMENTAL SERVICES
Design and Construction

TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012
FILE CODE: C04-30, 5416, 5420

SUBJECT: CONSULTANT SELECTION – PRELIMINARY DESIGN, DETAILED DESIGN AND CONSTRUCTION ADMINISTRATION AND INSPECTION SERVICES, RECONSTRUCTION OF ST. ANDREWS STREET (GRAND AVENUE SOUTHERLY TO CAMBRIDGE BOUNDARY) AND CEDAR STREET (OSBORNE STREET WESTERLY TO CAMBRIDGE BOUNDARY), CITY OF CAMBRIDGE

RECOMMENDATION:

THAT the Regional Municipality of Waterloo enter into a Consultant Services Agreement with IBI Group of Kitchener, Ontario to provide consulting engineering services for the preliminary design, detailed design, contract administration and construction inspection for the reconstruction of St. Andrews Street (Grand Avenue southerly to Cambridge Boundary) and Cedar Street (Osborne Street westerly to Cambridge Boundary) in the City of Cambridge at an upset limit of $269,500 plus applicable taxes for the preliminary design and detailed design phases with contract administration and construction inspection to be paid on a time basis.

SUMMARY:

The Region of Waterloo wishes to proceed with the reconstruction of St. Andrews Street (Grand Avenue southerly to Cambridge Boundary) and Cedar Street (Osborne Street westerly to Cambridge Boundary) in the City of Cambridge in 2016. This project includes improvements to address poor pavement condition, construction of curb and storm sewers where none exist today, consideration of new cycling facilities on both sides of the road, replacement of some storm sewer sections due to deterioration, installation of infill sidewalks, consideration of various intersection improvements and replacement of the City of Cambridge watermain on both roads.

The Project Team will include staff representatives from the City of Cambridge as well as local ward Councillors Pam Wolf and Gary Price.

In order to meet the 2016 construction timeline, an engineering consultant must be hired now to undertake the preliminary design, detailed design and construction administration. An invitation for Letters of Interest to provide engineering services was advertised in the Waterloo Region Record. Twelve (12) firms submitted proposals, out of which three (3) were short-listed.

Based on the evaluation criteria, review of the detailed work plans, schedules and upset fees provided by the shortlisted consultants, the Evaluation Team recommends that IBI Group be retained to undertake this assignment at an upset fee limit of $269,500 plus applicable taxes for the preliminary design and detailed design phases with contract administration and construction inspection to be paid on a time basis.
REPORT:

1. Background

Both St. Andrews Street (Grand Avenue to Cambridge Boundary) and Cedar Street (Osborne Street to Cambridge Boundary) are identified in the Region’s 2012 Ten Year Transportation Capital Program for reconstruction in 2016 in order to address the deteriorated road condition and watermain replacement needs as well as to provide new curb and gutter and storm sewer where none exists today. Other improvements to be considered include various intersection improvements, new infill pedestrian facilities, new pedestrian refuge islands and cycling facilities as part of the proposed reconstruction. Planning of these improvements will be completed in accordance with Schedule ‘A+’ requirements of the Municipal Class Environmental Assessment (Class EA).

The St. Andrews Street project limits are from Grand Avenue southerly to Cambridge Boundary as shown in Appendix “A-1” and the Cedar Street project limits are from Osborne Street westerly to Cambridge Boundary as shown in Appendix “A-2”. St. Andrews Street is a 2 lane urban cross section road from Grand Avenue to Fourth Avenue and a partially urban to rural cross section from Fourth Avenue to the City of Cambridge Boundary. Cedar Street is a 2 lane urban cross section road from Osborne Street to Dale Avenue and a partially urban to rural cross section from Dale Avenue to the City of Cambridge Boundary. The posted speed limit is 50 km/hr on both road sections.

Under the Region’s Transportation Corridor Design guidelines, both St. Andrews Street and Cedar Street within the project limits are designated as “Residential Connectors” which includes an urban cross-section with curb and gutter, storm sewer, sidewalk, bike lanes and wide boulevards. Both roads include a combination of residential and commercial uses on abutting lands plus there is a fire hall and school on St. Andrews Street.

The following intersection improvements are under consideration as part of this project;

- Dedicated northbound and southbound right turn lanes at St. Andrews Street and Cedar Street;
- Construction of an eastbound left turn at Cedar Street and Kent Street;
- Lane reconfiguration on Cedar Street at Westgate Plaza; and
- Intersection signal modernization

Regional staff is fully committed to other capital projects at this time and therefore staff recommends that an external consultant be hired to complete this project. Staff has determined that it is necessary to commence the engineering for this project now, in order to provide sufficient time to complete the design phases, acquire any necessary property and complete utility relocations, if necessary, in advance of construction.

2. Consultant Selection

An invitation for Letters of Interest to provide engineering services for this project was advertised in the Waterloo Region Record on May 16, 2012. Twelve (12) consultants submitted Letters of Interest. Following a review of the submissions, three (3) firms were short-listed based on their qualifications. The detailed work plans and upset fee quotes for design activities, plus an estimate of fees for contract administration and construction inspection services from the short listed consultants were then reviewed and a final selection was made based on the evaluation criteria.
The three short-listed consultants were:
- IBI Group
- MTE Consultants Inc., and
- Walter Fedy

The Team involved with the consultant selection consisted of:

Ken Brisbois, Project Manager, Design and Construction
Gary MacDonald, Head, Transportation Rehabilitation Program, Design and Construction
Kealy Dedman, Director - Engineering, City of Cambridge

The evaluation criteria used for selecting the successful consultant were in accordance with the Region’s Purchasing By-law and included price as a factor in the selection process. These evaluation criteria and their respective weightings were as follows:

**Quality Factors**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Approach and Understanding</td>
<td>35%</td>
</tr>
<tr>
<td>Experience of the Project Manager</td>
<td>20%</td>
</tr>
<tr>
<td>Experience of the Project Support Staff</td>
<td>10%</td>
</tr>
<tr>
<td>Experience on Similar Projects</td>
<td>15%</td>
</tr>
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</table>

**Equity Factors**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Workload for Region</td>
<td>3%</td>
</tr>
<tr>
<td>Local Office</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Price Factor**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upset Fee</td>
<td>15%</td>
</tr>
</tbody>
</table>

The Letters of Interest submitted by the three short-listed consultants demonstrated a good understanding of the project, capable project teams and experience on similar projects. When considering all quality, equity and price factors, the submission from IBI Group scored the highest. IBI Group also had the lowest upset fee submission. Based on the above evaluation criteria, including the review of the detailed work plans, project approach, schedules and upset fees provided, the Project Team recommends that IBI Group be retained to provide the preliminary design, detail design, contract administration and construction inspection services for this project.

### 3. Scope of Work

For this engineering assignment, the consultant will: undertake a complete review of required infrastructure for existing and future conditions; develop and assess transportation improvement/reconstruction alternatives; conduct a public participation program; complete the preliminary and detailed design for the road improvements/reconstruction; assess the advantages and disadvantages of different construction staging alternatives; make presentations to City of Cambridge Council and Regional Planning and Works Committee; prepare contract drawings, specifications and tender documents; obtain all necessary agency approvals; assist during the tendering period; provide contract administration and site inspection services during construction; prepare record drawings; and provide post-construction services during the warranty period. A breakdown of the successful consultant’s upset fee is included in Appendix B attached to this report.
4. Schedule

Subject to Council’s approval of the consultant assignment, the proposed implementation schedule is as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Plan, Preliminary Design and Generation of Alternatives</td>
<td>Fall 2012 – Summer 2013</td>
</tr>
<tr>
<td>Public Consultation Centre</td>
<td>Fall 2013</td>
</tr>
<tr>
<td>Council Approval of Recommended Alternative</td>
<td>Winter 2014</td>
</tr>
<tr>
<td>Property Acquisition, Utility Relocations, Final Design and Tendering</td>
<td>Spring 2014 – Spring 2016</td>
</tr>
<tr>
<td>Start of Construction</td>
<td>Spring 2016</td>
</tr>
<tr>
<td>Construction Completion</td>
<td>Fall 2016</td>
</tr>
</tbody>
</table>

5. Consultant’s Upset Fee

The short-listed consultants provided an upset fee for professional services for public consultation and engineering design, and also an estimate of contract administration and construction inspection fees. On road and bridge projects, the time required for contract administration and construction inspection can vary significantly depending on weather conditions, unforeseen developments during construction, contractor performance, and other unknown variables. Because an upset fee does not lend itself well to these types of services, it has been the Region’s practice on road and bridge projects to pay for contract administration and construction inspection services on a time basis. It is recommended that this same practice be followed for this project. For budgetary purposes, staff has estimated the cost of contract administration and construction inspection services to be $317,000 which is based on the preliminary estimate of fees submitted by IBI Group and a review of costs on similar projects.

The upset limit for IBI Group to undertake the preliminary and detailed design phases of this project is $269,500 (plus applicable taxes) for consultant fees and disbursements.

The total estimated construction cost for this overall project including both the Region’s and City work is $7,665,000. The upset fee for the design phases is $269,500 and represents approximately 3.5% of this estimated construction value which is at the low end of the range for a project of this magnitude and complexity. The upset fee includes the assembly of base plans, investigation of various alternatives, coordination with concerned agencies, a public participation program, preliminary design, detail design and preparation of tender documents.

CORPORATE STRATEGIC PLAN:

This project meets the Region’s (2011-2014) Corporate Strategic Plan objective 2.2 to “Develop, optimize and maintain infrastructure to meet current and projected needs” under Focus Area 2 “Growth Management and Prosperity”.

FINANCIAL IMPLICATIONS:

The Region’s approved 2012 Ten Year Transportation Capital Program (TCP) includes $7,665,000 in years 2012-2017 inclusive for this project to be funded from the Road Rehabilitation Reserve Fund.
Based on the $269,500 upset fee limit of IBI Group the net cost of this consulting assignment is $274,243.74 as per the following breakdown:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBI Group</td>
<td>$269,500.00</td>
</tr>
<tr>
<td>H.S.T (13%)</td>
<td>+$35,035.00</td>
</tr>
<tr>
<td>Sub-Total</td>
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<tr>
<td>Less: Municipal Rebate of 86.46% of HST</td>
<td>-$30,291.26</td>
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<tr>
<td>Total</td>
<td>$274,243.74</td>
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IBI Group’s total fees for the preliminary and detailed design and contract administration/construction inspection are within the consulting fee allowance provided for in the total budget for this project, which is all to be funded from the Roads Rehabilitation Reserve Fund. The approved 2012 Ten Year Transportation Capital Program includes $220,000 for this project in 2012, which is sufficient funding to cover the scheduled consultant expenditures in 2012.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

Appendix A: Project Key Plan
Appendix B: Breakdown of Consultant’s Upset Fee

PREPARED BY: Ken Brisbois, Project Manager, Design and Construction.

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services.
APPENDIX B

PRELIMINARY AND DETAILED DESIGN FOR RECONSTRUCTION OF ST. ANDREWS STREET (GRAND AVENUE SOUTHERLY TO CAMBRIDGE BOUNDARY) AND CEDAR STREET (OSBORNE STREET WESTERLY TO CAMBRIDGE BOUNDARY), CITY OF CAMBRIDGE

BREAKDOWN OF CONSULTANT’S UPSET FEE

Region of Waterloo Related Work

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<td>2. Class EA and Preliminary Design</td>
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<td>3. Detailed Design and Approvals</td>
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<td>4. Contract Document, Specifications and Tendering</td>
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<td><strong>Sub-total</strong></td>
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</tr>
<tr>
<td><strong>Total Upset Fee</strong></td>
<td><strong>$304,535.00</strong></td>
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TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: T04-20, 5775

SUBJECT: CONCRETE COATING SYSTEMS FOR REGIONAL BRIDGES - RESEARCH AND TESTING RESULTS

RECOMMENDATION:

For Information Only

SUMMARY:

Bridge coating systems can provide effective long-lasting protection for concrete bridges. Following the rehabilitation work on the Region’s bowstring arch heritage bridges in recent years, there was a need to identify the best coating solution for the unique combination of new rehabilitated concrete and retained original concrete on these 1920's-30's vintage bridges. In 2009, Regional Council approved an $80,000 funding commitment to conduct a research and testing program with the University of Waterloo on coating protection systems for Regional bridges. The research and testing program is now complete and the results of the study are ready for publication in technical journals.

The research program included laboratory testing of old and new concrete specimens under conditions that would replicate long-term environmental exposure. In addition, the specimens were subjected to de-icing and anti-icing chemicals that the Region uses or may use in the future for winter maintenance. In this way, the testing could establish the performance characteristics of the tested products under both the environmental and chemical effects that the coatings would be subjected to in the field.

Four different types of sealers/coatings were tested. The testing program concluded that an acrylic-based coating performed best both in terms of durability and in its resistance to chloride penetration. In addition to the superior durability performance, the acrylic coating exhibited a good degree of moisture vapour transmission which is an important factor to ensure the concrete can “breathe” so internal moisture is not trapped inside.

In the Fall of 2012, the Bridgeport Bridge is expected to receive its designation as a Heritage resource. The Main Street Bridge in Cambridge and the Freeport Bridge in Kitchener were designated in 1982 and 2001 respectively. Since a bridge coating would change the appearance of the concrete, a test section of the acrylic coating will be applied this Fall in a neutral (ie. concrete-replicating) colour to an inconspicuous area of the Bridgeport Bridge in Kitchener to allow observations of the colour and finished texture by heritage planning staff and the local municipal Heritage Committees.

The acrylic coating will result in a uniform surface appearance over the treated areas of the bowstring arch bridges, thereby eliminating the patchy appearance of the old, weathered original concrete compared to the new concrete repair areas. The coating comes pigmented and the colour of the coating will be chosen to closely resemble new concrete.
The draft 2013 Transportation Capital Program will include proposed funding of $75,000 in 2013 for coatings on the Bridgeport Bridge and Main Street Bridge. The Freeport Bridge is scheduled for minor rehabilitation in 2017 and it is proposed that the acrylic coating be applied to the Freeport Bridge at that time.

It is recognized that the preservation of the Region’s three bowstring arch heritage bridges will require continued on-going regular maintenance to retain the integrity of these valuable heritage resources. The original 80+ year old concrete will continue to deteriorate over time and inevitably there will be the need to replace sections of old concrete with new every 10-20 years. By using acrylic coatings, it is expected that the more major rehabilitation requirements can be deferred thereby increasing the overall longevity of these important heritage resources. The ten-year Transportation Capital Program will continue to identify the maintenance and funding needs in the years ahead. It is estimated at this time that approximately $215,000 per decade is required to provide protective coatings on the three bowstring arch bridges over the next 50 years.

REPORT:

1.0 Introduction

Concrete degrades from the ingress of water and of water-borne contaminants and chlorides. Freezing and thawing conditions as well as wetting and drying also accelerate the deterioration of concrete. Coating systems on concrete bridges can provide effective long-lasting protection for concrete bridges.

During the design phase of the rehabilitated Bridgeport Bridge in 2009, Regional staff initiated discussions with its engineering consultants and other industry experts on suitable coating systems for the Bridgeport Bridge and for the Region’s two other bowstring arch heritage bridges. The intent was to determine an appropriate coating system that would provide the most effective long-lasting protection for all new and retained components of the restored bridges.

In researching the subject of bridge coating technologies, it was discovered that there is little in the way of published technical literature regarding materials and procedures for repairing and protecting historical reinforced concrete bridge structures of a similar design and era of construction as the Region’s bowstring arch bridges constructed in the 1920’s and 1930’s. There are also currently no Canadian standards specifically established for the restoration of historical bridge structures. In addition, there were varying opinions on the effectiveness of bridge coatings and reliable comparisons have been difficult to make with no uniformity in the data published by various coating manufacturers and an absence of meaningful published technical performance data. There was also virtually no research done comparing the effects of the different de-icing products on the durability of concrete.

Accordingly, in 2009 Regional Council approved an $80,000 funding commitment to conduct a research and testing program with the University of Waterloo on coating protection systems for Regional bridges. The research and testing program is now complete and the results of the study are ready for publication in technical journals. The purpose of this report is to present the findings of the study to Regional Council and to suggest future actions for the protection of the Region’s three bowstring arch bridges, familiarly known as the Bridgeport Bridge (Kitchener), the Freeport Bridge (Kitchener) and the Main Street Bridge (Cambridge).
2.0 Testing Program

The coating research and testing program included laboratory testing of four different bridge coating products. The durability of coating specimens was tested under accelerated wet/dry and freeze/thaw conditions to replicate long-term environmental exposure. During the freeze/thaw tests, the specimens were diluted in baths of 4 different types of de-icing/anti-icing agents to also examine the effects that winter operations would have on the durability of the coatings. In this way, the testing could establish the performance characteristics of the tested products under both the environmental and chemical conditions that the coatings would be subjected to in the field. The de-icing/anti-icing chemicals used in the testing program were sodium chloride (ie. basic rock salt), calcium chloride, magnesium chloride and a proprietary de-sugarized beet juice product that is mixed with a brine solution. The Region currently uses rock salt and the beet/brine solution in its winter maintenance program. It is possible however that in the future, calcium chloride and/or magnesium chloride could also be used depending on the experiences of other jurisdictions who are currently experimenting with these alternate de-icing/anti-icing treatments.

All tests were conducted on both old concrete specimens (removed in 2009 from the Bridgeport Bridge) and on new concrete with the same mix design as was provided for the Bridgeport Bridge and Main Street Bridge repair areas.

Four premium coating products were selected for the testing program as follows:

<table>
<thead>
<tr>
<th>Product A</th>
<th>Pigmented acrylic coating</th>
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<tbody>
<tr>
<td>Product B</td>
<td>Penetrating sealer with corrosion inhibitor</td>
</tr>
<tr>
<td>Product C</td>
<td>Polymer-modified cementitious coating, type 1</td>
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<tr>
<td>Product D</td>
<td>Polymer-modified cementitious coating, type 2</td>
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</table>

The manufacturers each supplied their own product at no charge. Testing was conducted by the University of Waterloo in their Structural Engineering laboratory. A draft report documenting the results has been generated and it is expected that formal technical publication of the findings will occur later in the year. A summary of the key results is provided below.

2.1 Freeze / Thaw Test Results

Specimens were subjected to 100 alternating cycles of freezing (-20 degrees C for 16 hours) and thawing (+20 degrees C for 8 hours). The freeze/thaw test determines the coating’s ability to resist “scaling” or surface deterioration of the underlying concrete. Uncoated specimens were also tested to act as control tests for comparison. Tests were conducted with old and new concrete and specimens were also exposed to different chemical solutions during the testing. The solutions included four types of de-icing/anti-icing chemicals and tap water.

Product A (the acrylic coating) demonstrated the best durability in the freeze/thaw testing. There was no visual deterioration on the new concrete specimens and only “very slight” deterioration on the old concrete samples, which appeared after 60 cycles. By comparison, the other 3 coatings and the uncoated specimen showed “slight” to “moderate” scaling on both old and new concrete, starting at 25-60 cycles. Please refer to Appendix ‘A’ for a complete summary of the freeze/thaw test results.

2.2 Wetting / Drying Test Results

Specimens were subjected to 50 wetting and drying cycles (4 days wetting, 3 days drying). The wetting was done using normal tap water. The acrylic coating showed virtually no
degradation on old or new concrete. All other coated specimens and the uncoated specimen showed some deterioration from the wet/dry testing. Please refer to Appendix ‘B’ for a complete summary of the wet/dry test results.

2.3 Wetting / Drying after Freeze / Thaw Test Results

The same specimens that were freeze/thaw tested (Section 2.1 above) were then subjected to 25 subsequent wetting and drying cycles (4 days wetting, 3 days drying) to further assess coating durability. These wetting cycles were done with tap water and with the solutions of the four de-icing/anti-icing chemicals. Deterioration of the coating surface occurred in all tested specimens under these conditions.

The acrylic coating performed the best of all the coatings with very slight scaling appearing for chemical exposures after 20 cycles. The beet/brine solution had the most adverse effect on the acrylic coating compared to the other chemicals with what is termed a “slight” deterioration, indicative of coating surface wear but with no exposed concrete visible. Please refer to Appendix ‘C’ for a complete summary of the freeze/thaw/wet/dry test results.

2.4 Chloride Penetration Test Results

The coated new-concrete specimens that underwent the freeze/thaw/wet/dry testing were then examined for the presence of chlorides from their exposure to the de-icing/anti-icing chemicals. The purpose of the test was to detect the concentration of chlorides inside the concrete specimens at a depth of 15mm to see how effective the coating was at resisting the ingress of damaging chlorides into the concrete. Of all the specimens tested, only the acrylic coated concrete showed no presence of chlorides at a depth of 15mm. All other coatings allowed some migration of chlorides into the concrete to a depth of 15mm though no presence at 30mm.

2.5 Effects of Different De-icing Chemicals

The different chemicals all had similar effects on the durability of the concrete specimens. The differences between the effects were very minor and deemed insignificant. Accordingly, it is concluded that the type of de-icing/anti-icing chemical used for winter road maintenance makes no appreciable difference in the scaling effects on concrete.

There was however some discolouration of the coatings when exposed to the different de-icing/anti-icing chemicals. The discolouration was most evident when exposed to the beet/brine solution. Please refer to Appendix ‘D’ for photos of the discolouration from exposure to the beet/brine solution.

2.6 Other Tests

Other tests were performed on the concrete specimens to check the following:

- Vapour Transmission test – to determine the ability of the coatings to “breathe” and allow moisture to escape out of the concrete.
- Mass Change test – to determine how much loss of mass occurred after the testing to assess any physical degradation of the coatings beyond the observed visual determination.
2.7 Test Conclusions

Of the four coating products tested, Product A (the acrylic coating) proved to be the most durable when coating old or new concrete and when exposed to any of the 4 de-icing chemicals. Although the differences between the test results did not vary significantly, the acrylic product consistently provided the best resistance to scaling and chloride penetration under test conditions. The acrylic product also exhibited an adequate ability to transmit vapour and its mass change after testing was not a concern. The acrylic coating did exhibit a slight colour change from the different chemical exposures.

In conclusion based on the controlled testing undertaken by the University of Waterloo, an acrylic based coating appears to provide the best surface protection for new and old concrete and is therefore a suitable bridge coating material for the Region’s bowstring arch bridges.

3.0 Heritage Input on the Proposed Bridge Coating

The Bridgeport Bridge is expected to be designated by the City of Kitchener as a significant heritage resource under the Heritage Act this Fall. The Main Street Bridge in Cambridge and the Freeport Bridge in Kitchener were designated in 1982 and 2001 respectively. Since the proposed coatings would change the overall appearance of the concrete by creating a uniform surface appearance, Region staff will involve the local heritage planning staff and municipal Heritage Committees in a review of the proposed coating system. A test section of the acrylic coating will be applied this Fall in a neutral (ie. concrete-replicating) colour to an inconspicuous area of the Bridgeport Bridge in Kitchener to allow observations of the colour and finished texture. The south abutment wall is accessible by a City trail and would provide an opportunity for interested stakeholders (including the municipal Heritage Advisory Committees of Kitchener and Cambridge) to view the finished texture and colour of the coating prior to its proposed broader application in 2013.

4.0 On-going Maintenance of the Bowstring Arch Bridges

It is recognized that the preservation of the Region’s three bowstring arch heritage bridges will require continued on-going regular maintenance to retain the integrity of these valuable heritage resources. The original 80+ year old concrete will continue to deteriorate over time and inevitably there will be the need to replace sections of old concrete with new every 10-20 years. By using acrylic coatings, it is expected that the more major rehabilitation requirements can be deferred thereby increasing the overall longevity of these important heritage resources.

5.0 On-going Maintenance of the Acrylic Coating

The acrylic coating has a finished film thickness of 0.4mm. The thickness and consistency allow the product to effectively coat old and new concrete surfaces to achieve a uniform surface appearance. The product can also bridge small hairline cracking. Manufacturer’s recommendations state that re-application of the coating on vertical surfaces is typically required at 8-10 year intervals. The accelerated testing done at the University of Waterloo replicated “long-term” exposure conditions (ie. equivalent to 10+ years of exposure to the elements) and the acrylic coating showed only slight degradation over the testing period. This timeframe is also consistent with the experience of the Ontario Ministry of Transportation who applied an acrylic coating on the outside barrier wall of the Harwich Bridge over Highway 401 near Chatham in 2004 and which has performed well after 8 years of service.
The local supplier of the acrylic coating notes however that the product does soften and break down sooner in areas where it is subjected to continuous moisture. Therefore, more frequent re-application can be expected (possibly in as soon as 3 years) in “splash” zones where the coating is subjected to on-going moisture attack like standing water or snow. This situation could apply to the lower metre of the inner railing faces on the bowstring arch bridges. Therefore from a maintenance planning perspective, the Region could expect to have to re-apply small localized areas of the coating every 3 years in areas that are in direct contact with snow and standing water.

For the Region’s three bowstring arch bridges therefore, the on-going coating maintenance could be required in 3 year intervals for spot repair (assume $10,000 every 3 years per bridge) and 10 year intervals for complete re-application (assume $125,000 for the 3 bridges combined). It is estimated therefore that up to $215,000 per decade is required to maintain the three bowstring arch bridges over the next 50 years.

The initial coating application requires a water-blasting of the concrete to achieve a roughened surface for proper adhesion of the coating. Subsequent coating re-applications can be completed over top of previous coatings with just a power-wash required to remove any loose material. Partial lane closures would be required to complete major coating work and a temporary containment system would also be needed to avoid fines from the water-blasting operation falling into the Grand River below.

6.0 Bridge Coating of the Bridgeport Bridge and the Main Street Bridge in 2013

The draft 2013 Transportation Capital Program will include proposed funding of $75,000 in 2013 for acrylic coatings on the Bridgeport Bridge and Main Street Bridge which would include coating of all sides of the arches, of the pedestrian (outer) railings and of the traffic railings under the arches. The wearing surfaces (ie. the traffic deck and the sidewalks) would remain uncoated. It is expected that the coating application process would take approximately one month to complete. Since the coating achieves a uniform surface appearance, the coating would effectively cover the patchy look on the existing bridges where old, weathered, original concrete is retained and new concrete has been placed beside it. The coating comes pigmented and the colour of the coating will be chosen to closely resemble new concrete.

One important parameter that was stressed by the materials and coating specialists consulted by the Region was that concrete repair areas on any rehabilitated Regional bridges need to be allowed to dry out sufficiently (minimum of 2 years) before the application of any coating. On-going moisture gauge testing on the Bridgeport Bridge rehabilitated in 2009 has indicated that the new concrete in the bridge has not dried out sufficiently as of June 2012 for the full application of a coating product. It is recommended that the moisture continue to be monitored until the Spring of 2013 at which time it is expected the moisture content will be low enough to allow for full application in the spring/summer of 2013. Since the Bridgeport Bridge and Main Street Bridge rehabilitations were both completed in the same year (2009), only one set of moisture gauges was required to assess the moisture within the new concrete of both bridges. Accordingly, the Bridgeport Bridge moisture readings are also representative of the moisture in the new concrete of the Main Street Bridge as well.

7.0 Bridge Coating of the Freeport Bridge

The Freeport Bridge is scheduled for minor rehabilitation again in 2017 which equates to 14 years since the last rehabilitation in 2003; fourteen years between rehabilitation requirements is a representative timeframe for this type and age of structure. It is proposed that the acrylic coating be applied to the Freeport Bridge two+ years after the next rehabilitation, ie. after the repair areas have sufficiently dried out.
CORPORATE STRATEGIC PLAN:

Use of a protective coating system on the Region’s bowstring arch bridges achieves Focus Area #2 (“Growth Management and Prosperity”) of the Corporate Strategic Plan and specifically Strategic Objective 2.2 which is to optimize the use of existing infrastructure and ensure it is adequately maintained.

FINANCIAL IMPLICATIONS:

Staff will be including $75,000 for the coating of the Bridgeport Bridge and the Main Street Bridge in year 2013 of the DRAFT 2013 Ten Year Transportation Capital Program to be funded from the Roads Rehabilitation Reserve Fund.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS

Appendix A Visual Rating of Freeze / Thaw Resistance
Appendix B Visual Rating of Wetting / Drying Resistance
Appendix C Visual Rating of Freeze / Thaw / Wet / Dry Resistance
Appendix D Discolouration after Exposure to Beet/Brine Solution

PREPARED BY: Gary MacDonald, Head Transportation Rehabilitation, Design and Construction

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
## Criteria for Visual Rating of Treated Old and New Concrete Specimens

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<th>Rating</th>
<th>Condition of surface</th>
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<th>Sealed</th>
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</thead>
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<td>0</td>
<td>No change to appearance of treated surface – other than discoloration</td>
<td>No scaling of paste/mortar</td>
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<tr>
<td>1</td>
<td>Slight deterioration of treatment but no exposure of concrete substrate</td>
<td>Slight scaling of paste/mortar</td>
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<td>2</td>
<td>Slight to moderate deterioration of treatment to expose minor portions of concrete substrate</td>
<td>Slight to moderate scaling of paste/mortar</td>
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<td>3</td>
<td>Moderate to severe deterioration of treatment to expose moderate portions of concrete substrate</td>
<td>Moderate scaling of paste/mortar (some coarse aggregate visible)</td>
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<td>4</td>
<td>Severe deterioration of treatment to expose major portions of concrete substrate</td>
<td>Moderate to severe scaling of paste/mortar</td>
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<tr>
<td>5</td>
<td>Complete failure of treatment and visual deterioration of concrete substrate in uncoated surface</td>
<td>Severe scaling of paste/mortar (coarse aggregate visible over entire surface)</td>
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## APPENDIX A

**Visual Rating of Freeze-Thaw Resistance – Old Concrete**

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<th>Solution</th>
<th>Visual rating of the surface at different cycles</th>
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1 cycle = 1 day, freezing for 16 hours, thawing for 8 hours
## APPENDIX A

### Visual Rating of Freeze-Thaw Resistance – New Concrete

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<th>Surface treatment</th>
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<th>Visual rating of the surface at different cycles</th>
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1 cycle = 1 day, freezing for 16 hours, thawing for 8 hours
APPENDIX B

Visual Rating of Treated and Non-Treated Specimens for Wetting and Drying Resistance – Old Concrete

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<th>Surface treatment</th>
<th>Visual rating of the surface at different cycles</th>
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1 cycle = 1 week, wetting for 4 days and drying for 3 days

Visual Rating of Treated and Non-Treated Specimens for Wetting and Drying Resistance – New Concrete

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<th>Surface treatment</th>
<th>Visual rating of the surface at different cycles</th>
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1 cycle = 1 week, wetting for 4 days and drying for 3 days
APPENDIX C

Visual Rating of Treated and Non-Treated Specimens for Wetting and Drying Resistance – New Concrete (after freeze/thaw testing)

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1 cycle = 1 week; wetting for 4 days and drying for 3 days
APPENDIX D

Discolouration after Exposure to Beet/Brine Solution
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: L07-90

SUBJECT: AUTHORIZATION TO EXPROPRIATE LANDS (2ND REPORT) WITH RESPECT TO PHASE 1 OF RAPID TRANSIT PROJECT STAGE 1 FOR PROPERTY AND INTERESTS ON KING STREET SOUTH FROM JOHN STREET IN THE CITY OF WATERLOO TO KING STREET WEST AT VICTORIA STREET IN THE CITY OF KITCHENER

RECOMMENDATION:

THAT The Regional Municipality of Waterloo approve the expropriation of lands for the construction of Phase 1 of Stage 1 of the Rapid Transit Project being comprised of properties commencing at King Street South near John Street at the City of Waterloo, in the Regional Municipality of Waterloo and ending at King Street West near Victoria Street at the City of Kitchener, in the Regional Municipality of Waterloo as further detailed in Report CR-RS-12-013 dated February 28, 2012 and listed below:

FEE SIMPLE PARTIAL TAKINGS:

1. Part Lot 287, Plan 385 being Part 1 on 58R-17317, P.I.N. 22328-0188, City of Waterloo, Regional Municipality of Waterloo (238 King Street South, Waterloo)
2. Part Lot 288, Plan 385 being Parts 3 & 4 on 58R-17317, P.I.N. 22328-0096, City of Waterloo, Regional Municipality of Waterloo (242 King Street South, Waterloo)
3. Part of Lots A and C, Plan 437; Part of Lots 53 and 54, Plan 376 being Part 4 on 58R-17368, P.I.N. 22318-0130, City of Kitchener, Regional Municipality of Waterloo (618 King Street West, Kitchener)
4. Part of Lots 37 and 38, Plan 377 being Part 14 on 58R-17368, P.I.N. 22425-0038, City of Kitchener, Regional Municipality of Waterloo (687 King Street West, Kitchener)
5. Part of Lots 36 and 37, Plan 377 being Parts 12 and 13 on 58R-17368, P.I.N. 22425-0102, City of Kitchener, Regional Municipality of Waterloo (683 King Street West, Kitchener)
6. Part Lot 36, Plan 377 being Parts 10 & 11 on 58R-17368, P.I.N. 22425-0103, City of Kitchener, Regional Municipality of Waterloo (679 King Street West, Kitchener)
7. Part of Lot 401, Plan 376 being Part 10 on 58R-17373, P.I.N. 22318-0004, City of Kitchener, Regional Municipality of Waterloo (698 King Street West, Kitchener)
8. Part Lot 401, Plan 376 being Part 9 on 58R-17373, P.I.N. 22318-0003, City of Kitchener, Regional Municipality of Waterloo (702 King Street West, Kitchener)
9. Part of Lots 43 and 44, Plan 377 being Parts 15 and 16 on 58R-17373, P.I.N. 22424-0018, City of Kitchener, Regional Municipality of Waterloo (737 King Street West, Kitchener)
10. Part of Lots 29 and 30, Plan 377 being Part 7 on 58R-17368, P.I.N. 22425-0040 City of

Page 1 of 6
11. Part of Lots 21, 29 and 30, Plan 413 being Part 8 on 58R-17373, P.I.N. 22327-0087, City of Kitchener, Regional Municipality of Waterloo (730 King Street West, Kitchener)
12. Part of Lot 95, Plan 385 being Part 2 on 58R-17316, P.I.N. 22420-0109, City of Waterloo, Regional Municipality of Waterloo (209 King Street South, Waterloo)
13. Part of Lots 368 and 369, Plan 376 being Part 1 on 58R-17368, P.I.N. 22318-0043 City of Kitchener, Regional Municipality of Waterloo (672-688, 690 and 692 King Street West, Kitchener)
14. Part of Lot 21, Plan 413 being Part 7 on 58R-17373, P.I.N. 22327-0088 City of Kitchener, Regional Municipality of Waterloo (742 King Street West, Kitchener)
15. Part of Lots 44 and 45, Plan 377 being Part 17 on 58R-17373, P.I.N. 22424-0017, City of Kitchener, Regional Municipality of Waterloo (741 King Street West, Kitchener)
16. Part of Lot 32, Plan 377 being Part 9 on 58R-17368, P.I.N. 22425-0035, City of Kitchener, Regional Municipality of Waterloo (655 King Street West, Kitchener)
17. Part of Lot C, Plan 9 being Part 18 on 58R-17373, P.I.N. 22424-0014 City of Kitchener, Regional Municipality of Waterloo (765 King Street West, Kitchener)
18. Part of Lot 15, GCT and Part of Lot 25, Subdivision of Lot 15,GCT being Part 1 on 58R-17373, and Part of Lot 25, Subdivision of Lot 15, GCT, being Part 2 on 58R-17373, P.I.N. 22327-0217, City of Kitchener, Regional Municipality of Waterloo (800 King Street West, Kitchener)
19. Part of Lots 13 and 14 Subdivision of Lot 15 GCT; Part of Linwood Avenue, Plan 413; Part of Lot 29, Subdivision of Lot 15 GCT and Part of Linwood Avenue, Plan 413 being Parts 3, 4, 5 and 6 on 58R-17373, P.I.N. 22327-0216, City of Kitchener, Regional Municipality of Waterloo (760 King Street West, Kitchener)
20. Part of Lot 26, Municipal Compiled Plan of Lot 15, GCT being Part 4 on 58R-17367, P.I.N. 22327-0093, City of Kitchener, Regional Municipality of Waterloo (824 King Street West, Kitchener)
21. Part of Lot 16, Plan 376, being Part 2 on 58R-17368, P.I.N. 22318-0070, City of Kitchener, Regional Municipality of Waterloo (670 King Street West, Kitchener)
22. Part of Lot 38 Plan 377 being Part 15 on 58R-17368, P.I.N. 22425-0049, City of Kitchener, Regional Municipality of Waterloo (5 Agnes Street, Kitchener)
23. Part of Mount Hope Cemetery, Plan 385 being Part 1 on 58R-17367, P.I.N. 22423-0108, City of Kitchener, Regional Municipality of Waterloo (835 King Street West, Kitchener)
24. Part of Lane, Plan 385 Abutting Lot 311, being Part 3 on 58R-17367, P.I.N. 22327-0009, City of Kitchener, Regional Municipality of Waterloo (King Street at Green Street, Kitchener)
25. Part of Lots 39, 40 and 41, Plan 377 being Parts 11 & 12 on 58R-17373, P.I.N. 22424-0021, City of Kitchener, Regional Municipality of Waterloo (709 King Street West, Kitchener)
26. Part of Lots 309, 310 and 311, Plan 385 being Part 2 on 58R-17367, P.I.N. 22327-0096, City of Kitchener, Regional Municipality of Waterloo (828 King Street West, Kitchener)
27. Part of Lots 8, 9, and 12, Subdivision of Lot 15, GCT and Part Lot D, Registered Plan 9, being Parts 19, 20 and 21 on 58R-17373, P.I.N. 22424-0157, City of Kitchener, Regional Municipality of Waterloo (787 King Street West, Kitchener)
28. Part of Lots 42 and 43, Plan 377 being Part 14 on 58R-17373, P.I.N. 22424-0019, City of Kitchener, Regional Municipality of Waterloo (727 King Street West, Kitchener)
29. Part of Lot 53, Plan 376 being Part 3 on 58R-17368, P.I.N. 22318-0129, City of Kitchener, Regional Municipality of Waterloo (624 King Street West, Kitchener)

30. Part of Lots 41 and 42, Plan 377 being Part 13 on 58R-17373, P.I.N. 22424-0020, City of Kitchener, Regional Municipality of Waterloo (723 King Street West, Kitchener)

31. Part of Lots 31 and 32, Plan 377 being Part 8 on 58R-17368, P.I.N. 22425-0036, City of Kitchener, Regional Municipality of Waterloo (647 King Street West, Kitchener)

32. Part of Lots 22, 23, 24, and 25, Plan 377 and Part of Lot 112, Streets and Lanes being Part 5 on 58R-17368, P.I.N. 22425-0042, City of Kitchener, Regional Municipality of Waterloo (607 King Street West, Kitchener)

33. Part of Lot 25, Plan 377 being Part 6 on 58R-17368, P.I.N. 22425-0041, City of Kitchener, Regional Municipality of Waterloo (617-621 King Street West, Kitchener)

34. Part of Lots 287 and 288, Plan 385 being Part 2 on 58R-17317, P.I.N. 22328-0189, City of Waterloo, Regional Municipality of Waterloo (240 King Street South, Waterloo)

35. Part of Lots 34 and 35, Plan 377, being Parts 16 and 17 on 58R-17368, P.I.N. 22318-0180, City of Kitchener, Regional Municipality of Waterloo (667 King Street West, Kitchener)

being partly in the City of Kitchener, Regional Municipality of Waterloo and partly in the City of Waterloo, Regional Municipality of Waterloo or such lesser portion(s) of any of the said properties as may be determined to be required through the preliminary design process for the purposes of the construction of the Rapid Transit Project Stage 1 on King Street South, from John Street, in the City of Waterloo to King Street West at Victoria Street, in the City of Kitchener, in the Regional Municipality of Waterloo.

AND THAT staff be instructed to register a Plan of Expropriation with respect to the said properties, or such lesser portions of any of the said properties as may be determined through the preliminary design process, within three months of the granting of approval to expropriate said properties, in accordance with the Expropriations Act (Ontario) (the “Act”);

AND THAT the registered owners be served with a Notice of Expropriation and a Notice of Possession with respect to the said properties after the registration of the Plan of Expropriation;

AND THAT if no agreement as to compensation is made with an owner, the statutory Offer of Compensation and payment be served upon the registered owners of applicable properties in the amount of the market value of the interests in such lands as estimated by the Region’s appraiser in accordance with the Act;

AND FURTHER THAT the Regional Solicitor be authorized to discontinue expropriation proceedings with respect to any above-referenced lands in the event that the Region is able to otherwise obtain registered title to such lands.

SUMMARY: N/A

REPORT:

The Region is in the process of acquiring lands required for the construction of Stage 1 of the Rapid Transit/Light Rail Transit (LRT) project which commences at Conestoga Mall in the City of Waterloo and ends at Fairview Park Mall in the City of Kitchener. The property acquisition and/or expropriation process for the LRT project has been divided into 3 phases that are temporally sequenced to accommodate the commencement of utility relocation work as early as 2013 and the commencement of the construction of LRT infrastructure as early as 2014.
It is to be noted that thirty-five (35) property owners will be impacted by the Region’s Phase 1 LRT (“Phase 1”) land requirements. All land acquisitions are partial takings. The partial takings range in depth from less than 0.5 metres to approximately 6 metres, with the vast majority falling somewhere in the middle. Two (2) of the said takings form part of City of Kitchener or City of Waterloo lands which we expect to acquire through a negotiated settlement.

On February 28, 2012, Regional Council approved the commencement of the expropriation of properties forming part of Phase 1 as detailed in Report CR-RS-09-019. The appropriate forms under the Act were served to initiate formal proceedings under the Act for these properties. All of the affected property owners were previously contacted by Legal Services staff and informed of the project, as well as, the Region’s intention to commence the expropriation process and the Region’s Expropriation Information Sheet was provided to each of them. Legal Services staff also contacted all property owners and informed them of the Region’s intention to continue with the expropriation process in order to ensure that the construction timeline is maintained, including this Report being presented to Council, as detailed in the Region’s Expropriation Information Sheet.

To date, the Region has entered into an agreement of purchase and sale with one of the Phase 1 property owners. Legal Services staff recommends that expropriation proceedings be discontinued by the Region with respect to this property if the said purchase transaction is completed by registration of a Transfer on title conveying interest in the lands to the Region. Legal Services staff will continue to correspond with all Phase 1 property owners in order to reach a negotiated settlement with as many as possible.

The Region received a Notice for a Hearing of Necessity from one Phase 1 property owner. Legal Services staff was able to satisfy the said property owner’s concerns prior to the Hearing and consequently the said property owner withdrew its request for a hearing.

The next step in the proceedings for the above-listed properties is for Council to approve the expropriation of those property interests. This approval will ultimately be endorsed upon a certificate of approval on the Plan of Expropriation for those properties not acquired under agreement. The Plan is then registered within three months of the approval. Ownership of the property vests with the Region upon the registration of the Plan. Notices of Expropriation are then served upon all registered owners, including tenants as shown on the assessment roll.

Once ownership by the Region is secured through the registration of the Plan, it is possible to serve the Notice of Possession. The date for possession can be no sooner than three months following the date of service of the Notice of Possession. The Notices of Expropriation and Notices of Possession may be served at the same time. In order to meet the construction timeline, possession of all the required lands is needed by January of 2013 to commence utility relocations later that year, as well as, LRT infrastructure construction in 2014. Accordingly, Legal Services staff will be proceeding expeditiously to register the Expropriation Plan and serve the Notices of Expropriation and Notices of Possession following approval by Regional Council.

After registration of the Plan of Expropriation and prior to the taking of possession of the property the expropriating authority is required to serve the registered owners with an offer in full compensation of their interests in the land. The offer must be accompanied by the immediate payment of one hundred (100%) percent of the appraised market value of the land to the registered owners as estimated by the Region’s appraiser. The registered owners are also to be served with a report appraising the market value of the property, which report formed the basis for the offer of compensation.

It is to be noted that the expropriation of lands is on an “as is” basis and upon the registration of the Plan, the Region assumes responsibility for the lands, subject to minor caveats.

1206701
The subject lands are shown in the Plan attached as Appendix “A” hereto.

CORPORATE STRATEGIC PLAN:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.

FINANCIAL IMPLICATIONS:

Funding for the property acquisitions related to the Rapid Transit project is included in the approved 2012 ten year capital program for Rapid Transit.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Environmental Services and Rapid Transit staff have been consulted in the preparation of this Report.

ATTACHMENTS

Appendix “A” – Plan showing subject lands

PREPARED BY: Liviu Cananau, Solicitor (Rapid Transit)

APPROVED BY: Gary Sosnoski, Commissioner, Corporate Resources
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: L07-90

SUBJECT: AUTHORIZATION TO EXPROPRIATE LANDS (1ST REPORT) DESIGNATED AS PHASE II OF STAGE 1 OF THE RAPID TRANSIT PROJECT RELATING TO PROPERTY AND INTERESTS FROM EBY STREET SOUTH BETWEEN CHARLES STREET EAST AND KING STREET EAST IN THE CITY OF KITCHENER TO BORDEN AVENUE SOUTH AND OTTAWA STREET SOUTH IN THE CITY OF KITCHENER

RECOMMENDATION:

THAT The Regional Municipality of Waterloo direct and authorize the Regional Solicitor to take the following actions with respect to the expropriation of further lands required for the construction of Stage 1 of the Rapid Transit Project commencing at Eby Street South between Charles Street East and King Street East in the City of Kitchener and running East along portions of Charles Street East and King Street East to Borden Avenue South and Ottawa Street South and including lands on Madison Avenue South, Cameron Street South, Pandora Avenue South, and Stirling Avenue South at the City of Kitchener, in the Regional Municipality of Waterloo in accordance with the Recommended Rapid Transit Implementation Option Report E-11-072 dated June 15, 2011:

A. Complete application(s) to the Council of the Regional Municipality of Waterloo, as may be required from time to time, for approval to expropriate land, which is required for the Rapid Transit Project Stage 1 and described as follows:

Fee Simple Partial Takings:

1. Part Lot 12 (H. Eby) South of King Street, Plan 364, being Part 1 on 58R17381, Part of PIN 22501-0067, City of Kitchener, Regional Municipality of Waterloo (22 Eby Street South, Kitchener)
2. Part Lot 14 (B. Moogk), Part Lot 15 (P. Grab), South of King Street, Plan 364, being Part 2 on 58R17381, Part of PIN 22502-0049, City of Kitchener, Regional Municipality of Waterloo (301–319 King Street East, Kitchener)
3. Part Lot 15 (P. Grab), South of King Street, Plan 364, being Part 3 on 58R17381, Part of PIN 22502-0050, City of Kitchener, Regional Municipality of Waterloo (No applicable municipal address, Kitchener)
4. Part Lot 16 or 15 (Hueglin), Part Lot 17 (B. Moogk) South of King Street, Plan 364, being Part 4 on 58R17381, Part of PIN 22502-0113, City of Kitchener, Regional Municipality of Waterloo (21 Cedar Street South, Kitchener)
5. Part Lot 18, South of King Street, Plan 364, being Parts 5 and 6 on 58R17381, Part of PIN 22502-0084, City of Kitchener, Regional Municipality of Waterloo (220 Charles Street East, Kitchener)
6. Part Lot 18, South of King Street, Plan 364 and Part Lot 19, South of King Street, Plan 365, being Part 7 on 58R17381, Part of PIN 22502-0086, City of Kitchener, Regional Municipality of Waterloo (230 Charles Street East, Kitchener)
7. Part Lot 19, South of King Street, Plan 365, being Part 8 on 58R17381, Part of PIN 22502-0087, City of Kitchener, Regional Municipality of Waterloo (28 Madison Avenue South, Kitchener)

8. Part Lots 20, 21 and 22, South of King Street, Plan 365, being Part 9 on 58R17381, Part of PIN 22502-0092, City of Kitchener, Regional Municipality of Waterloo (471 King Street East, Kitchener)

9. Part Lots 23 and 24, South of King Street, Plan 365, being Part 10 on 58R17381, Part of PIN 22502-0093, City of Kitchener, Regional Municipality of Waterloo (481 King Street East and 24 Cameron Street South, Kitchener)

10. Part Lots 63, 64 and 205, Part of Cameron Street (closed by by-law 6362, Instrument No. 363820), Plan 303 and Part Lot 25, South of King Street and West of Cameron Street, Plan 365, being Part 1 on 58R-17414, Part of PIN 22504-0011, City of Kitchener, Regional Municipality of Waterloo (301 Charles Street East, Kitchener)

11. Part Lots 76 and 205, Plan 303, being Part 2 on 58R17414, Part of PIN 22504-0042, City of Kitchener, Regional Municipality of Waterloo (104 Stirling Avenue South, Kitchener)

12. Part Lot 182, Streets and Lanes and Part Lot 64, Plan 303, being Parts 1 and 11 on 58R17386, Part of PIN 22502-0098, City of Kitchener, Regional Municipality of Waterloo (310 Charles Street East, Kitchener)

13. Part Lot 207, Plan 303, being Part 2 on 58R17386, Part PIN 22502-0100, City of Kitchener, Regional Municipality of Waterloo (332 Charles Street East, Kitchener)

14. Part Lot 78, Plan 303 being Part 3 on 58R17386, Part of PIN 22502-0105, City of Kitchener, Regional Municipality of Waterloo (625 King Street East, Kitchener)

15. Part Lot 16, Plan 634 being Part 4 on 58R17386, Part of PIN 22509-0140, City of Kitchener, Regional Municipality of Waterloo (22 Pandora Avenue South, Kitchener)

16. Part Lot 15, Plan 634 being Part 5 on 58R17386, Part of PIN 22509-0141, City of Kitchener, Regional Municipality of Waterloo (354 Charles Street East, Kitchener)

17. Part Lots 10 to 14, Plan 634 being Part 6 on 58R17386, Part of PIN 22509-0142, City of Kitchener, Regional Municipality of Waterloo (659 King Street East, Kitchener)

18. Part Lot 76, Plan 303, Part Lots 17, 33 and 34, Plan 634 and Part Lot 67, Streets and Lanes being Parts 7 and 8 on 58R17386, Part of PIN 22504-0045, City of Kitchener, Regional Municipality of Waterloo (355 Charles Street East, Kitchener)

19. Part Lot 41, Plan 634 being Part 9 on 58R17386, Part of PIN 22506-0003, City of Kitchener, Regional Municipality of Waterloo (21 Stirling Avenue South, Kitchener)

20. Part Lot 1, Plan 404 being Part 10 on 58R17386 and Part Lots 3 and 4, Plan 404, being Part 1 on 58R17395, Part of PIN 22506-0010, City of Kitchener, Regional Municipality of Waterloo (432 Charles Street East, Kitchener)

21. Part of Park Lot 25, Plan 404 being Part 2 on 58R17395, Part of PIN 22506-0217, City of Kitchener, Regional Municipality of Waterloo (480 Charles Street East, Kitchener)

22. Part of Park Lot 25, Plan 404 being Parts 3 and 4 on 58R17395, Part of PIN 22506-0009, City of Kitchener, Regional Municipality of Waterloo (50 Borden Avenue South, Kitchener)

23. Part of Park Lot 25, Plan 404, being Part 5 on 5817395, Part of PIN 22506-0093, City of Kitchener, Regional Municipality of Waterloo (512 – 516 Charles Street East, Kitchener)

24. Part of Park Lot 25, Plan 404, being Part 6 on 58R17395, Part of PIN 22506-0091, City of Kitchener, Regional Municipality of Waterloo (520 Charles Street East, Kitchener)

25. Part of Lot 12, Plan 262 being Part 7 on 58R17395, Part of PIN 22506-0090, City of Kitchener, Regional Municipality of Waterloo (526 Charles Street East, Kitchener)

26. Part Lot 13, Plan 262 being Part 8, 58R17395, Part of PIN 22506-0089, City of Kitchener, Regional Municipality of Waterloo (530 Charles Street East, Kitchener)
27. Part Lot 14, Plan 262 being Part 9 on 58R17395, Part of PIN 22506-0088, City of Kitchener, Regional Municipality of Waterloo (no applicable municipal address, Kitchener)
28. Part Lot 14, Plan 262 being Parts 10 and 11 on 58R17395, Part of PIN 22506-0086, City of Kitchener, Regional Municipality of Waterloo (534 Charles Street East, Kitchener)
29. Part Lot 15, Plan 262, being Part 12 on 58R17395, Part of PIN 22506-0084, City of Kitchener, Regional Municipality of Waterloo (542 Charles Street East, Kitchener)
30. Part Lots 16, 17 and 18, Plan 262 being Part 13 on 58R17395, Part of PIN 22506-0080(R) City of Kitchener, Regional Municipality of Waterloo (1027 King Street East, Kitchener)
31. Part Lot 19, Plan 262, being Part 14 on 58R17395, Part of PIN 22506-0067, City of Kitchener, Regional Municipality of Waterloo (564 Charles Street East, Kitchener)
32. Part Lot 20, Plan 262, being Part 15, 58R17395, Part of PIN 22506-0218, City of Kitchener, Regional Municipality of Waterloo (1081 King Street East, Kitchener)
33. Part Lots 21 and 22, Plan 262 being Part 16 on 58R17395, Part of PIN 22506-0077, City of Kitchener, Regional Municipality of Waterloo (22 Ottawa Street South, Kitchener)
34. Part Lot 11, Plan 262 and Part Lots 6 to 11, Plan 262, being Parts 17 and 18 on 58R17395, Part of PIN 22506-0215, City of Kitchener, Regional Municipality of Waterloo (50 Ottawa Street South, Kitchener)
35. Part Lot 12 (A. Geckle) South of King Street, Plan 364, being Part 1 on 58R1929, Part of PIN 22502-0040, City of Kitchener, Regional Municipality of Waterloo (no applicable municipal address, Kitchener)

1. Serve notices of the above application(s) required by the Expropriations Act;
2. Forward to the Chief Inquiry Officer any requests for a hearing that may be received;
3. Attend, with appropriate Regional staff, at any hearing that may be scheduled;
4. Discontinue expropriation proceedings or any part thereof, in respect of the above described lands, or any part thereof, upon the registration on title of the required documentation to complete a transaction whereby the required interests in the lands are conveyed; and
5. Do all things necessary and proper to be done, and report thereon to Regional Council in due course.

SUMMARY: NIL

REPORT:

Introduction
On June 15, 2011, Regional Council approved light rail transit (LRT) as the preferred transit technology from Conestoga Mall in the City of Waterloo to the Ainslie Street Terminal in the City of Cambridge. Stage 1 of the LRT project (Stage 1) will include LRT service from Conestoga Mall in the City of Waterloo to Fairview Park Mall in the City of Kitchener.

The Region of Waterloo initiated a Transit Project Assessment (TPA) with respect to Stage 1 in November of 2011, which has been completed and has provided results that are permissive of the construction and operation of LRT along the proposed corridor.
Current Project Status and Phase 1 Update
The functional design of the project is presently underway. Construction of the rapidway is proposed to commence in mid 2014 to be preceded by certain utility relocation work commencing as early in 2013. Property acquisitions with respect to Stage 1 are being completed in 3 phases in accordance with the required possession date for the various properties. Regional Council approved the commencement of expropriation proceedings with respect to the first phase (Phase 1) of lands required for Stage 1 on February 28, 2012 in accordance with Report CR-RS-12-013. At this time, Regional Staff is actively negotiating the acquisition of Phase 1 lands with property owners, as well as, submitting contemporaneously with this Report a Second Report with respect to the expropriation of Phase 1 lands in order to secure possession of those lands on a timely basis.

Phase 2
This Report pertains to the second phase (Phase 2) of lands required for Stage 1 of the Rapid Transit Project. Phase 2 entails partial takings from 35 properties. The depth of the partial takings varies on a property by property basis from under 0.5 metres to approximately 8 metres, with most falling somewhere in the middle. It is noted that two of these properties are owned by the City of Kitchener and, as such, acquisition will be through negotiation with regard to those properties. Possession of the Phase 2 properties is required by the Region on or about June 30, 2013.

In order to meet the Rapid Transit Project timelines, the Commissioner of Transportation and Environmental Services has authorized modified prerequisites for the commencement of the expropriation process with respect to lands required for Rapid Transit in accordance with the Region’s revised land acquisition policy for infrastructure projects. Accordingly, Regional Staff have contacted, in writing, all property owners impacted by the Region’s Phase 2 land requirements, except for one as further explained below, and have followed up in person or via telephone with all owners that have made themselves available. The property owners have been informed of the Region’s intention to proceed with the expropriation process, including this report, and have been provided with the Region’s Expropriation Information Sheet which explains the expropriation process. A copy of the Expropriation Information Sheet is attached as Appendix “A” hereto. As well, each owner has been provided a copy of the Property Acquisition Process Information Sheet and a Property Impact Plan (PIP) illustrating the required taking for each particular property. The owners have also been advised that it is the Region’s intention to seek a negotiated settlement prior to the completion of the Expropriation process and that the process has been commenced only to ensure that possession of the required lands is secured by the date set by Project staff in order to meet the Project timeline.

As a caveat to the preceding paragraph, Regional Staff have been unable to contact the owner of a small vacant strip of land on Charles Street East in the City of Kitchener legally described as Part Lot 14, Plan 262 being PIN 22506-0088. The Region requires a small piece of that property more particularly described as Part 9 Plan 58R-17395, City of Kitchener being approximately 1.5 metres wide and 0.5 metres deep. The owner has been deceased over fifty years, there have been no legal dealings with the property since the owner’s passing, and there is suggestion that the two abutting land owners have acquired prescriptive rights over the property by virtue of its use and occupation. The property does not have a municipal address. Regional Staff continue to search for the heirs of the deceased, if any. Regional Staff are also in communication with the abutting land owners to keep informed of any possessory claims that may be made. There is a possibility that recourse will have to be made to the Superior Court of Justice in order to determine legal ownership.

Should a negotiated settlement be reached with any of the property owners and a conveyance of the required acquisition completed before the expropriation process is complete, the expropriation process with respect such lands would be discontinued by the Regional Solicitor.

It is to be noted that the expropriation of the lands referred to above is on an “as is” basis and, therefore, the Region assumes all responsibility for the said lands upon assumption of title.
For reference purposes, the Project Area has been attached as Appendix “B” hereto.

CORPORATE STRATEGIC PLAN:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.

FINANCIAL IMPLICATIONS:

Funding for the property acquisitions related to the Rapid Transit project is included in the approved 2012 ten year capital program for Rapid Transit.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Rapid Transit staff have been consulted in the preparation of this Report.

ATTACHMENTS

Appendix “A” – Copy of the Expropriation Information Sheet
Appendix “B” – Project Area

PREPARED BY: Liviu Cananau, Solicitor

APPROVED BY: Gary Sosnoski, Commissioner, Corporate Resources
The following information is provided as a general overview of the expropriation process and is not legal advice. For complete information, reference should be made to the Ontario Expropriations Act as well as the more detailed information in the Notices provided under that Act.

**Expropriation Information Sheet**

**What is Expropriation?**

Governmental authorities such as municipalities, school boards, and the provincial and federal governments undertake many projects which require them to obtain land from private property owners. In the case of the Regional Municipality of Waterloo, projects such as the construction or improvement of Regional Roads sometimes require the purchase of land from private property owners. In many cases, the Region of Waterloo only needs a small portion of the private property owner’s lands or an easement for related purposes such as utilities, although in certain instances, entire properties are required.

Usually the governmental authority is able to buy the land required for a project through a negotiated process with the affected property owners. Sometimes, however, the expropriation process must be used in order to ensure that the land is obtained within a specific timeline. Put simply, an expropriation is the transfer of lands or an easement to a governmental authority for reasonable compensation, including payment of fair market value for the transferred lands, without the consent of the property owner being required. In the case of expropriations by municipalities such as the Region of Waterloo, the process set out in the Ontario Expropriations Act must be followed to ensure that the rights of the property owners provided under that Act are protected.

**IMPORTANT NOTE:** The Region of Waterloo tries in all instances to obtain lands needed for its projects through a negotiated agreement on mutually acceptable terms. Sometimes, the Region of Waterloo will start the expropriation process while negotiations are underway. This dual approach is necessary to ensure that the Region of Waterloo will have possession of all of the lands needed to start a construction project on schedule. However, it is important to note that Regional staff continues to make every effort to reach a negotiated purchase of the required lands on mutually agreeable terms while the expropriation process is ongoing. If agreement is reached, expropriation proceedings can be discontinued and the land transferred to the Region of Waterloo in exchange for payment of the agreed-upon compensation.

**What is the process of the Region of Waterloo under the Expropriations Act?**

- Regional Council considers a request to begin an application under the Expropriations Act to obtain land and/or an easement for a specific Regional project. No decision is made at this meeting to expropriate the land. This step is simply direction for the Region of Waterloo to provide a “Notice of Application for Approval to Expropriate” to affected property owners that the process has started to seek approval to expropriate the land.
As stated in the Notice, affected property owners have 30 days to request a Hearing to consider whether the requested expropriation is “fair, sound and reasonably necessary in the achievement of the objectives” of the Region of Waterloo. This Hearing is conducted by a provincially-appointed Inquiry Officer. Prior to the Hearing, the Region of Waterloo must serve the property owner with a Notice setting out its reasons or grounds for the proposed expropriation. **Compensation for lands is not determined at this Hearing.** The Inquiry Officer can order the Region of Waterloo to pay the property owner up to $200.00 as compensation for the property owner’s costs in participating in this Hearing, regardless of the outcome of the Hearing.

If a Hearing is held, a written report is provided by the Inquiry Officer to the property owner and the Region of Waterloo. Council must consider the Report within 90 days of receiving it. The Report is not binding on Council and Council may or may not accept the findings of the Report. After consideration of the Report, Council may or may not approve the expropriation of the land or grant approval with modifications. A property owner may wish to make written and/or verbal submissions to Council at the time that it is considering the Report.

If no Hearing is requested by the property owner, then Council may approve the expropriation of the land after expiry of a 30 day period following service of the Notice of Application for Approval to Expropriate.

If Council approves the expropriation then, within 3 months of this approval, the Region of Waterloo must register a Plan at the Land Registry Office that describes the expropriated lands. The registration of this Plan automatically transfers title of the lands to the Region of Waterloo, instead of by a Deed signed by the property owner.

Within 30 days of registration of the Plan, the Region of Waterloo must serve a Notice of Expropriation on the affected property owner advising of the expropriation. Within 30 days of this Notice, the property owner may serve the Region of Waterloo with a Notice of Election selecting the valuation date under the *Expropriations Act* for calculation of the compensation.

In order to obtain possession of the expropriated lands, the Region of Waterloo must also serve a Notice of Possession setting out the date that possession of the land is required by the Region of Waterloo. This date has to be 3 months or more from the date that this Notice of Possession is served on the affected property owner.

Within 3 months of registration of the Plan, the Region of Waterloo must provide the affected property owner with payment for the full amount of the appraised fair market value of the expropriated land or easement and a copy of the appraisal report on which the value is based. If the property owner disagrees with this amount, and/or claims other compensation and/or costs under the *Expropriations Act*, the compensation and/or costs matter may be referred to a provincially-appointed Board of Negotiation in an effort to reach a mediated settlement and/or an appeal may be made to the Ontario Municipal Board (OMB) for a decision. In any event, the Region of Waterloo continues in its efforts to reach a negotiated settlement with the affected property owner prior to the OMB making a decision.
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012 FILE CODE: L04-20

SUBJECT: RAPID TRANSIT PROJECT - RFP 2012-023 - RETAINER OF EXTERNAL COUNSEL

RECOMMENDATION

That The Regional Municipality of Waterloo retain the law firm Norton Rose Canada LLP to provide legal services on an as-needed and as-requested basis in connection with implementation of the Rapid Transit Project as described in Report CR-RS-12-054/FIN-12-058 dated August 14, 2012.

SUMMARY: Nil

REPORT:

In February, 2012 Council approved the procurement delivery model of a Design-Build-Finance-Operate-Maintain (“DBFOM”) for Stage 1 of the rapid transit implementation plan. To select the DBFOM contractor, the Region will undertake a staged selection process involving a Request for Qualifications (“RFQ”) followed by a more detailed Request for Proposals (“RFP”) including contractual documentation that will secure, among other things, the short- and long-term private financing to fund the construction phase and portion of the construction costs that will be deferred to be repaid over the maintenance term. Developing the RFQ/RFP documents will require highly specialized legal expertise. In addition, other aspects of implementation of the rapid transit project, such as negotiation of the senior government funding agreements, acquisition of the light rail vehicles, and compliance with legal and regulatory provisions pertaining to municipal borrowing and private sector finance also require highly specialized legal expertise. In view of the foregoing, it was recognized that external legal counsel with experience in the subject areas of law should be retained in order to ensure the successful implementation of the rapid transit project in a manner that best protects the legal interests of the Region.

A comprehensive selection process was undertaken through a Request for Proposals (“RFP”) process to select a law firm to provide the required legal services to the Region. The RFP was advertised in the Ontario Reports as well as on the Ontario Public Buyers Association and Region of Waterloo websites. The evaluation team consisted of: Debra Arnold (Director of Legal Services and Regional Solicitor), Thomas Schmidt (Commissioner, Transportation and Environmental Services), Calvin Barrett (Director, Financial Services & Development Financing) and Lisa Buitenhuis (Manager, Procurement).

Eight (8) proposals were submitted in response to the Region’s RFP. These proposals were submitted by:

1. Aird & Berlis LLP/Fraser Milner Casgrain LLP
2. Borden Ladner Gervais LLP
3. Davis LLP
4. Heenan Blaikie LLP
5. McCarthy Tetrault LLP/Freshfields Bruckhaus Deringer US LLP
6. Norton Rose Canada LLP
7. Siskinds LLP
8. Torys LLP

One proponent was disqualified. After evaluation of the remaining 7 proposals, 4 proponents were shortlisted. The 4 short-listed proponents were interviewed by the evaluation team and their respective financial proposals evaluated.

The evaluation team used the following evaluation criteria:

A. Evaluation of written proposals (60%)
   1. Experience of Proponent (35%)
      • Including three (3) examples of projects in respect of which the proponent has provided legal services, approach and methodology employed by proponent in delivery of legal services, three key challenges and how the proponent successfully addressed them
   2. Experience and Qualifications of Lead Counsel and Legal Team Members (25%)
      • Individual capabilities in the subject areas of law required by the Region, e.g., Drafting of RFQ/RFP documentation, vehicle procurement documentation, senior government funding agreements, legislative and regulatory provisions pertaining to municipal and private sector financing

B. Interviews/Oral presentation - Short-listed Proponents Only (25%)
   • 20 minutes presentation by proponent followed by 30 minutes question and answer period

C. Financial Proposal - Short-listed Proponents Only (15%)
   • Hourly rates of lead counsel and legal team members
   • Task estimates

Norton Rose Canada LLP had the highest overall score and demonstrated substantial experience and qualifications in connection with transportation projects and the DBFOM or variations thereof procurement model. Norton Rose Canada LLP is part of an international law firm of which approximately 700 lawyers are based across Canada, including in Toronto and Ottawa offices. It was formed as a result of the Canadian law firms Macleod Dixon and Ogilvy Renault joining forces with London, England-based Norton Rose LLP. Norton Rose Canada LLP has provided a sworn statutory declaration that it has no conflicts of interest within the meaning of the Rules of Professional Conduct of the Law Society of Upper Canada in accepting a retainer by the Region.

Under the proposed retainer, legal services will be provided on a task assignment basis, as needed and requested by the Region, with invoicing for such task subject to a cost estimate and detailed hourly docketing provided to the Region. The hourly rates of the lawyers are subject to a maximum cumulative annual increase of 2.25% in each of the years of the retainer (similar to the General Engineering Consultant contract for the rapid transit project). Any travel disbursements must be pre-approved by the Region and will be reimbursed at actual cost. The job classification and hourly rates for the Norton Rose Canada LLP legal team are set out in Appendix “A” to this Report, as well as the description of tasks and estimated hours of work. It is noted that the estimated hours of work are subject to many variables depending upon issues and complexity which may arise during completion of a particular task. In order to ensure budget adherence and accountability, the retainer will require monthly invoicing and impose upset limits on individual tasks which may not be exceeded without prior Regional approval. Given the heavy reliance on the expertise and experience of the specific legal team members, the retainer stipulates that the law firm must provide the services of the legal team members named in the proposal unless it is unable to do so for reasons beyond its reasonable control, in which case any replacement(s) to the legal team are subject to the prior written approval of the Region and must provide the services at the same or lower hourly rate.
The proposed retainer will be for a term up to December 31 2017, with the Region’s right to terminate earlier at any time in its discretion, subject to payment for legal fees incurred to the date of such termination. The retainer is non-exclusive and does not preclude the Region from retaining lawyers of other law firms in particular instances in the Region’s sole discretion.

Next Steps in the Rapid Transit Project
Staff anticipates that the next steps in the rapid transit project will include:

- Fall 2012: report on the vehicle procurement negotiations;
- Fall 2012: issue request for qualifications from potential DBFOM teams;
- January 2013: shortlist qualified DBFOM teams;
- February 2013: complete performance specifications and a draft project agreement;
- February 2013: finalize funding agreements with federal and provincial governments;
- March 2013: issue request for proposals from shortlisted DBFOM teams;
- June 2013: begin aBRT construction;
- January 2014: evaluate and select preferred DBFOM team;
- May 2014: approve final agreement with the preferred DBFOM team;
- 2014: full implementation of aBRT;
- 2014: begin construction of LRT Stage 1;
- 2014: begin the environmental approval process for LRT Stage 2; and
- 2017: complete construction and begin operation of LRT Stage 1.

CORPORATE STRATEGIC PLAN:

The recommendation of this Report supports Focus Area 3.1 of Council’s Strategic Plan, being to implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.

FINANCIAL IMPLICATIONS:

The capital cost of Stage 1 of the rapid transit project is estimated to be $818 million, in 2014 dollars. The Region’s portion of the capital cost is $253 million. On June 15, 2011, Council approved the funding for the Region’s portion of the Stage 1 capital costs, subject to annual budget deliberations.

The approved 2012 Regional capital program for rapid transit includes an allocation for soft costs that include engineering design, procurement and construction management, and design support. The scope of work for the external legal counsel is reflective of these tasks and will be funded from the soft cost estimate of over $100 million.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

This Report was prepared with input from Finance and Transportation and Environmental Services staff.

ATTACHMENTS: Appendix “A” – Hourly Rates and Estimated Hours for Tasks

PREPARED BY: Charles Whitlock, Director, Procurement and Supply Services
Debra Arnold, Director of Legal Services and Regional Solicitor

APPROVED BY: Debra Arnold, Director of Legal Services and Regional Solicitor
Craig Dyer, Commissioner of Finance and Chief Financial Officer
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Note: All the amounts exclusive of any sales, use or value-added taxes that may be applicable.
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: A02-30/PW

SUBJECT: REGION OF WATERLOO RAPID TRANSIT PROJECT: INFRASTRUCTURE ONTARIO

RECOMMENDATION:

THAT the Regional Municipality of Waterloo engage Ontario Infrastructure and Lands Corporation to act as the Commercial Procurement Lead for the rapid transit project for an upset fee limit of $3,854,544 plus applicable taxes, as described in Report No. E-12-082, dated August 14, 2012.

SUMMARY:

Nil

REPORT:

The Region continues to plan for population and employment growth over the next two decades. Recognizing this challenge, Council approved rapid transit as the preferred transportation mode to move people and to shape urban form.

With project approval in place, the construction is planned to commence in 2014 and system operations beginning in 2017. To execute the project within this schedule there are a number of key decision points and major milestones that will have to be met before 2014. One of these decisions involve the selection of a Commercial Procurement Lead for the rapid transit project.

In June 2011, Council directed staff to assess the role of Infrastructure Ontario, known corporately as Ontario Infrastructure and Lands Corporation (IO) as the potential Commercial Procurement Lead. To that end, staff and IO officials have met several times to examine and evaluate the procurement model they offer municipalities and their potential role.

IO has extensive experience in procuring large infrastructure projects including experience with institutional lenders that is valuable in a private finance procurement model, as approved by Regional Council. In particular, the key benefits include:

- Private sector familiarity with IO’s processes and documents, which encourages bidder participation;
- Experience applying the Alternative Finance Procurement (AFP) approach to many of the Province’s public projects; and
- Rigor and discipline brought to the procurement process.
Staff are confident that IO will provide significant value to the rapid transit project and recommend that the Region engage them as the commercial procurement lead for the rapid transit project in accordance with the Memorandum of Understanding (MOU) attached as Appendix A to this report.

In this role, IO representatives would lead the procurement phase of the rapid transit project up to financial close. More specifically, IO, in conjunction with the Region, will:

- provide procurement coordination and transaction management services up to and including the date of Financial Close;
- assist in developing the procurement documents and negotiating the terms and conditions of the project agreements, and other agreements to be entered into in respect of the project; and
- work closely and cooperatively with the Region in liaising with, seeking input from, and obtaining all applicable licenses, permits, approvals and agreements from federal, provincial, and municipal governmental and regulatory agencies that are required to be obtained by or on behalf of the Region to reach Financial Close.

The Region will retain final approval authority on all decision-making. This reporting arrangement will ensure the Region benefits from the advantages of IO involvement during the procurement process while ensuring the Region’s objectives are met.

The Rapid Transit Steering Committee will confirm and recommend the preferred proponent to Council. After contract award, IO will support the project team in an advisory role for contract interpretation and enforcement during the construction phase.

Under the MOU, IO will indemnify the Region with respect to any third party claims arising out of anything done or omitted to be done by IO in the course of performance of its obligations under the MOU, provided that IO’s insurance coverage responds to the claim. Further, the indemnification will be capped at the maximum amount of any insurance proceeds payable under an IO insurance policy (as described in the MOU) which responds to such third party claim. The MOU addresses the issue of priority of responding insurance coverage such that IO’s insurance would respond first to such claim and this approach is consistent with the Region’s preferred approach to indemnification.

CORPORATE STRATEGIC PLAN:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Develop an implementation plan for light rail transit including corridor and station area planning.

FINANCIAL IMPLICATIONS:

The cost of this engagement with IO for all services to be provided under this MOU is $3,854,544, inclusive of all travel, accommodation and disbursements, but exclusive of applicable taxes. This is an “all-in” fee for the services that IO will provide to the Region up to the start of revenue service. IO provided Regional staff with a fee breakdown and payment schedule, a copy of which is attached to the MOU as Schedules “D” and “E” thereto (see Appendix A to this Report).
The capital cost of Stage 1 of the rapid transit project is estimated to be $818 million, in 2014 dollars. The province has given approval in principle to providing $300 million and the federal government has given approval in principle to providing $265 million in funding for the project. The Region’s share of the capital cost is $253 million and the funding plan was approved by Council on June 15, 2011, subject to annual budget deliberations.

The $818 million cost estimate includes an allocation for soft costs such as engineering design, procurement and construction management, and design support in excess of $100 million. The scope of work for the IO assignment will be accommodated within this allocation. Staff will continue to provide updates on the financial status of the project as part of the Periodic Financial reports to Council.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Finance staff (Risk Management, Procurement, and Financial Services/Development Financing) and Legal staff were consulted in the preparation of this Report and participated in the negotiation of the MOU.

ATTACHMENTS: Appendix A – Memorandum of Understanding

PREPARED BY: Darshpreet Bhatti, Acting Director, Rapid Transit

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: C06-60/P&W/WS.12

SUBJECT: KITCHENER WWTP UPGRADES – MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY

RECOMMENDATION:

THAT the Regional Municipality of Waterloo receive the Kitchener WWTP Upgrades – Municipal Class Environmental Assessment Study including its recommendations as summarized in Report E-12-054 dated August 14, 2012;

AND THAT the Commissioner of Transportation and Environmental Services be authorized to issue the Notice of Completion, and to provide the Kitchener WWTP Upgrades Municipal Class Environmental Assessment Report for public review and comment for a 30-day period in accordance with the Municipal Class Environmental Assessment Process.

SUMMARY:

The Region is implementing a three-phase program of upgrade projects related to the Kitchener wastewater treatment plant (WWTP). Phase 1 has been completed and included the upgrade of the Wastewater Residuals Management Centre (WWRMC) at Manitou Drive, Kitchener, to include centrifuges for biosolids dewatering. The Phase 2 upgrades, which are currently under construction, will improve the ability of Plant 2 to treat centrate from the WWRMC and enhance ammonia removal in the aeration process. A new UV disinfection and effluent pumping station facility is also being constructed to ensure appropriate levels of disinfection are met and non-acutely toxic effluent is released to the Grand River as well as to prevent the flooding of the plant during high flow events and/or high river levels.

The Region of Waterloo has completed the Class EA Study for the Kitchener WWTP Phase 3 upgrades based on a thorough assessment of the main processes and surrounding environment, including technical, environmental, social and economical considerations, as well as comments received from the public, agencies and other stakeholders. These upgrades will include the decommissioning of the biosolids storage lagoons, construction of a new secondary treatment plant and tertiary filters, replacement/refurbishment of selected process facilities (headworks, anaerobic digesters), electrical upgrades, as well as a number of minor upgrades to address deficiencies throughout the plant. The third phase of upgrades will provide reliable and efficient operation in the long term, reduced odour, and address additional Grand River water quality requirements through improved effluent quality.

It is expected the 30-day public review period will start on September 3rd, 2012.
**REPORT:**

**Background**

The Wastewater Treatment Master Plan (2007) recommended major upgrades to the Kitchener WWTP. In 2008, the Region also completed a project delivery review to optimize the implementation of this project and other large wastewater projects (Report E-08-010). Based on this work, upgrades to the Kitchener WWTP were split in three phases.

Phase 1 included a new Wastewater Residuals Management Centre (WWRMC) Dewatering Facility that has recently been commissioned at Manitou Drive to dewater biosolids from the Kitchener WWTP. Phase 2 includes upgrades to Plant 2 aeration and construction of a UV Disinfection Facility and Effluent Pumping Station. These upgrades are currently under construction (Report F-10-093) and are expected to be completed in 2013. In addition, Plant 1 has recently been retrofitted with a diffused air system to address equipment reliability and structural concerns until all upgrades to the WWTP are completed.

The remaining and largest improvements to the Kitchener WWTP are part of Phase 3 of the upgrades and include construction of a new Plant 3 and upgrades to a number of processes not considered in the previous phases of the work.

**Public and Stakeholders Involvement**

The following is a chronology of the opportunities for public involvement provided during the Kitchener WWTP Upgrades Class EA Study:

- **June 3, 2011:** Notice of Project Commencement
  Advertisements were placed in The Record and in the Region’s Water Service web page informing the public of the commencement of the Class EA Study. In addition, neighbours living in a distance of approximately 2 km from the WWTP were notified by mail drop (i.e. flier), and potential concerned groups, neighbouring municipalities, provincial agencies, federal agencies, First Nations, and the Grand River Conservation Authority (GRCA) were notified by letter.

- **November 2011 and May/June 2012:** Notice of Public Information Centres (PICs)
  Advertisements were placed in The Record and in the Region’s Water Service web page informing the general public of the PICs, and requesting input from interested parties on the Kitchener WWTP Upgrades. In addition, letters were sent to the Region’s area municipalities, provincial agencies, the GRCA, and to concerned citizens located in the proximity of the Kitchener WWTP (fliers delivered to the same area covered by the Notice of Project Commencement).

- **November 16, 2011:** PIC #1
  The PIC was held at the Pioneer Park Public School in Kitchener to introduce the Kitchener WWTP Upgrades project. Information presented included project rationale, scope of proposed improvements, an overview of existing conditions, and recommendations for various upgrade components, including cost estimates. Comments received from attendees of the PICs are summarized below.

- **March 2012:** Kitchener WWTP Newsletter, Issue #1
  A Newsletter summarizing the Kitchener WWTP upgrades was delivered to concerned citizens located in the proximity of the Kitchener WWTP (fliers delivered to the same area covered by the Notice of project Commencement). The Newsletter, Issue #1, was also posted in the Region’s Water Service web page.
June 12, 2012: PIC #2
The PIC was held at the Pioneer Park Public School in Kitchener to further describe how and when the Phase 3 upgrades will be undertaken and how anticipated impacts from construction will be managed. Comments received from attendees of the PICs are summarized below.

August 2012: Notice of Completion
Upon Council approval, advertisements will be placed in The Record and in the Region’s Water Service web page informing the general public of the 30 day review period for the Final Report. The Notice of Completion will be delivered to neighbours living in a distance of approximately 2 km from the WWTP by mail drop as before. All comments received will be reviewed and evaluated by the Project Team, and will become part of the project file.

November 2011 PIC Summary
Ten people attended the November 16, 2011 PIC. Participants were primarily concerned with the on-going construction of the Conestoga College sewer main, which was not part of this project. Comments provided by attendees were all favourable of the upgrades and of the alternatives proposed by the Region for the different processes. Formal comments were received from three people. These comments were related to effluent quality, odour emission, truck traffic, species at risk, duration of construction, and use of specialists to identify and protect ecological features during construction.

June 2012 PIC Summary
Two people attended the June 12, 2012 PIC. Again, comments provided by attendees were all favourable of the upgrades and of the recommended implementation strategy that includes a number of contracts between 2012 and 2018. A formal comment was received from one person, who was concerned with the fence that was installed recently at the edge of the existing biosolids storage lagoons, which was not part of this project. This comment was forwarded to the appropriate staff in the Region to provide additional information.

Unsolicited comments
The Region has received unsolicited comments from the public though e-mail and phone. These comments are generally appreciative of the work it has been done at the Kitchener WWTP and the way the residents are kept informed of the project.

Study Recommendations
The Class EA study included a thorough review of processes, equipment, and surrounding environment and recommended the following:

- Decommissioning of existing biosolids storage lagoons;
- Refurbishment of existing primary anaerobic digesters (including new mixing, heating and gas systems) and construction of a new digester control building;
- Construction of a new headworks facility that includes modifications to the influent channel, fine screening, grit removal, screenings compaction, and biofilter for odour control;
- Construction of a new primary effluent splitting chamber;
- Construction of new aeration tanks with three-pass plug flow, fine bubble diffusers, to achieve full nitrification and improve solids settling;
- Construction of new return and waste activated sludge pumping stations;
- Construction of a new tertiary filter facility;
- Construction of a new outfall and diffuser.
Due to the magnitude and complexity of this project, the work will be carried out through a number of construction contracts over a period of approximately six years. Several of the contracts will be further broken into smaller contracts based on schedule and/or the nature of the works to be undertaken. The recommended main contracts are:

- Contract 1 – Lagoon Decommissioning and Digested Sludge Transfer Pumping;
- Contract 2 – Energy Centre and Anaerobic Digestion;
- Contract 3 – Headworks, Tertiary Treatment, and Outfall;
- Contract 4 – Plants 3 and 4 Secondary Treatment, Plant 2 return activated sludge/waste activated sludge (RAS/WAS) pumping, and some Miscellaneous Works.

Next Steps

Following Council approval, the Class EA Report will be placed for the 30-day public review starting September 3rd, 2012, in accordance with the Municipal Engineers Association Class Environmental Assessment Process. Contract 1 will be tendered in the Fall of 2012 and is expected to be completed by the end of 2013. The other contracts will start between 2013 and 2015 and should be completed by 2018.

CORPORATE STRATEGIC PLAN:

Completing Kitchener WWTP Upgrades supports the Corporate Strategic Plan Focus Areas 1 and 5: Environmental Sustainability and Infrastructure, respectively; and the following strategic objectives: improve air quality in Waterloo Region, effectively use and manage energy resources, protect the quality and quantity of our water sources, optimize the use of current infrastructure and ensure it is adequately maintained.

FINANCIAL IMPLICATIONS:

The Council-approved 2012 10-year Wastewater Capital Program includes a budget of $327,812,000.00 between 2012 and 2020 for upgrading the Kitchener WWTP.

The estimated costs for implementing the works necessary for Phase 3 of the Kitchener WWTP upgrades are approximately $250,000,000.00 with an additional operating cost of $1,500,000.00 per year. More detailed costs will be available upon completion of the detailed design related to the different contracts and will be included in the respective future capital and operating budgets.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE: NIL

ATTACHMENTS: NIL

PREPARED BY: José Bicudo, Senior Project Engineer

APPROVED BY: Thomas Schmidt, Commissioner of Transportation and Environmental Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: C06-60/P&W/WS.12

SUBJECT: DRAFT SOURCE PROTECTION POLICIES FOR THE SOURCE PROTECTION COMMITTEE

RECOMMENDATION:

THAT the Regional Municipality of Waterloo (Region) approve the following actions with regard to draft source protection policies, as presented in Report E-12-075 dated August 14, 2012:

a) forward the draft policies and accompanying explanatory notes to the Lake Erie Source Protection Committee for inclusion in the draft Source Protection Plan and for additional consultation;

b) direct staff to incorporate the proposed incentive programs, subject to determination of legislative tools, staffing requirements, and related costs into the preliminary 2013-2022 Operating and Capital Budgets and Forecasts for Regional Council’s consideration;

c) direct staff to develop detailed implementation guidelines for the incentive program for Regional Council’s consideration;

d) direct staff to negotiate with the City of Brantford a plan to implement the draft policies where the City of Brantford’s drinking water protection areas occur within Waterloo Region;

e) request Wellington County to revise its draft policies where Region protection areas extend into Wellington County and direct staff to negotiate a plan with Wellington County staff for policy implementation in these areas; and

f) provide a copy of this report to Area Municipalities including the City of Brantford and Wellington County.

SUMMARY:

The last planning step in fulfilling the requirements of the Clean Water Act for watershed-based source water protection is the development of the Source Protection Plan (SPP). The SPP will contain policies to reduce the risk from drinking water threats and is required to be submitted to the Ministry of Environment (MOE) for approval by December 31, 2012. This report presents draft policies that were modified based on agency pre-consultation, the draft explanatory document that documents the rationale for each policy, and the financial implications of implementing the SPP in Waterloo Region. These draft policies and explanatory document will be included in the draft SPP for further public consultation.

Draft policies have been reformatted to more closely align with other jurisdiction’s policies in the draft SPP and for future inclusion in the Regional Official Plan. This reformatting has improved the readability and reduced the total number of policies. While most of the policies continue to rely on risk management plans and prescribed instrument tools enabled by the Clean Water Act, several changes were made in response to consultation including: transition policies that will recognize some planning approval to enable the activity to be treated as existing rather than future; limiting the scope of policies in surface water areas contributing to wells to that of spill preparedness; adding
new policies for the Mannheim Water Treatment Plant Intake in the Grand River; and adding new policies for Brantford’s intake protection areas where they occur within the Region. The largest number of threats in Waterloo Region is from the application of road salt which is contributing to the identification of drinking water issues in ten well fields. Risk management plans will be needed for approximately 500 large and medium-sized parking lots.

Implementing the draft policies will require financial resources. It is estimated that it will cost the Region approximately $9,400,000 to implement these policies which includes both staff implementation costs and changes to properties/activities. Fortunately some impact has been expected and a large portion of the overall implementation costs has been accounted for in previous Water Services budgets. Specifically, the approved 2012 Water Capital Budget and Ten-Year Forecast includes funds to cover the proposed policies for incentives ($5,900,000) and education ($850,000) programs. However, it has not been feasible to identify potential staffing costs or costs for risk-mitigation activities until recently. Additional costs that will need to be included in 2013 budget process over and above those already included in the approved 2012 Water budgets are estimated as follows:

- costs to provide for one permanent full time equivalent (FTE) in 2013 for a risk Management program coordinator, one permanent FTE in 2014 for an incentive/education program coordinator, and one three-year contract FTE in 2014 for a risk management inspector will be funded through Water Operations Budget;
- Approximately $44,000 per year on average for the Region to implement the policies on properties they own to reduce the risk from salt application, stormwater management pond, and snow storage facilities will be funded through applicable Facilities and/or Transportation budgets; and
- Costs to provide 0.3 FTE for legal support will be funded from the Water Capital Budget.

Incentives would be provided based on the successful Rural Water Quality Program (RWQP) model and enhanced incentives made available for well K26 in Mannheim which has elevated nitrate levels. The incentives will apply to farm operations, business operations, road salt management, and subsurface structures, but would exclude Area Municipalities and the Grand River Conservation Authority (GRCA). The extent to which incentives will be available for source water protection measures is subject to the bonusing prohibition of the Municipal Act. Regional staff is requesting clarification from the MOE in this regard and it may be necessary to revise the approach to incentives depending upon their response. Education programs will be run in parallel to these incentive components. A cost sharing approach for implementation with Wellington County and City of Brantford is necessary where the protection areas overlap in other jurisdictions.

**REPORT:**

**Background**

The *Clean Water Act (2006)* establishes the legislative framework for undertaking watershed-based source water protection. The purpose of this initiative is to reduce water quality and quantity risks from threats to drinking water sources. The *Clean Water Act* and related regulations establish a multiple step process undertaken over a number of years to establish a Source Protection Plan (SPP) that will contain policies for reducing risks to drinking water sources. Several reports to Regional Council over the last couple of years have provided information on the risk assessment and policy development process for each watershed in the Lake Erie Source Protection Region. The completion of technical work for the Grand River watershed Assessment Report and policy development in the SPP is a collaborative effort between municipalities and Grand River...
Conservation Authority (GRCA) staff. The multi-stakeholder Source Protection Committee (SPC) is responsible for completing the Assessment Report and the SPP.

The Assessment Report was submitted to the Ministry of Environment (MOE) in December 2010. The Region provided formal comments on the Assessment Report to the GRCA (E-10-082). In addition, Region and GRCA staff has completed an update to the Assessment Report, as allowed under the Clean Water Act, to include new and updated information (E-11-013). Comments were received from the MOE in January 2012 requiring changes to some sections of the Assessment Report, several of which had already occurred as part of the update. The modified and updated Assessment Report was approved by the SPC for submission to the MOE on April 26, 2012. This Assessment Report is still undergoing provincial review.

The Assessment Report identified approximately 2750 properties where Significant threats were identified following MOE regulations and technical rules. The Assessment Report provides the results of the risk assessment process including the identification and ranking of threats (existing and future land uses and activities, intake water quality Issues and historic water contamination Conditions) in municipal well head and surface water intake protection areas. The Clean Water Act requires policies to prevent future threats from becoming Significant (i.e., those that have a high threat ranking in these protection areas) and for managing existing threats so they cease to be Significant. It is important to note that the Updated Assessment Report does not include the results of the Local Water Budget and Risk Assessment (Tier 3) project that was initiated in 2008 as required under the Clean Water Act. The Tier 3 project examines the overall water use in Waterloo Region and will assess water quantity threats to the Region’s municipal water intakes. The Tier 3 project is anticipated to be completed in 2013, the results of which will be incorporated into a further update of the Assessment Report.

Development of risk reduction policies for threats around municipal wells and intakes in Waterloo Region will be undertaken by Region staff. Once developed, they will be forwarded to the SPC for inclusion in the draft SPP. The SPC will undertake public consultation on the draft SPP, will ultimately approve the draft SPP, and submit it to the Province for final approval. In September/November 2011, a summary of general principles and approaches being considered by Region staff to develop the policies was presented to Regional Council (E-11-102). A list of these principles is provided in Attachment 1. A first draft of the policies was then presented to Regional Council in January (E-12-012). Changes to these policies have occurred in response to additional guidance from the MOE, feedback from Area Municipal and Region staff, and as part of the regulated pre-consultation with implementing agencies.

This report presents the revised policies that are to be forwarded to the SPC for inclusion in the draft SPP. It also presents a summary of the rationale for each policy that is to be included in an Explanatory Document which accompanies the SPP. The financial and staffing implications to implement the policies are presented.

**Draft Policies and Response to Agency Consultation** (see Attachment 4)

As stated in E-11-102, the development of the policies has occurred in several steps including:

- Development of a series of discussion papers identifying possible approaches to reducing risk and related advantages and disadvantages for each of the 19 threats identified by the MOE and additional local threats identified by the SPC;
- Development of general principles governing how various evaluation criteria will be considered and how the Region’s Water Resources Protection Master Plan will be used to guide policy development;
Development of policy approaches for each protection area and identification of the specific risk-reduction tool to be utilized; and
Development of detailed policy wording and format to meet provincial completeness requirements.

As part of the policy development process, Region staff has consulted with local municipal staff through the Source Water Protection Liaison Committee (formerly the Water Resources Protection Liaison Committee), and held three Public Information Sessions. In addition, presentations were made to the Kitchener-Waterloo Chamber of Commerce and Area Municipal Councils at Cambridge, Kitchener, Waterloo, Wilmot and Woolwich. Staff also met directly with numerous department managers and directors in Cambridge, Kitchener, and Waterloo to discuss the policies. Formal pre-consultation was required for all agencies with implementation responsibilities including, the Province (Environment, Natural Resources, Municipal Affairs and Housing, Transportation, Infrastructure), area municipalities, including Brantford, and the GRCA. Feedback provided through these organizations and groups were considered.

While Region staff are familiar with the scope of several tools that can be used for source protection (e.g. land-use planning or education programs), the Clean Water Act provided new tools to municipalities for prohibiting activities and requiring risk management plans to reduce the risk from threats. It also provided a tool that would trigger the prohibition or the development of a risk management plan if a Significant threat activity was part of a development application or building permit. Finally, the Clean Water Act enabled policies that could direct provincial agencies responsible for issuing Environmental Compliance Approvals (formerly Certificates of Approval) to revise the instrument to protect drinking water sources.

As presented in previous reports to Regional Council, many of the proposed policies will utilize risk management plans and prescribed instruments to manage Significant threats. These tools are the only ones that can be applied to existing threats, notwithstanding incentive and education programs which can only be used in limited situations. The use of prescribed instruments puts the onus on the provincial agency responsible for issuing Environmental Compliance Approvals to protect municipal water supplies using provincial legislation. Where there are gaps in this legislation, risk management plans are also proposed. The major disadvantage to risk management plans is that they will require a new administrative process, which is discussed later in this report. It is also proposed that incentives be available to assist existing property owners with achieving compliance with this Clean Water Act, where this does not contradict the Municipal Act.

For new/future threats, it was hoped that the Planning Act could be used to mitigate the risk where Environmental Compliance Approvals are not available. However, the Planning Act can only regulate land uses and the SPP must mitigate activities which in many cases are not directly linked to land uses. Accordingly, the risk management and prohibition tools are also proposed to address many of the future threats.

The largest number of threats to drinking water sources in the Region is from the application of road salt. In total, approximately 1200 parking lots have been identified where risk mitigation will be needed. The draft policies will require persons applying salt on over 400 of the large (greater than 80 parking spaces) and medium-sized (eight to 80 parking spaces) parking lots to develop risk management plans to achieve a performance standard equivalent to the Smart about Salt™ accreditation program. For the small (less than eight parking spaces) parking lots and for those further from the supply well, a combination of incentives and/or education programs will be implemented. It is important to note that Region staff are recommending that salt application on large parking lots be prohibited where this activity is a new/future activity within 100 metres of a supply well where there is an existing sodium and/or chloride drinking water Issue. This means that if a new large parking lot is proposed through a development or building permit application, it would have to use non-sodium and/or non-chloride based deicing compounds. Ideally, it is hoped that new
large parking lots would not be developed within 100 m of these wells because these large paved surfaces also reduce the amount of water seeping into the ground potentially affecting the capacity of the well. As this draft policy is applied to only 10 wellfields that have drinking water Issues, the potential implications are few. City of Waterloo staff has noted that this may affect some parking lots considered in their Uptown Waterloo Parking Strategy, including a proposed large parking lot within 100 metres of the William Street wells.

As for salt application on municipal roads where it has been identified as a Significant threat, staff are also proposing to require risk management plans. However, as area municipalities already have existing salt management plans, the proposed risk management plans would rely largely on these existing salt management plans plus require identification and tracking of salt applications in vulnerable well head protection areas. It is envisioned that one plan would be necessary for each of the Region and for each Area Municipality. It is important to note that the intent of risk management plans related to salt application is to ensure appropriate salt application that does not undermine public safety.

A number of changes to the draft policies have occurred since they were last presented to Regional Council in January 2012. These changes include the following.

- The draft policies have been restructured and consolidated to make them more readable in response to agency feedback, to be similar with other jurisdictions in the watershed, and to facilitate future inclusion in the Region Official Plan.

- Draft transition policies have been established for development and building permit applications where site plan approval and/or building permit approval has occurred prior to the SPP coming into affect but have not been built or further development approval is needed to complete the project. For these applications, the Significant threat activity associated with the development would be treated as existing and the applicable threat policy would apply. For all other development applications, the activity would be considered new or future. This is particularly important for threats that are managed when existing but prohibited when new/future which occurs for most threats within 100 m of the supply well and for a fewer number of threats in the adjacent protection areas.

- Draft policies that apply to a surface water protection area associated with a supply well (referred to as Well Head Protection Area E) have been modified. Well Head Protection Area E is delineated for wells which obtain some of their supply directly from surface water. The technical basis for delineating these areas is to manage the impact of a spill to surface water that could be transported to the well. The scope of the policies has been limited to that of spill preparedness and response.

- Draft policies for stormwater management ponds have been revised in response to Area Municipality staff comments. Specifically, requirements on the type of monitoring to be incorporated at each pond has been removed and a new policy added requiring Area Municipalities to undertake an assessment of their ponds and prioritize locations and mitigation measures that might be necessary. This new policy will help assess the extent to which mitigation is needed when negotiating Environmental Compliance Approvals with the MOE.

- Policies have been developed for the area within 200 m (Intake Protection Zone 1) of the Mannheim Water Treatment Plant intake from the Grand River at Hidden Valley. As there are no existing Significant threats in this area, all the policies are directed at preventing new significant threats from occurring. The Clean Water Act requires these policies to be developed even though there is low possibility that Significant threats could be established given that the area is largely developed and existing zoning does not permit the establishment of land uses that would contain threats.
- Policies have been developed for a portion of the City of Brantford’s Intake Protection Zone 3. For most river-based surface water intakes, Intake Protection Zone 2 is delineated based on a two-hour in river flow time to enable the intake to be shut off before the spill reaches it. Intake Protection Area 3 is then delineated from the end of this zone to the top of the watershed. Normally, because of the higher vulnerability score, Significant threats can only occur in the second zone. For the city, a conservative six-hour spill response time was used to delineate the second zone and the third zone was divided into a zone closer to the intake representing a 12-hour spill response time in the Grand River and scored so that Significant threats could be identified. Intake Protection Zone 3 extends a considerable distance up the Grand River reaching into the south end of Cambridge. Several areas along the Grand River in Cambridge and North Dumfries have a vulnerability score greater than eight facilitating the identification of significant threats. The threat types identified in this zone consists primarily of sewage (septic systems, spills from waste water treatment plants and associated distribution systems, and stormwater) and direct industrial discharges to surface water. As with the Well Head Protection Area E policies, staff is proposing that the draft policies in this zone be confined to spill preparedness and response. While it would be preferable that the City of Brantford implement these draft policies to protect their intake, implementation responsibilities within Waterloo Region lie with the Region and area municipalities. It is recommended that the Region negotiate with the City of Brantford a plan to develop and implement the programs for these areas.

For the most part, well protection areas for the Region’s wells lie within Waterloo Region boundaries. However, protection areas for four of the Region’s well fields in Cambridge extend into Wellington County. Two of these well fields have sodium/chloride and/or nitrate drinking water quality issues and so any activity that uses these chemicals will be Significant. However, it is only the outermost protection areas and the vulnerability scores are low. The draft policies that apply within the Region for similar areas are limited to education and/or incentive programs. Wellington County has proposed draft policies that will require risk management plans to be developed for most farm related activities, in part because there are no drinking water issues for nitrate and/or sodium. This degree of risk-reduction is greater than that being stipulated for the Region’s wells and is considered overly onerous to impacted farmers. It is recommended that the Region request Wellington County to revise its draft policies to be similar to that of the Region and that a similar implementation approach be developed to that of City of Brantford.

Explanatory Document (see Attachment 5)

In addition to the SPP, the SPC is required to approve and submit an explanatory document that provides the rationale for each policy in the SPP. Accordingly, as the Region has the lead for policy development in this area, a draft explanatory document related to the Region’s draft policies was created. Following a similar format as other municipalities in the Grand River watershed, this document provides a number of components that support the policy development including the degree of municipal consultation and support and how cost was considered in the development of the draft policies. This document also contains a more detailed list of agency comments received during pre-consultation.

As mentioned above, the Region developed a series of principles that were used to guide policy development as well as staff’s threat-specific experience and knowledge developed as part implementation of the Water Resources Protection Strategy. In addition this general rationale, regulations require additional justification in the following situations:

- where an existing activity is prohibited, the SPC must be of the opinion that the activity must be prohibited in order to ensure it ceases to be a Significant drinking water threat; and
- where education is the only tool used to address a Significant threat, the document must state that the SPC is of the opinion that this tool will achieve the objectives of the plan and regulation or prohibition is not necessary.

Region staff is proposing that activities such as existing below ground storage of fuel/solvents, chlorinated solvents storage, and snow storage sites be prohibited within 100 m of supply wells because of the risk posed by these threats when very close to the wells. Region staff are not aware of any of these activities occurring within 100 m of the wells. Staff is also proposing to prohibit within 100 m of a supply well, activities such as existing chlorinated solvent storage at wells with a Trichloroethylene Issue, snow storage at wells with a sodium and/or chloride Issue and application of manure, confined animal yards, and storage of manure, fertilizer and non-agricultural source material at wells with nitrate Issues. In these situations, these activities could be directly affecting the water quality of the supply well. Again, Region staff are not aware of these activities adjacent to the supply wells; however, staff do not have a complete inventory of agricultural activities.

It is also proposed that education and/or incentive tools be used to mitigate threats in well head areas where the vulnerability is less than 6 and as discussed above in Brantford’s Intake Protection Zone 3. This approach was chosen as previous studies at specific wells concluded that more protective draft policies closer to the wells would reduce chemical concentrations at the wells over time. For the Intake Protection Zone 3, this approach was used based on the conservative travel time used to delineate this area and that the main concern in this area is spill preparedness.

**Implementation and Financial Impacts**

The Region has been implementing source protection programs through its Water Resources Protection Strategy since 1994. Through this process, well protection areas were identified, risks assessed, and programs and policies were implemented. In the mid 2000s, priorities were changed to address anticipated needs for complying with the Clean Water Act. Projects to complete tasks for the Assessment Report included $600,000 for delineating new well head protection areas, $500,000 for threat surveying and calculating risks, and $2,700,000 for the Tier 3 project. The approved 2012 Water Budget and Ten-Year Capital Forecast also includes a further $1,875,000 for conducting investigations between 2012 and 2014 to assess impact of land uses and activities at wells with drinking water Issues in anticipation of the next round of source protection planning.

While some degree of impact has been expected, it has not been feasible to identify potential implementation costs until recently. Additional costs are projected to be incurred by the Region and by Area Municipalities as discussed below. It is important to note that these are estimated costs. Actual implementation costs could vary depending on the extent to which management practices are currently in place on individual properties and in response to appeals of decisions during implementation e.g. Planning Act or risk management plan negotiations. The Province has been silent as to whether any funding is available to municipalities for SPP implementation.

**Region Properties that are Significant Threats**

A number of Region properties have been identified as having Significant threats and will require changes to bring them into compliance with the policies. The anticipated changes are not unlike action required by other new provincial legislation (e.g., Ontario Disabilities Act). Accordingly, upgrades to facilities and/or practices will be required to meet the obligations of the Clean Water Act and will be funded through the base budgets for those properties.

For the Clean Water Act, threat activities associated with Region properties include application of salt on roads and parking lots, stormwater management facilities, snow storage sites, and septic systems. Region staff has estimated costs to implement the draft policies for each threat activity. This is presented in Attachment 2 and includes an estimate of the initial site assessment and future
annual implementation costs. Based on this Attachment and the number of sites, a preliminary estimate of the cost that the Region may incur to implement the draft policies on its properties has been developed. This is presented in Attachment 3. The average yearly costs to implement source protection properties for the Region are estimated to be approximately $44,000. Costs in the first year would be slightly higher to cover the initial activity or property assessment. This cost does not include cost for significant upgrades to facilities or equipment that might be identified through the initial assessment. It is assumed that the costs to implement the draft policies on Region-owned properties will be funded through the department responsible to the threat activities (e.g., Facilities, Transportation, etc.).

Attachment 3 also presents the average yearly cost to the Area Municipalities to implement the draft policies on properties they own. The yearly costs is estimated to range from zero (North Dumfries, Wellesley, and Woolwich do not own properties with Significant threats) to approximately $207,000 for Kitchener. As is discussed later in this report, Region staff are proposing to not provide incentives to Area Municipalities or the GRCA to implement the draft policies on their properties.

**Risk Management Official and Inspectors**

Use of the prohibition, risk management plan and restricted land use tools requires the development of a Risk Management Official (RMO) and Risk Management Inspectors (RMI) for implementation. Together these persons would comprise a RMO “office” that would have extensive enforcement authority including provisions for the following: issuing, negotiating, amending, renewing and revoking risk management plans; providing “notice” on development applications where risk management plans are required; issuing enforcement orders and authorizing work to be done at the property owner’s expense; and charging processing/application fees and/or recouping expenses where the property owner refused to take action. Appeals of decisions made by the RMO office can be made to the Environmental Review Tribunal.

The majority of the tasks to be undertaken by these persons revolve around the development of risk management plans and their implementation. Each risk management plan is individually negotiated between the person implementing the activity and the RMO in accordance with the *Clean Water Act* and regulations. Inspection of any structure that is created will be undertaken as well as inspection to confirm the presence or absence of the activity and therefore the need for a risk management plan. A total of approximately 500 risk management plans will be required in Waterloo Region for existing threats based on the draft policies. In addition, it is estimated that five to ten development applications across the Region may need RMO notices based on a review of previous development applications provided by several Area Municipalities and Region staff. The process for reviewing, approving, and inspecting implementation of risk management plans is schematically illustrated in Attachment 4. Region staff has also developed a conceptual approach for the RMO Office including development of administrative process associated with these tools, identification of specific tasks, and the time required to undertake them.

Implementing the tasks of the RMO Office is a new responsibility for the Region. Accordingly, Water Services staff has undertaken an assessment of the financial and staffing implications needed to implement these functions. A review of existing Water Services staff responsibilities has identified areas where existing staff resources can be utilized and where additional staff will be needed. Availability of existing staff resources reflects that several of the staff that were previously implementing assessment and policy development projects will transition into implementation following approval of the SPP. The proposed staffing structure and identification of additional staff needed for the RMO office is as follows:

- The RMO Office will be operated within Water Services. The RMO will report to the Manager, Hydrogeology and Source Water.
- The RMO responsibilities require a variety of hydrogeology, engineering and planning skills and experience. This experience can be incorporated into the Senior Hydrogeologist position. An existing Senior Hydrogeologist position will be assigned for the RMO. One of Water Services Senior Hydrogeologists has already received the RMO training required to act in this capacity.

- The skills and experience needed to implement the responsibilities of the RMI are similar to those of Environmental Officers within Water Services Environmental Enforcement group. One existing Environmental Officer position will be assigned to fulfill the RMI responsibilities. In addition, one additional FTE position for a three-year contract will be needed in 2014 to assist in inspection duties to address the large number of properties that have existing threats.

- Technical hydrogeologic and engineering support for review of risk management plans will be undertaken using existing staff.

- One additional permanent FTE position will be required in 2013 as a risk management program coordinator to provide project support to the RMO and RMIs including development of databases, contact tracking, and project and regulated annual reporting requirements.

It is proposed that the above noting staffing structure be incorporated into the preliminary 2013-2022 Water Operating and Capital Budget Forecasts for Regional Council’s consideration.

In addition to these staff, Legal Services resources will be required in the implementation and ongoing activities related to Clean Water Act such as negotiation and appeals relating to risk management plans. It is estimated that the services of approximately 0.3 FTE solicitor will be required from Legal Services in this regard, as well as allocation of $200,000 for specialized external legal opinion and advice. This estimate is very preliminary as there is no case law for this new legislation nor trend history to predict the required resources. The approved 2012 Water Capital and Ten-Year Forecast include costs to cover the specialized external legal fees. It is proposed that $50,000 be incorporated into the preliminary 2013 Water Capital Budget and Ten Year Forecast for consideration by Regional Council.

Continued participation with an added emphasis on implementing SPP policies will be necessary from existing Community Planning and Transportation staff to integrate these new functions into the development approvals process and to implement salt management plan policies and related reporting, respectively.

Incentives

Currently most of the proposed incentive policies are structured to support other regulatory policies. For these draft policies, the incentives would help support the transition and/or upgrades that would be required to reduce the risk to supply wells. For wells with drinking water Issues, stand-alone incentive policies are proposed for the outer reaches of the Issue contributing areas as it was felt that the main risk reduction emphasis was needed for properties closer to the supply well. It is important to note that by including incentive policies in the SPP, the Region is obligated to implement them but has discretion on the form and content.

It is proposed that incentive programs would be designed and implemented in four program areas: farm operations, business operations, salt/snow management, and subsurface threats. The structure of the programs for each area would be similar to the successful Rural Water Quality Program (RWQP) which continues to provide incentives to farm operations to improve water quality, is well received by local farmers and has received recognition and awards across the province. However, unlike the original RWQP, the incentive programs in the SPP would be available only to those property owners identified as a Significant threat and the cost share would vary depending on the property location and its proximity to the municipal supply well. A varying cost-share approach is
consistent with the enhanced incentives provided to farmers near well K26 in Mannheim. This well has a nitrate drinking water issue and an enhanced incentive program was approved by Regional Council in 2008 (E-08-006). It is also proposed that the incentives would only be given to existing significant threats and would only available for private properties: Area Municipalities and the GRCA would not be eligible. For those properties undergoing a development that would involve a threat activity, the incentive would be available on a pro-rated basis to reflect the extent to which the activity was already occurring.

It is important to note that the extent to which incentives will be available for source water protection measures is subject to the bonusing prohibition of the Municipal Act. Regional staff is requesting clarification from the MOE in this regard and it may be necessary to revise the approach to incentives depending upon their response.

Based on this approach and assumptions about uptake for approximately 2,750 properties, the estimated cost for the SPP incentives is approximately $5,900,000, all of which, short of $5,000 is currently included in the approved 2012 Water Budget and Ten-Year Forecast and the 2012 Wastewater Budget and Ten-Year Forecast. The available funding assumes that half of the RWQP program budget be applied to the Clean Water Act programs ($1,500,000) and the remaining portion continue to be made available to farms outside of municipal well protection areas. It is proposed that the program be implemented over ten years to spread out the cost to the Region and in recognition of the challenges in implementing incentives to several thousand properties. This would result in an annual cost of $590,000 per year to implement incentive programs for the SPP. It is proposed that staff be directed to develop detailed implementation guidelines for Regional Council’s consideration.

The estimated cost for the incentive program assumes the continued availability of funds from the Clean Water Act Stewardship Program. The Stewardship Program has allocated approximately $700,000 for property owners within the entire Lake Erie Source Protection Region to implement a limited number of projects to improve their practices prior to approval of the SPP. These funds only represent a small portion of the total funds needed to implement the draft policies. There has been no commitment from the Province for on-going funding of this program. In the event that the Province discontinues or reduces the availability of funds, the cost share and maximum amounts will need to be revisited. Stewardship funds would be available to Region and Area Municipalities to help reduce implementation costs on properties they own. It is hoped that the scope of the stewardship program will be known before the SPP is approved by the Province.

To facilitate the development and implementation of the three program areas (the GRCA will continue to implement the farmer operations component), coordinate integration with the RWQP and fulfill related annual reporting requirements for these and other SPP policies, excluding the RMO office functions, one additional program coordinator position (permanent FTE) will be required in 2014.

Education/Awareness

As discussed above, it is proposed that several education/awareness programs will be developed and implemented. As these programs would be linked with the proposed incentive programs, they would be developed and run parallel to these programs. The emphasis of the programs would be awareness of the Clean Water Act and property owners obligations to use beneficial management practices to reduce the risk to municipal drinking water supplies. The scope of the programs will be to utilize traditional media (brochures, pamphlets, etc) and social media. The initial design for these programs and production of materials is estimated to be approximately $100,000 for first year and $25,000 per year in total thereafter for implementation. In addition to these programs, a social marketing program will be developed for the salt application component to change winter behaviours that contribute to increased road and parking lot salt application (e.g., poor footwear, driving for conditions). It is estimated that the cost of the social marketing program would be $75,000 for first
year and $50,000 per year thereafter, which is already included in the approved 2012 Water Capital Budget and Ten-Year Forecast.

Summary

Implementing draft policies of the SPP will have additional financial impacts to the Region as a result of being a property owner and new responsibilities as part of the RMO Office, and legal support. Most of the costs for implementing incentive and education programs have already been included in the approved 2012 Water budget. The following Attachment provides a summary of the estimated financial implications to the Region over the next ten years.

<table>
<thead>
<tr>
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<tr>
<td>Education Programs</td>
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<td>150,000</td>
<td>75,000</td>
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<td>Incentive Programs</td>
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<td>100,000</td>
<td>590,000</td>
<td>590,000</td>
<td>590,000</td>
<td>590,000</td>
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<tr>
<td>Specialized Legal Fees</td>
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<td>200,000</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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</table>

<table>
<thead>
<tr>
<th>Additional Region Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region Property Modifications*</td>
</tr>
<tr>
<td>Staffing</td>
</tr>
<tr>
<td>Legal Support</td>
</tr>
<tr>
<td>Subtotal Additional Region Costs</td>
</tr>
</tbody>
</table>

| Total Estimated Implementation Costs | $25,000 | $485,000 | $1,104,000 | $1,104,000 | $1,104,000 | $939,000 |

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Education Programs</td>
<td>75,000</td>
<td>75,000</td>
<td>75,000</td>
<td>75,000</td>
<td>75,000</td>
<td>$850,000</td>
</tr>
<tr>
<td>Incentive Programs</td>
<td>590,000</td>
<td>590,000</td>
<td>590,000</td>
<td>590,000</td>
<td>490,000</td>
<td>$5,900,000</td>
</tr>
<tr>
<td>Specialized Legal Fees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Region Costs</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Legal Support</td>
</tr>
<tr>
<td>Subtotal Additional Region Costs</td>
</tr>
</tbody>
</table>

| Total Estimated Implementation Costs | $939,000 | $939,000 | $939,000 | $939,000 | $839,000 | $9,356,000 |

* Average yearly costs used for presenting financial implications.
**SPP approval not expected until 2013.
As indicated the cost to the Region is approximately $9,400,000 over ten years of which $6,750,000 has already been anticipated and included in the approved 2012 Water Budget and Ten-Year Forecast. The costs anticipated in 2013 are expected to be low as the SPP will not be approved and most draft policies have implementation dates at least 180 days following approval of the SPP. Costs for Region property modifications may be somewhat higher in any one year depending on how the draft policies are staged during implementation with properties closest to wells being addressed first.

**Next Steps**

Regulations require the SPP to be submitted to the MOE by August 12, 2012. The SPC requested and received approval for an extension to December 31, 2012. Based on this date, the following schedule has been proposed by the GRCA:

- The SPC is scheduled to consider the draft Grand River SPP on August 16, 2012 and approve it for formal public consultation including public meetings. A 45 day commenting period is available for public and municipal comments on the SPP. Region staff will prepare a report on the draft SPP for Regional Council’s consideration.
- A revised draft SPP addressing comments received from the initial public consultation is scheduled to be approved for a further 30 day commenting period in December 2012; and
- The SPC is scheduled to approve the SPP in January 2013.

In addition, staff will initiate and/or continue development of the implementation components of the plan. It is anticipated that approval of the plan will take on the order of six months to a year which would make the likely earliest implementation period to begin late summer to early fall of 2013.

**CORPORATE STRATEGIC PLAN:**

The preparation of the SPP contributes to the implementation of the Strategic Objective to protect the quality and quantity of our drinking water sources of Focus Area 1: Environmental Sustainability.

**FINANCIAL IMPLICATIONS:**

Funding to implement the Clean Water Act will come from a number of sources as described below.

For staffing, changes to the preliminary 2013 Water Operations Budget will be undertaken to add one permanent FTE (risk management program coordinator) in 2013, one permanent FTE (incentive/education program coordinator) in 2014 and one three-year contract FTE (risk management inspector) in 2014 to implement the draft policies presented in this report. The total cost of these staff between 2013 and 2022 is $1,980,000. Funds to cover Water Operations budget costs are provided through water user rates approved annually by Regional Council and water reserves.

For costs associated with policies that require upgrades to Region properties or facilities, the estimated cost of $440,500 for implementing the measures will be incorporated into applicable preliminary Facilities and Transportation 2013 budgets as part of the 2013 budget development process.

For incentives, education programs and specialized legal fees, average annual costs would be approximately $695,000 for a ten-year total of $6,950,000. The approved 2012 Water and Wastewater Capital budgets provide $5,885,000 for implementing these programs through the
Clean Water Act Implementation, Private Well Incentive Program and RWQP budget line items for 2012 through 2021. The additional $1,065,000 ten-year costs can be accommodated by reallocating funds from the existing 2012 source protection capital budgets. The preliminary 2013 Capital Budget will incorporate these changes. Funding for implementing the SPP draft policies through the Water Capital budget is provided though Regional Development Charges, water user rates and reserves, and potential provincial grants.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Corporate Resources (Legal Services), Planning, Housing and Community Services (Community Planning) and Finance staff have been consulted in the development of draft policies and implementation requirements. As part of the pre-consultation, the draft policies were provided and discussed with Transportation and Facilities staff. Public Health staff participates in SPC meetings and the Source Water Protection Liaison Committee.

ATTACHMENTS

Attachment 1: Principles Used to Guide Development of Risk-Reduction Policies for Waterloo Region
Attachment 2: Estimated Costs and Staffing/Workload Implications Per Threat/Site to Region of Waterloo and Area Municipalities as a Property Owner
Attachment 3: Risk Management Plan Approval Flow Chart
Attachment 4: Draft Policies (to be distributed to Council separately)
Attachment 5: Explanatory Document (to be distributed to Council separately)

PREPARED BY: Eric Hodgins, Manager Hydrogeology and Source Water

APPROVED BY: Thomas Schmidt, Commissioner Transportation and Environmental Services
### Attachment 1: Principles Used to Guide Development of Risk-Reduction Policies for Waterloo Region

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. WRP Master Plan Guidance</td>
<td>Overall principles to reducing risk should consider previous source protection program implementation experience and align with approaches identified in the Region's Water Resources Protection Master Plan (E-07-076) including the need to balance voluntary and regulatory initiatives, where feasible and technically justified in relation to <em>Clean Water Act</em>, and build on existing programs before creating new programs;</td>
</tr>
<tr>
<td>2. Greater Protection Closer To Wells</td>
<td>More protective policies (regulatory driven and/or shorter implementation time period) should be applied in areas closer to well (e.g. 100 m zone) compared to those further from the well e.g. tiered approach.</td>
</tr>
<tr>
<td>3. Great Protection For Wells with Issues</td>
<td>More protective policies should be developed for threats associated with a drinking water <em>Issue</em> compared to those for threats not associated with an <em>Issue</em>;</td>
</tr>
<tr>
<td>4. Carrot and Stick Approach</td>
<td>A “carrot and stick” approach should be employed to enable voluntary implementation before requiring compliance in future implementation periods. As source protection is envisioned to be a continuous improvement process, the first round of risk management policies should emphasize voluntary implementation with or without financial incentives to reduce risk. If voluntary implementation is unsuccessful in this initial implementation period, the stronger enforcement tools enabled through the <em>Clean Water Act</em> would be used to require compliance and any financial incentives would be removed;</td>
</tr>
<tr>
<td>5. Consistency Across Threats</td>
<td>A consistent approach to policies (e.g. degree of forcefulness) should be attempted for the various threats to ensure no individual threat is regulated to a greater degree than others;</td>
</tr>
<tr>
<td>6. Use Existing Prescribed Instruments</td>
<td>Existing prescribed instruments (e.g. Provincial certificates of approval and permits) and local programs (e.g. Rural Water Quality Program) should be used to achieve risk reduction objectives. Where no current program exists, development of new programs (e.g. business spill prevention incentives) would be considered. Where numbers of properties do not warrant development of a new program, consideration should be given to using risk management plan and/or education/awareness programs to achieve objectives;</td>
</tr>
<tr>
<td>7. Stagger Compliance Dates</td>
<td>Compliance dates should be distributed over the five year implementation period to manage impact on Region/municipal staffing and property owners;</td>
</tr>
<tr>
<td>8. Incentives for Existing Threats</td>
<td>Policies applied to existing properties must consider that land uses and activities may have been present for many years and allow for changes to be implemented in a reasonable time frame. Accordingly, financial incentives could be considered in recognition that they will be required to meet new legislative requirements; and,</td>
</tr>
<tr>
<td>9. Cost Considerations</td>
<td>Costs to comply with the policies by property owners and to implement programs by municipalities and the GRCA are an important consideration in the development of policies.</td>
</tr>
</tbody>
</table>
Attachment 2: Estimated Costs and Staffing/Workload Implications Per Threat/Site to Region of Waterloo and Area Municipalities as a Property Owner

<table>
<thead>
<tr>
<th>Significant Threat</th>
<th>Estimated Cost per Site (Initial)</th>
<th>Estimated Cost per Site (Annual)</th>
<th>Staffing and/or Workload Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Application (parking lots)</td>
<td>$2,500</td>
<td>$1,000</td>
<td>One time change to Contracts; negotiating Risk Management Plans; winter tracking; annual reporting</td>
</tr>
<tr>
<td>Salt Application (roads)</td>
<td>$30,000*</td>
<td>$10,000</td>
<td>Consultant contracts for program review; winter tracking; annual reporting*</td>
</tr>
<tr>
<td>Stormwater Management Ponds (with well)</td>
<td>$25,000**</td>
<td>$7,500</td>
<td>Negotiating new Environmental Compliance Approvals; water quality sampling contracts; annual reporting</td>
</tr>
<tr>
<td>Stormwater Management Ponds (no well)</td>
<td>$5,000</td>
<td>$5,000</td>
<td>Negotiating new Environmental Compliance Approvals; water quality sampling contracts; annual reporting</td>
</tr>
<tr>
<td>Snow Storage</td>
<td>$30,000***</td>
<td>$5,000</td>
<td>Consultant contracts for program review; winter tracking; annual reporting</td>
</tr>
</tbody>
</table>

Notes:
* Excludes cost to retrofit trucks with advanced spreading and/or automatic vehicular locator equipment, which is assumed to be included in existing salt management strategies
** Includes cost to install one groundwater monitoring well
*** Excludes costs to upgrade facility based on initial site review

Estimated Average Yearly Costs Over Ten Years to Region of Waterloo and Area Municipalities as a Property Owner

<table>
<thead>
<tr>
<th>Significant Threat</th>
<th>RMOW</th>
<th>Cambridge</th>
<th>Kitchener</th>
<th>Waterloo</th>
<th>Wilmot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Application (parking lots)</td>
<td>4</td>
<td>13</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Salt Application (roads)*</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Stormwater Management Ponds (with well)**</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Stormwater Management Ponds (no well)</td>
<td>2</td>
<td>21</td>
<td>26</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Snow Storage</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Estimated Average Yearly Cost**

<table>
<thead>
<tr>
<th>RMOW</th>
<th>Cambridge</th>
<th>Kitchener</th>
<th>Waterloo</th>
<th>Wilmot</th>
</tr>
</thead>
<tbody>
<tr>
<td>$43,950</td>
<td>$185,700</td>
<td>$206,950</td>
<td>$113,750</td>
<td>$38,950</td>
</tr>
</tbody>
</table>

*One Risk Management Plan will be developed for each municipality regardless of the number of roads that are identified as a Significant Threat
**Assumed only one in five ponds will require groundwater monitoring as most ponds are not designed to infiltrate groundwater
Attachment 3: Conceptual Risk Management Plan Approval and Inspection Processes

Simplified RMP Process
Focus on Inspection Component

Legend:

Required involvement of RMI
8.0 REGION OF WATERLOO

The following Region of Waterloo policies apply to the Region of Waterloo water supply system as presented on Schedules A through M for the Region of Waterloo.

- Grand River Source Protection Area
  - Region of Waterloo Water Works: Water Supply System
    - Cambridge Wells
    - Kitchener Wells
    - Mannheim Village Wells
    - Mannheim (Kitchener) Water Treatment Plant
    - Shingletown Wells or Wilmot Centre
    - Waterloo Wells
    - Ayr Wells and Distribution
    - Branchton Wells and Distribution
    - Roseville Wells and Distribution
    - Heidelberg Wells and Wellesley Side Distribution
    - Linwood/Eastgate Meadows Wells and Distribution
    - St. Clements Wells and Distribution
    - Wellesley Wells and Distribution
    - Foxboro Wells
    - New Dundee Wells
    - New Hamburg Wells
    - Conestoga Golf Wells
    - Conestoga Plains Wells
    - Maryhill Wells
    - Maryhill Heights Wells
    - West Montrose Wells
    - Elmira Wells
    - Baden Wells
    - Lancaster Wells
  - Region of Waterloo Waterworks: Issue Contributing Areas
    - Nitrate
      - Mannheim Village Wells: K26 and K23
      - Wilmot Centre Wells
      - Baden Wells
      - Cambridge Wells: H4
    - Chloride
      - Cambridge Wells: Middleton, H3, H4, G5, G9
      - Kitchener Wells: Greenbrook, K10A
      - Waterloo: William Street
      - Branchton Wells
    - Sodium
      - Cambridge Wells: Middleton, H4, G9
      - Kitchener Wells: Parkway
      - Waterloo Wells: William Street
- Trichloroethylene
  - Cambridge Wells: Middleton, G9
  - Waterloo Wells: William Street
    - Brantford Water Works: Intake Protection Zone Three (3)

## 8.1 Definitions

General definitions are provided in Volume I of the Source Protection Plan or the *Clean Water Act, 2008*. The following definitions shall apply to the Region of Waterloo Source Protection Plan policies:

The following definitions shall apply to the Region of Waterloo Source Protection Policies.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Ground</td>
<td>Installed or stored at or above grade level within a building or within a secondary containment, but does not include a tank that is in direct contact with backfill material, as defined in O.Reg.213/01 for Fuel Oil of the <em>Technical Standards and Safety Act</em>, 2000.</td>
</tr>
<tr>
<td>Existing</td>
<td>a. A lawful activity that commenced at a location in a vulnerable area before the effective date of the source protection plan;</td>
</tr>
<tr>
<td></td>
<td>b. An activity that legally existed in a vulnerable area on the day before or at any time within five (5) years prior to the effective date of the source protection plan;</td>
</tr>
<tr>
<td></td>
<td>c. A replacement facility or structure of the same size and capacity to service a lawfully existing activity; and</td>
</tr>
<tr>
<td></td>
<td>d. A newly created structure or facility to service a lawfully existing activity, in order to bring the structure or facility into compliance with Risk Management Plan.</td>
</tr>
<tr>
<td>Future or New</td>
<td>An activity that is not existing as defined within the Region of Waterloo Source Protection Plan policies.</td>
</tr>
<tr>
<td>Large Parking Lot</td>
<td>For all surface parking areas on site with a total greater than eighty (80) parking spaces or with a paved area, including aisles and driveways, measuring greater than 2000 metres squared.</td>
</tr>
<tr>
<td>Large Septic System</td>
<td>A single or combination of septic systems regulated under the <em>Ontario Water Resources Act</em>.</td>
</tr>
<tr>
<td>Medium Parking Lot</td>
<td>For all surface parking areas on site with a total between 8 and 80 parking spaces or with a paved area including aisles and driveways measuring between 200 and 2000 metres squared.</td>
</tr>
<tr>
<td>Salt</td>
<td>Any solid or liquid chloride-based chemical used to melt ice.</td>
</tr>
</tbody>
</table>
### Term Table

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncovered Salt Storage</td>
<td>Storage and handling are directly exposed to the elements with the exception of salt stored in sealed bags.</td>
</tr>
<tr>
<td>Covered Salt Storage</td>
<td>Storage and handling are not directly exposed to the elements; this includes salt stored in sealed bags.</td>
</tr>
<tr>
<td>Small Parking Lot</td>
<td>For all surface parking areas on site with a total of less than eight (8) parking spaces or with a paved area including aisles and driveways measuring less than 200 metres squared.</td>
</tr>
<tr>
<td>Small Septic System</td>
<td>A septic system regulated under the <em>Ontario Building Code Act</em>.</td>
</tr>
<tr>
<td>Storage of Snow</td>
<td>Pilings of snow that have been transported from the property upon which it fell to another property.</td>
</tr>
<tr>
<td>Transport Pathways</td>
<td>A condition of land resulting from human activity that increases the vulnerability of a raw water supply or drinking water system set out in clause 15(2)(e) of the <em>Clean Water Act</em>. This can include constructed pathways such as subsurface utility corridors, improperly abandoned boreholes, improperly maintained or improperly abandoned wells, pits and quarries, geothermal systems, underground parking lots and excavations. This does NOT include basements or other shallow construction.</td>
</tr>
</tbody>
</table>

### 8.2 Region of Waterloo Source Protection Plan Policies.

#### Source Protection Plan Policies within the Region of Waterloo

<table>
<thead>
<tr>
<th>Implementation Timing</th>
<th>Source Protection Plan Policies within the Region of Waterloo</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW-CW-1.1</td>
<td>Except as set out below, the policies contained in this Source Protection Plan shall come into effect on the date of the posting of the notice of approval of this Source Protection Plan on the Environmental Registry.</td>
</tr>
<tr>
<td></td>
<td><strong>a.</strong> For Section 57 of the <em>Clean Water Act</em>, if an activity was engaged in at a particular location before this Source Protection Plan took effect, policies regarding prohibited activities do not apply to a person who engages in the activity at that location until 180 days from the date the Source Protection Plan takes effect;</td>
</tr>
<tr>
<td></td>
<td><strong>b.</strong> For Section 58 of the <em>Clean Water Act</em>, if an activity was engaged in at a particular location immediately before this Source Protection Plan took effect and the Risk Management Official gives notice to a person who is engaged in the activity at that location that, in the opinion of the Risk Management Official, policies regarding regulated activities should apply to the person who engages in the activity at that location on and after a date specified in the notice that is at least 120 days after the date of the notice;</td>
</tr>
<tr>
<td></td>
<td><strong>c.</strong> For Section 59 of the <em>Clean Water Act</em>, policies regarding restricted land uses shall come into effect the same day the Source Protection Plan takes effect.</td>
</tr>
<tr>
<td>Plan takes effect; and</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>d. Where the Source Protection Policies require the Region of Waterloo and/or the Source Protection Authority to develop and implement education and outreach programs as the primary tool for managing or eliminating a particular significant threat, such programs shall be developed and implemented within five (5) years from the date the Source Protection Plan takes effect.</td>
<td></td>
</tr>
</tbody>
</table>

### RW-CW-1.2

Except as set out below, the policies contained in this Source Protection Plan shall come into effect on the date of the posting of the notice of approval of this Source Protection Plan on the Environmental Registry.

**a.** For Sections 43 of the *Clean Water Act*, if an activity was engaged in at a particular location immediately before this Source Protection Plan took effect, amendments to Prescribed Instruments shall be completed within three (3) years from the date the Source Protection Plan takes effect; and

**b.** For Section 40 of the *Clean Water Act*, the Council of the Region of Waterloo and the Area Municipalities must adopt an Official Plan Amendment to conform with the significant threat policies within five (5) years from the date the Source Protection Plan comes into effect or the next Official Plan review required under Section 26 of the *Planning Act* and a Zoning By-law Amendment within (2) years from the adoption of the Official Plan conformity amendment.

### Use and Areas Designated as Restricted Land Use Policies

**RW-CW-1.3**

In accordance with Section 59 of the *Clean Water Act*, the following land uses identified within the Region of Waterloo Official Plan and the Area Municipal Official Plan and Zoning By-law are designated as land uses to which the restricted land use provisions of the *Clean Water Act* apply where activities are or would be a significant drinking water threat:

**a.** All agricultural land uses for the application of Agricultural Source Material to land and the storage of Agricultural Source Material; the use of land as livestock grazing or pasturing land, an outdoor confinement area, or a farm-animal yard;

**b.** All land uses for the handling and storage of fuel;

**c.** All land uses with the exception of low density residential uses for the application, handling and storage of road salt;

**d.** All land uses, with the exception of residential uses for:

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

ii. The application, handling and storage of commercial fertilizer;
iii. The application of pesticide to land and the handling and storage of pesticide;

iv. The storage of snow;

v. The handling and storage of dense non-aqueous phase liquids; and

vi. The handling and storage of an organic solvent.

### Official Plan Amendment(s) Policies

**RW-MC-1.4** The Region of Waterloo and the Area Municipalities shall amend their Official Plan to:

- a. Identify the vulnerable areas in which drinking water threats prescribed under the *Clean Water Act* are or would be significant;

- b. Indicate that within the areas identified, any use or activity that is, or would be, a significant drinking water threat is required to conform with all applicable Source Protection Plan policies and, as such, may be prohibited, restricted or otherwise regulated by those policies;

- c. Where applicable, prohibit any activities that are also prohibited through Prescribed Instruments or Section 57 of the *Clean Water Act*, in accordance with the policies contained in this Source Protection Plan, in areas where they would be a significant drinking water threat; and

- d. Incorporate any other amendments required to conform to the policies contained in this Source Protection Plan.

### Education and Outreach and Incentive Programs Policies

**RW-CW-1.5** For the specific significant threat policies contained within this Plan, the Region of Waterloo, in collaboration with other implementing bodies and levels of government where possible, shall develop and implement education and outreach programs subject to available funding. Where an existing education and outreach program appropriately addresses the policies of this plan, the Region of Waterloo, as fulfillment of the policy requirements, may utilize the existing program.

**RW-CW-1.6** For the specific significant threat policies contained within this Plan, the Region of Waterloo, in collaboration with other implementing bodies and levels of government where possible, shall develop and implement incentive programs subject to available funding and where the incentives do not contradict Section 106 of the *Municipal Act*. Where an existing incentive program appropriately addresses the policies of this plan, the Region of Waterloo, as fulfillment of the policy requirements, may utilize the existing program. Where incentives are available and where Risk Management Plans and/or Prescribed Instruments are identified for an existing activity, the incentives may be used to implement required beneficial management practices.

**RW-NB-1.7** The Region of Waterloo and the Source Protection Authority request continued Ministry of Environment funding and support for incentive programs to protect
existing and new drinking water sources and address significant drinking water threats, such as the Ontario Drinking Water Stewardship Program.

### Annual Reporting

| RW-CW-1.8 | The Region of Waterloo and the Area Municipalities shall provide a report to the Source Protection Authority, by February 1\(^{st}\) of each year, summarizing the actions taken to implement the Source Protection Plan Policies, where specifically required by the policies. |
| RW-CW-1.9 | The Region of Waterloo and Area Municipalities shall provide copies of the notice of adoption to the Source Protection Authority regarding conformity of the Official Plan and Zoning By-law within thirty (30) days of the adoption of the amendments by their respective Councils. |
| RW-CW-1.10 | The Risk Management Official shall provide a report to the Source Protection Authority, by February 1\(^{st}\) of each year, summarizing the actions taken to implement the Source Protection Policies, in accordance with the *Clean Water Act* and associated regulations. |
| RW-CW-1.11 | Where the Source Protection Plan policies require a Provincial Ministry to undertake an action regarding an activity under the *Environmental Compliance Approval* process or review, issue or amend a Prescribed Instrument, the applicable Provincial Ministry shall document the number and locations where such prescribed instruments were reviewed, amended, approved or denied and any actions taken and/or terms and conditions imposed as applicable. A copy of the amended or approved Prescribed Instrument is to be provided to the Region of Waterloo. The applicable Provincial Ministry shall provide a written report summarizing this information to the Source Protection Authority by February 1\(^{st}\) of each year. |
| RW-CW-1.12 | Where the Source Protection Plan policies require a Provincial Ministry to undertake an action regarding an activity under the Environmental Compliance Approval process or review, issue or amend a Prescribed Instrument and where water and/or soil quality monitoring is required as part of these processes for wells where there is a Nitraten, Sodium and/or Chloride Issue, the Provincial Ministry shall provide copies of the monitoring results and related interpretations and impact assessments contained in reports, letters or documents by February 1\(^{st}\) of each year. |

### Transition Policies

| RW-CW-1.13 | The following transition provisions apply to the Region of Waterloo Source Protection Plan policies:  
For the purposes of this Plan, where one or more of the following has been received regarding a new significant threat activity prior to the Source Protection Plan coming into effect,  
- a. A complete application for site plan approval under the *Planning Act*;  
- b. An application for *Environmental Compliance Approval*; or  
- c. A complete application for a Building Permit; |
that significant threat activity shall be permitted subject to the policies pertaining to existing significant threat activity as well as any further development applications and approvals required under the Planning Act, Condominium Act, Building Permit or prescribed instruments required to implement the development proposal associated with this significant threat activity.

Where the above noted applications have lapsed or been withdrawn, this policy will no longer apply.

**Interpretation**

**RW-CW-1.14** The Source Protection Plan provides policies to meet the objectives of the Clean Water Act, 2006. The Source Protection Plan consists of the written policy text and Schedules.

a. The Schedules in the Source Protection Plan identify the areas where the policies of the Source protection Plan apply. The boundaries for the circumstances shown on the Plan Schedules are general. More detailed interpretation of the boundaries relies on the mapping in the approved Assessment Report and the Specific Circumstances found in the Tables of Drinking Water Threats, Clean Water Act, 2006; and

b. Where any Act or portion of an Act of the Ontario Government or Canadian Government is referenced in this Plan, such reference shall be interpreted to refer to any subsequent re-naming of sections in the Act as well as any subsequent amendments to the Act, or successor thereof. This provision is also applicable to any policy statement, regulation or guideline issued by the Province or the municipality. No provision of this Plan shall derogate from any applicable law.

**Local Threat: The Conveyance of Oil by way of Underground Pipelines**

**RW-NB-1.15** To reduce the risk due to the conveyance of oil by way of underground pipes within vulnerable areas where this activity would be a significant drinking water threat:

a. The National Energy Board and the Ontario Energy Board in their consideration of any new pipelines within vulnerable areas where this activity would be a significant drinking water threat are encouraged to include appropriate design standards and monitoring and maintenance practices to prevent a pipeline from becoming a significant drinking water threat; and

b. The National Energy Board, Ontario Energy Board and the Ministry of Consumer Services are encouraged to provide the Source Protection Authority the location of any new proposed pipelines within the Source Protection Area. The Source Protection Authority shall document in the annual report the number of new pipelines proposed within vulnerable areas where this activity would be a significant drinking water threat.

**Conditions Policies**

**RW-MC-1.16** To address Condition sites resulting from past activities that are significant
**drinking water threats:**

a. The Ministry of the Environment, in consultation with the Region of Waterloo, shall ensure that all existing or new prescribed instruments that govern Condition sites include appropriate terms and conditions to ensure that the risk to drinking water sources is managed appropriately. Conditions of approval shall require reporting on the status of the site to the Ministry of the Environment and the Source Protection Authority on an annual basis and may include requirements for source control, remediation to provincial standards, monitoring and Contaminant Management Plans, as appropriate within the following areas:

i. In Wellhead Protection Areas A and B where the vulnerability equals or is greater than eight (8); and

ii. Where there is a Trichloroethylene Issue, in all Wellhead Protection Areas.

**RW-NB-1.17**

To address Condition sites resulting from past activities that are significant drinking water threats, the Ministry of the Environment shall, in Wellhead Protection Areas A and B where the vulnerability equals or is greater than eight (8), and where there is a Trichloroethylene Issue, in all Wellhead Protection Areas:

a. Advise the Source Protection Authority and Region of Waterloo of any changes to contaminated sites that have been identified as a significant drinking water threat known to the Ministry of the Environment regarding level of contamination, migration and whether such changes are causing or may result in a drinking water issue as defined in Part XI.1 of the Technical Rules;

b. Provide to the Source Protection Authority and the Region of Waterloo each year, a report of significant activities undertaken at the site and by the Ministry of Environment or other persons or bodies in relation to the contaminated site that has been identified as a significant drinking water threat;

c. Provide to the Source Protection Authority and the Region of Waterloo, in accordance with Section 87 of the *Clean Water Act*, any documents or records in the possession or control of the Ministry of Environment relating to level of contamination in soil or groundwater that may result in a drinking water issue or a significant drinking water threat as defined in Parts XI.1 and XI.3 of the Technical Rules;

d. Prioritize abatement activities on Conditions sites located within the Wellhead Protection Area A, Wellhead Protection Area B and Issues Contributing Areas in consultation with the Source Protection Authority and the Region of Waterloo; and

e. Report on progress of actions implemented for the control or remediation of Conditions sites based on abatement activities.
| RW-MC-1.18 | To address Condition sites that are significant drinking water threats resulting from past activities, the following shall be implemented:  
  
a. The Region of Waterloo shall require as a component of a complete application under the *Planning Act* the completion of an environmental screening process for the identification of known and suspected contaminated sites using a contaminated sites protocol. The contaminated sites protocol will outline the criteria whereby a Record of Site Condition (RSC) is to be provided. |
| RW-CW-1.19 | To address Condition sites resulting from past activities that are significant drinking water threats, the Region of Waterloo shall develop and implement an incentive program for site identified as significant conditions. The incentive program shall encourage the investigation and development of source control plans. |
| RW-CW-1.20 | The Area Municipality shall provide to the Region of Waterloo any documents or records in possession or control of the municipality relating to soil and groundwater contamination on Condition sites for the following areas:  
  
a. In Wellhead Protection Areas A and B where the vulnerability equals or is greater than eight (8); and  
  
b. Where there is a Trichloroethylene Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equal to six (6). |
<p>| RW-NB-1.21 | The Ministry of Environment should, collaboratively with the Region of Waterloo, develop a consultation process related to document sharing and consultation on Condition sites that encompasses abatement activities undertaken voluntarily by property owners, issuance and/or notification of prescribed instruments, Record of Site Condition (RSC) and site specific risk assessments which could be used to guide information exchange between two agencies to protect municipal drinking water sources. |</p>
<table>
<thead>
<tr>
<th><strong>Strategic Actions Policies</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spill Prevention, Spill Contingency or Emergency Response Plans</strong></td>
<td></td>
</tr>
<tr>
<td><strong>RW-NB-1.22</strong></td>
<td>To ensure Emergency Response Plans are updated for the purpose of protecting drinking water sources with respect to spills that occur within a wellhead protection area or intake protection zone along highways, railway lines, or shipping lanes, the following policies apply:</td>
</tr>
<tr>
<td></td>
<td>a. Within five (5) years of the Source Protection Plan coming into effect, the Region of Waterloo is requested to incorporate the location of Wellhead Protection Areas into the Emergency Response Plan in order to protect drinking water sources when a spill occurs along highways, rail lines or in shipping lanes; and</td>
</tr>
<tr>
<td></td>
<td>b. The Ministry of the Environment is requested to provide mapping of vulnerable areas to assist the Spills Action Centre in responding to reported spills along transportation corridors within two years of the Source Protection Plan coming into effect.</td>
</tr>
<tr>
<td><strong>Transport Pathways</strong></td>
<td></td>
</tr>
<tr>
<td><strong>RW-NB-1.23</strong></td>
<td>The Regional Municipality of Waterloo and Area Municipalities should amend their land use planning documents to require the assessment of the establishment of transport pathways associated with Planning Act or Ontario Building Code applications in Wellhead Protection Areas A and B where the vulnerability equals ten (10), including aggregate extraction, geothermal wells, underground parking garages and other permanent below grade structures, in accordance with the Regional Implementation Guideline for Source Water Protection Studies to the satisfaction of the Region.</td>
</tr>
<tr>
<td><strong>RW-NB-1.24</strong></td>
<td>The Area Municipalities are requested to circulate to the Region of Waterloo applications for site plan approval, all development applications creating a transport pathway, including geothermal wells and underground parking in Wellhead Protection Areas A, B and C.</td>
</tr>
<tr>
<td><strong>RW-NB-1.25</strong></td>
<td>The Region of Waterloo and Area Municipalities are requested to update their design guidelines to consider source protection and to provide enhanced construction standards where transport pathways are identified within Wellhead Protection Areas A and B.</td>
</tr>
</tbody>
</table>
## 8.3 Policies Addressing Prescribed Drinking Water Threats

<table>
<thead>
<tr>
<th>Policy Number</th>
<th>Policies Addressing Prescribed Drinking Water Threats within the Region of Waterloo</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW-MC-2</td>
<td>For waste disposal sites within the meaning of Part V of the <em>Environmental Protection Act</em> within vulnerable areas where this activity is or would be a significant drinking water threat:</td>
</tr>
<tr>
<td></td>
<td>a. The Ministry of the Environment shall prohibit, within the <em>Environmental Compliance Approvals</em> process, the establishment of a new waste disposal site within the meaning of Part V of the <em>Environmental Protection Act</em>, as specified below:</td>
</tr>
<tr>
<td></td>
<td>i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the application of untreated septage to land, land-farming of petroleum waste, storage of hazardous waste, PCB waste, or waste as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste is proposed;</td>
</tr>
<tr>
<td></td>
<td>ii. In Wellhead Protection Areas A and B where the vulnerability is greater than or equal to eight (8) for the injection of liquid industrial waste, landfilling of municipal waste and/or solid non-hazardous waste is proposed;</td>
</tr>
<tr>
<td></td>
<td>iii. In Intake Protection Zone One (1) for the application of untreated septage to land, land-farming of petroleum waste, storage of hazardous waste, PCB waste, or waste as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste or injection of liquid industrial waste, landfilling of municipal waste and/or solid non-hazardous waste is proposed;</td>
</tr>
<tr>
<td></td>
<td>iv. In Intake Protection Zone Three (3) where the application of hauled sewage is proposed;</td>
</tr>
<tr>
<td></td>
<td>v. Where there is a Nitrate Issue, in all Wellhead Protection Areas for the landfilling of municipal waste and/or solid non-hazardous waste is proposed;</td>
</tr>
<tr>
<td></td>
<td>vi. Where there is a Nitrate Issue, in all Wellhead Protection Areas for the new application of hauled sewage; and</td>
</tr>
<tr>
<td></td>
<td>vii. Where there is a Trichloroethylene Issue, in all Wellhead Protection Areas for the injection of liquid industrial waste, landfilling of municipal waste and/or solid non-hazardous waste is proposed.</td>
</tr>
<tr>
<td></td>
<td>b. The Ministry of Environment shall ensure that the <em>Environmental Compliance Approval</em> that governs an existing waste disposal site contains appropriate terms and conditions to ensure that the risk</td>
</tr>
</tbody>
</table>
associated with this waste disposal site is managed. The *Environmental Compliance Approval* must include annual reporting to the Ministry of the Environment of water quality monitoring in related groundwater monitoring wells and surface water monitoring locations in the following vulnerable areas where the following activities are identified as a significant drinking water threat:

i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the application of untreated septage to land, land-farming of petroleum waste, storage of hazardous waste, PCB waste, or waste as described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste;

ii. In Wellhead Protection Areas A and B where the vulnerability is greater than or equal to eight (8) for the injection of liquid industrial waste, landfilling of municipal waste and/or solid non-hazardous waste;

iii. In Intake Protection Zone Three (3) for the application of untreated septage to land;

iv. Where there is a Nitrate Issue, in all Wellhead Protection Areas for landfilling of municipal waste and/or solid non-hazardous waste, the *Environmental Compliance Approval* must also include reporting and monitoring for nitrogen;

v. Where there is a Nitrate Issue, in all Wellhead Protection Areas with a vulnerability greater than or equal to six (6) for the application of hauled sewage, the *Environmental Compliance Approval* must also include reporting and monitoring for nitrogen; and

vi. Where there is a Trichloroethylene Issue, in all Wellhead Protection Areas for the injection of liquid industrial waste, landfilling of municipal waste and/or solid non-hazardous waste, the *Environmental Compliance Approval* must include annual reporting and monitoring for trichloroethylene and degradation products.

The establishment, operation and maintenance of a new waste disposal site within the meaning of Part V of the *Environmental Protection Act* and/or storage facility exempt from *Environmental Compliance Approvals* under Section 39 of the *Environmental Protection* is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited within the following vulnerable areas where there is or would be a significant drinking water threat:

a. In Wellhead Protection Areas A, B and C where the vulnerability equals or is greater than eight (8); and

b. Where there is a Nitrate or Trichloroethylene Issue, in all Wellhead Protection Areas.
| RW-CW-4 | To reduce the risk to drinking water source from the establishment, operation and maintenance of an existing waste disposal site within the meaning of Part V of the *Environmental Protection Act* and/or storage facility exempt from *Environmental Compliance Approvals* under Section 39 of the *Environmental Protection Act* this activity shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required, with the persons or agencies engaging in or proposing to engage in this activity, for the following:

a. In Wellhead Protection Areas A, B and C where the vulnerability equals or is greater than eight (8); and

b. Where there is a Nitrate or Trichloroethylene Issue, in all Wellhead Protection Areas.

c. |

| RW-CW-5 | Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is less than six (6), the Regional Municipality of Waterloo shall develop and implement an education program to encourage the use of beneficial management practices that reduce the impact on groundwater for the application of hauled sewage to land. |

| Establishment, Operation or Maintenance of a System That Collects, Stores, Transmits, Treats or Disposes of Sewage |

| Sewage System or Sewage Works- Septic System |

| RW-MC-6 | The Region of Waterloo and the Area Municipalities shall amend their planning documents to prohibit new small septic systems and/or to require all new lots must have municipal waste water servicing within the following areas:

a. In Wellhead Protection Area A;

b. In Wellhead Protection Area B for wells which are designated under the *Safe Drinking Water Act* as Groundwater Under the Direct Influence of surface water (GUDI) where the vulnerability equals ten (10);

c. In Intake Protection Zone One (1);

d. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equal to eight (8);

e. Where there is a Nitrate Issue, for the wellfield of K23 in all Wellhead Protection Areas where the vulnerability is greater than or equal to six (6); and

f. Where there is a Chloride and/or Sodium Issue, in Wellhead Protection Area A. |
| RW-MC-7 | The Region of Waterloo and the Area Municipalities shall amend their planning documents to permit the creation of a new lot requiring a new small septic system only in accordance with the Regional Implementation Guideline for Source Water Protection Studies to the satisfaction of the Region within the following areas:

a. In Wellhead Protection Area B where the vulnerability equals ten (10) for wells which are not designated under the *Safe Drinking Water Act* as Groundwater Under the Direct Influence of surface water (GUDI);

b. Where there is a Nitrate Issue, in Wellhead Protection Areas where the vulnerability is equal to six (6); and

c. Where there is a Chloride and/or Sodium Issue, in Wellhead Protection Areas B, C and D where the vulnerability is greater than or equal to six (6). |

| RW-CW-8 | Within vulnerable areas where small septic systems and holding tanks are or would be significant drinking water threats:

a. The Area Municipalities shall implement a septic system maintenance inspection program, as required under the *Ontario Building Code*, for the following areas:

i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10); 

ii. Where there is a Sodium and/or Chloride Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals eight (8); and

iii. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals eight (8). |

| RW-CW-9 | To provide further guidance about the importance of source water protection and to promote best management practices:

a. The Ministry of the Environment shall prohibit, within the *Environmental Compliance Approvals* process, new large septic systems as specified below:

i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10); 

ii. Where there is a Nitrate, Chloride and/or Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equal to six (6); 

iii. Where is a Nitrate Issue, in Wellhead Protection Areas C and D where the vulnerability is less than six (6); and

iv. In Intake Protection Zone One (1). |
b. The Regional Municipality of Waterloo shall develop and implement an incentive program for persons with an existing small septic system for the following areas:

i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10);

ii. Where there is a Nitrate, Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals eight (8); and

iii. Where there is a Nitrate, Chloride and/or Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals eight (8).

c. The Region of Waterloo and Area Municipalities shall develop and implement an education program about small septic systems and holding tanks:

i. Where there is a Nitrate, Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is less than or equal to six (6).

For existing and new large septic systems, the following policies apply:

c. The Ministry of Environment shall ensure that the existing Environmental Compliance Approval contains appropriate terms and conditions to ensure that the risk is managed. The Environmental Compliance Approval must include annual reporting to the Ministry of the Environment of water quality monitoring in related monitoring wells in the following vulnerable areas where the following activities are identified as a significant drinking water threat:

i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10); and

ii. Where there is a Nitrate Issue, in Wellhead Protection Areas.

d. The Ministry of the Environment shall ensure that the new Environmental Compliance Approval contains appropriate terms and conditions to ensure that the risk is managed in the following vulnerable areas where the following activities are identified as a significant drinking water threat:

i. Where there is a Nitrate Issue, in Wellhead Protection Areas C and D where the vulnerability is less than six (6); and

ii. Where there is a Chloride and/or Sodium Issue in all Wellhead Protection Areas where the vulnerability is less than six (6).
The *Environmental Compliance Approval* must include annual reporting to the Ministry of the Environment of water quality monitoring in related monitoring wells. For Issue Contributing Areas, the *Environmental Compliance Approval* must also require applicable chemical effluent criteria established using Ministry of Environment Reasonable Use Policy (Guideline B-7) relative to water quality levels in the municipal aquifer.

**Sewage System or Sewage Works - Storage of Sewage (e.g., treatment plant tanks)**  
**Sewage System or Sewage Works - Sewage Treatment Plant Effluent Discharges (includes lagoons)**  
**Sewage System or Sewage Works – Industrial Effluent Discharge**

<table>
<thead>
<tr>
<th>RW-MC-11</th>
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<tbody>
<tr>
<td>For new sewage treatment plant effluent discharges to land and/or surface water from a sewage treatment plant, including lagoons and new underground storage of sewage and industrial effluent discharge located within the following vulnerable areas and where this activity is or would be a significant drinking water threat, the following policies apply:</td>
</tr>
<tr>
<td>a. The Ministry of the Environment shall prohibit the following activities within the <em>Environmental Compliance Approval</em> process:</td>
</tr>
<tr>
<td>i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the new effluent discharge from sewage plants including lagoons;</td>
</tr>
<tr>
<td>ii. In Wellhead Protection Areas A and B where the vulnerability is greater than or equal to eight (8) for new underground storage of sewage;</td>
</tr>
<tr>
<td>iii. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equal to six (6) for the new effluent discharge from sewage plants including lagoons; and</td>
</tr>
<tr>
<td>iv. Where there is a Nitrate Issue, in all Wellhead Protection Areas and the vulnerability is greater than or equal to six (6) for the new storage of sewage.</td>
</tr>
<tr>
<td>b. The Ministry of the Environment shall ensure that the <em>Environmental Compliance Approval</em> that governs the following existing or new activities contain appropriate terms and conditions to reduce the impact to groundwater and drinking water supplies within the specified vulnerable areas:</td>
</tr>
<tr>
<td>i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the existing sewage plant discharge to land and surface water, including lagoons. The terms and conditions shall require annual reporting to the Ministry of Environment of effluent quality and water quality in related monitoring wells;</td>
</tr>
<tr>
<td>ii. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the existing storage of sewage;</td>
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<td>iii.</td>
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<td>iv.</td>
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<td>v.</td>
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<td>vi.</td>
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<tr>
<td>vii.</td>
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<td>viii.</td>
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</tbody>
</table>

For storage of sewage, the terms and conditions shall include, as a minimum, measures to reduce the likelihood of spills and leaks, measures to contain and respond to spills and annual reporting to the Ministry of Environment; For sewage plant discharge from a sewage treatment plant discharge, including lagoons, the terms and conditions shall include, as a minimum, monitoring for nitrogen where there is a Nitrate Issue, annual reporting to the Ministry of Environment of water quality monitoring in related groundwater monitoring wells, and contingency plans for responding to spills and leaks; and For industrial effluent discharge, the terms and conditions shall include, as a minimum, measures to ensure facilities are maintained, contingency plans for responding to spills and leaks and surface water monitoring including nitrogen where there is a Nitrate Issue.
### RW-MC-12

<table>
<thead>
<tr>
<th>Sewage System or Sewage Works - Sanitary Sewers and Related Pipes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RW-MC-12</strong></td>
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### RW-MC-13

<table>
<thead>
<tr>
<th>Sewage System or Sewage Works - Sanitary Sewers and Related Pipes</th>
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<tbody>
<tr>
<td><strong>RW-MC-13</strong></td>
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<tr>
<td>RW-CW-14</td>
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</tr>
<tr>
<td>a.</td>
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<td>b.</td>
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<td>c.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sewage System or Sewage Works- Discharge of Stormwater from a Stormwater Management Facility</th>
<th>For existing discharge of stormwater from a stormwater management facility within vulnerable areas where this activity is be a significant drinking water threat:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>The Ministry of the Environment, in consultation with the owner of the stormwater management facility, shall ensure that the Environmental Compliance Approval that governs the stormwater management facility includes appropriate terms and conditions to ensure that the risk to drinking water sources is appropriately managed in the following vulnerable areas where the following activities are identified as a significant drinking water threat:</td>
</tr>
<tr>
<td>i.</td>
<td>In Wellhead Protection Areas A and B where the vulnerability equals ten (10);</td>
</tr>
<tr>
<td>ii.</td>
<td>In Wellhead Protection Area E where the vulnerability is greater than or equal to eight (8);</td>
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<tr>
<td>iii.</td>
<td>In Intake Protection Zone Three (3) where the vulnerability equals eight (8);</td>
</tr>
<tr>
<td>iv.</td>
<td>Where there is a Nitrate Issue, in all Wellhead Protection Areas; and</td>
</tr>
<tr>
<td>v.</td>
<td>Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas.</td>
</tr>
</tbody>
</table>
This will be done after an initial assessment conducted by the owner of the facility to see if additional risk reduction measures are required to protect drinking water.

**RW-MC-16**

For new discharge of stormwater from a stormwater management facility within vulnerable areas where this activity would be a significant drinking water threat:

- The Ministry of the Environment shall prohibit the discharge of stormwater from a stormwater management facility within the *Environmental Compliance Approvals* process in the following areas:
  
  - i. In Wellhead Protection Area A; and
  
  - ii. Where there is a Nitrate, Chloride and/or Sodium Issue, in Wellhead Protection Area A.

- The Ministry of the Environment shall ensure that the *Environmental Compliance Approval* that governs the discharge of stormwater from a stormwater management facility includes appropriate terms and conditions to ensure that the risk to drinking water sources is appropriately managed in the following areas:
  
  - iii. In Wellhead Protection Area B where the vulnerability equals ten (10); 
  
  - vi. In Wellhead Protection Area E where the vulnerability is greater than or equal to eight (8);
  
  - vii. In Intake Protection Zone Three (3) where the vulnerability equals eight (8);
  
  - viii. Where there is a Nitrate Issue, in all Wellhead Protection Areas except Wellhead Protection Area A; and

- iv. Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas except Wellhead Protection Area A. Groundwater and/or surface water quality is monitored for chloride and/or sodium.

The *Environmental Compliance Approval* must include, as a minimum, water quality monitoring and reporting annually to the Ministry of the Environment. Where there is a Nitrate, Chloride and/or Sodium Issue, groundwater and/or surface water quality shall be monitored for nitrate, chloride and/or sodium, respectively.

**RW-MC-17**

The Region of Waterloo and the Area Municipalities shall amend their planning documents to prohibit the discharge of stormwater from a stormwater management facility within the following areas:

- a. In Wellhead Protection Area A; and

- b. Where there is a Nitrate, Chloride and/or Sodium issue, in Wellhead
| RW-MC-18 | The Regional Municipality of Waterloo and Area Municipalities shall amend their land use planning documents to permit new stormwater management facilities subject to a study to assess impact and mitigation measures in accordance with the Regional Implementation Guideline for Source Water Protection Studies to the satisfaction of the Region within the following areas:

a. In Wellhead Protection Area B where the vulnerability equals ten (10);

b. In Wellhead Protection Area E where the vulnerability is greater than eight (8);

c. In Intake Protection Zone Three (3) where the vulnerability is greater than eight (8);

d. Where there is a Chloride and/or Sodium Issue or a Nitrate Issue, in Wellhead Protection Areas B, C, D, E; and

Where a proposed stormwater management pond is located within 500 m of a supply well that obtains water from a bedrock aquifer, the study will assess changes in classification of the supply well and or changes in hydrogeological conditions that could affect the filtration capacity at the well. |

| RW-CW-19 | The Area Municipalities, in collaboration with the Region of Waterloo, shall prioritize stormwater management facilities for assessment to determine appropriate scope and type of monitoring to protect drinking water sources and guide modifications of *Environmental Compliance Approvals* as required for related policies in this Plan. |

| RW-CW-20 | To reduce the risk to drinking water sources from the discharge of stormwater from a stormwater management facility exempt for Environmental Compliance Approvals, this activity shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. In Wellhead Protection Areas A and B where the vulnerability equals ten (10);

b. In Wellhead Protection Area E where the vulnerability is greater than or equals eight (8);

c. Where there is a Nitrate Issue, in all Wellhead Protection Areas. Groundwater and surface water quality is monitored for nitrate;

d. Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas. Groundwater and surface water quality is monitored for chloride and/or sodium; and

The Risk Management Plan must include, as a minimum, water quality monitoring and reporting to the Risk Management Official. |
The Application of Agricultural Source Material to Land

The Storage of Agricultural Source Material

To reduce the risk to drinking water sources from the existing and new application and storage of Agricultural Source Material within vulnerable areas where there is or would be a significant drinking water threat, the Ontario Ministry of Agriculture, Food and Rural Affairs shall review and, if necessary, amend existing and approve new Nutrient Management Plans and Strategies where required under the Nutrient Management Act for the following:

a. In Wellhead Protection Area A for the existing and new storage of agricultural source material;

b. In Wellhead Protection Area B where the vulnerability equals ten (10), for the existing application and storage of Agricultural Source Material;

c. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C and D where the vulnerability is greater than or equal to eight (8) for the new application and storage of Agricultural Source Material;

d. Where there is a Nitrate Issue, in Intake Protection Zone One (1) for new application and storage of Agricultural Source Material;

e. In Wellhead Protection Area A for the existing and new storage of agricultural source material;

The Nutrient Management Plans and Strategies for the application of Agricultural Source Material shall include as a minimum, measures to be implemented by the farmer and/or custom applicator to ensure application rate, timing and location are appropriate for crop uptake of nitrogen on an annual basis and that reduce potential for surface water run-off and groundwater infiltration.

The Nutrient Management Plans and Strategies for the storage of Agricultural Source Materials shall require facilities to contain 240 days for storage and to identify measures to minimize, contain and respond to spills and leaks; and
For lands within the K26 wellfield, the Nutrient Management Plans and Strategies for the application of Agricultural Source Materials shall contain the requirement for soil nitrogen testing to aid in refining the overall nutrient management planning.

| RW-CW-23 | To reduce the risk to drinking water sources from the existing and new application and storage of Agricultural Source Material within vulnerable areas where there is or would be a significant drinking water threat, these activities shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in these activities in the following areas:

a. In Wellhead Protection Area B where the vulnerability equals ten (10) for the existing and new application and existing storage of Agricultural Source Material;

b. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C and D where the vulnerability is greater than or equals six (6) for the existing application and storage of Agricultural Source Material;

c. Where there is a Nitrate Issue, in Wellhead Protection Area B and a Wellhead Protection Area C where the vulnerability is greater than or equal to eight (8) for the new storage of Agricultural Source Material;

d. For the application of Agricultural Source Material, the Risk Management Plan must include, as a minimum, measures to ensure application rate, timing and location are appropriate for crop uptake of nitrogen on an annual basis and that reduce potential for surface water run-off and groundwater infiltration;

e. For the storage of Agricultural Source Material, the Risk Management Plan must include, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to the spills; and

f. For lands within the K26 wellfield, the Risk Management Plan shall contain the requirement for soil nitrogen testing to aid in refining the overall nutrient management planning.
To provide further guidance to the agricultural community about the importance of source water protection and to promote best management practices, the Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing application and storage of Agricultural Source Material in the following areas:

a. In Wellhead Protection Area A and Wellhead Protection Area B where the vulnerability equals ten (10);

b. Where there is a Nitrate Issue in Wellhead Protection Areas A, B, C, D, and E and where the vulnerability is greater than or equals six (6).

c. The Regional Municipality of Waterloo shall develop and implement an education program about the application and storage of Agricultural Source Material in the following areas:

d. In Intake Protection Zone Three (3) where the vulnerability equals eight (8); and

e. Where there is a Nitrate Issue in all Wellhead Protection Areas and the vulnerability is less than six (6).

### The Application of Non-Agricultural Source Material to Land

#### The Handling and Storage of Non-Agricultural Source Material

The existing and new application, handling and storage of non-agricultural source material is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited within the following vulnerable areas where there is or would be a significant drinking water threat:

a. In Wellhead Protection Area A for the existing and new application and handling and storage of non-agricultural source material;

b. In Wellhead Protection Area B where the vulnerability equals ten (10) for the new handling and storage of non-agricultural source material;

c. In Intake Protection Zone One (1) for new application or handling and storage of non-agricultural source material; and

d. Where there is a Nitrate Issue, in Wellhead Protection Area A for the existing and new application and handling and storage of non-agricultural source material.

To reduce the risk to drinking water sources from the existing and new application, handling and storage of non-agricultural source material within vulnerable areas where there is or would be a significant drinking water threat, the Ontario Ministry of Agriculture, Food and Rural Affairs shall review and, if necessary, amend existing and approve new non-agricultural source material plans where required under the *Nutrient Management Act* for the following:

a. In Wellhead Protection Area B where the vulnerability equals ten (10)
for the existing application, handling and storage and for new application; and

b. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C and D where the vulnerability equals six (6) or eight (8) for the existing application, handling and storage and for new application.

For the application of non-agricultural source material, the plan must include, as a minimum, measures to ensure application rate, timing and location are appropriate for crop uptake of nitrogen on an annual basis and that reduce potential for surface water run-off and groundwater infiltration;

For the handling and storage of non-agricultural source material, the Plan must include, as a minimum, measures to minimize, contain and respond to spills and leaks; and

For lands within the K26 wellfield, the non-agricultural source material plan shall contain the requirements for soil nitrogen testing to aid in refining the overall nutrient management planning.

RW-MC-27

To reduce the risk to drinking water sources from the existing and new application, or handling and storage of non-agricultural source material within vulnerable areas where there is or would be a significant drinking water threat, the Ontario Ministry Environment shall review and, if necessary, amend, existing and approve new Environmental Compliance Approvals and include appropriate terms and conditions to ensure that the risk to drinking water sources is appropriately managed for the following:

a. In Wellhead Protection Area B where the vulnerability equals ten (10) for the existing application, handling and storage and for new application; and

b. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C and D where the vulnerability equals six (6) or eight (8) for the existing application, handling and storage and for new application.

For the application of non-agricultural source material, the plan must include, as a minimum, measures to ensure application rate, timing and location are appropriate for uptake of nitrogen on an annual basis and that reduce potential for surface water run-off and groundwater infiltration;

For the handling and storage of non-agricultural source material, the Plan must include, as a minimum, measures to minimize, contain and respond to spills and leaks; and

For lands within the K26 wellfield, the non-agricultural source material plan shall contain the requirements for soil nitrogen testing to aid in refining the overall nutrient management planning.
| RW-CW-28 | The existing and new application and handling and storage of commercial fertilizer is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited within the following vulnerable areas where there is or would be a significant drinking water threat:

   a. In Wellhead Protection Area A and B, where the vulnerability equals ten (10) for the new handling and storage of commercial fertilizer;

   b. In Intake Protection Zone One (1) for the new application and handling and storage of commercial fertilizer; and

   c. Where there is a Nitrate Issue, in Wellhead Protection Area A for the existing handling and storage and new application and handling and storage of commercial fertilizer. |

| RW-CW-29 | To reduce the risk to drinking water source from the existing and new application and handling and storage of commercial fertilizer within vulnerable areas where there is or would be a significant drinking water threat, this activity shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

   a. In Wellhead Protection Area A for existing and new application and existing handling and storage of commercial fertilizer;

   b. Where there is a Nitrate Issue, in all Wellhead Protection Areas excluding a Wellhead Protection Area A, where the vulnerability is greater to or equal to six (6) for the existing or new application of commercial fertilizer; and

   c. Where there is a Nitrate Issue, in Wellhead Protection Areas B and C and where the vulnerability is greater than or equals eight (8) for the new handling and storage of commercial fertilizer.

For the application of commercial fertilizer, the Risk Management Plan must include, as a minimum, measures to ensure application rate, timing and location are appropriate for uptake of nitrogen on an annual basis and that reduce potential for surface water run-off and increase groundwater infiltration;

For the handling and storage of commercial fertilizer, the Risk Management Plan shall include, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to spills; and

For lands within the K26 wellfield, the Risk Management Plan shall contain the requirement for soil nitrogen testing to aid in refining the overall nutrient management planning. |

| RW-CW-30 | To provide further guidance about the importance of source water protection |
and to promote best management practices:

a. The Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing application and storage of commercial fertilizer in the following areas:

   i. In Wellhead Protection Areas A and B where the vulnerability equals ten (10); and

   ii. Where there is a Nitrate Issue, in Wellhead Protections Areas B, C, D, and E where the vulnerability is greater than or equals six (6).

b. The Regional Municipality of Waterloo shall develop and implement an education program about the application and storage of commercial fertilizer where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is less than six (6).

<table>
<thead>
<tr>
<th>The Application of Pesticide to Land</th>
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<tbody>
<tr>
<td>The Handling and Storage of Pesticides</td>
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</tbody>
</table>

**RW-CW-31**
The new application and handling and storage of pesticide is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited within the following vulnerable areas where there would be a significant drinking water threat:

a. In Wellhead Protection Area A for the new application, handling and storage of pesticide; and

b. In Intake Protection Zone One (1) for the new application, handling and storage of pesticide.

**RW-CW-32**
To reduce the risk to drinking water source from the existing and new application and handling and storage of pesticides within vulnerable areas where there is or would be a significant drinking water threat, these activities shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. In Wellhead Protection Area A where the vulnerability is equal to ten (10) for existing application and handling and storage of pesticide; and

b. In Wellhead Protection Areas B where the vulnerability equals ten (10) for existing and new application and handling and storage of pesticide.

**RW-CW-33**
To provide further guidance about the importance of source water protection and to promote best management practices, the Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing application of pesticide in Wellhead Protection Areas A and B where the vulnerability is greater than or equals ten.
(10). The incentive program shall encourage the use of beneficial management practices that reduce the impact on groundwater.

<table>
<thead>
<tr>
<th>The Application of Road Salt</th>
<th>The Handling and Storage of Road Salt</th>
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<tbody>
<tr>
<td><strong>RW-CW-34</strong></td>
<td>The new application and handling and storage of road salt is designated in accordance with Section 57 of the <em>Clean Water Act</em> and is prohibited within the following vulnerable areas where there would be a significant drinking water threat:</td>
</tr>
<tr>
<td>a.</td>
<td>In Wellhead Protection Area A for any new application of salt on roadways, related to the development of new roads that would occur as the result of the approval of a <em>Planning Act</em> or <em>Condominium Act</em> application;</td>
</tr>
<tr>
<td>b.</td>
<td>In Wellhead Protection Area A, for any new application of salt on new large parking lots that would occur as the result of the approval of a <em>Planning Act, Condominium Act</em> or <em>Ontario Building Code</em> application;</td>
</tr>
<tr>
<td>c.</td>
<td>In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for new handling and storage of salt;</td>
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<tr>
<td>d.</td>
<td>In Intake Protection Zone One (1) for new handling and storage of salt;</td>
</tr>
<tr>
<td>e.</td>
<td>In Intake Protection Zone One (1) for any new application of salt on roadways, related to the development of new roads that would occur as the result of the approval of a <em>Planning Act</em> or <em>Condominium Act</em> application;</td>
</tr>
<tr>
<td>f.</td>
<td>In Intake Protection Zone One (1) for any new application of salt on new medium and large parking lots that would occur as the result of the approval of a <em>Planning Act, Condominium Act</em> or <em>Ontario Building Code</em> application;</td>
</tr>
<tr>
<td>g.</td>
<td>Where there is a Chloride and/or a Sodium Issue, in Wellhead Protection Area A for any new application of salt on new large parking lots that would occur as the result of the approval of a <em>Planning Act, Condominium Act</em> or <em>Ontario Building Code</em> application;</td>
</tr>
<tr>
<td>h.</td>
<td>Where there is a Chloride and/or a Sodium Issue, in Wellhead Protection Area A for any new application of salt on roadways, related to the development of new roads; and</td>
</tr>
<tr>
<td>i.</td>
<td>Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for new uncovered handling and storage of greater than one (1) tonne of salt or greater than one thousand (1000) litres of brine.</td>
</tr>
<tr>
<td><strong>RW-CW-35</strong></td>
<td>To reduce the risk to drinking water source from the existing and new application and handling and storage of road salt within vulnerable areas where there is or would be a significant drinking water threat, these activities</td>
</tr>
</tbody>
</table>
shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for existing application of salt on large parking lots;

b. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for existing handling and storage of salt;

c. In Wellhead Protection Area A for any new application of salt on medium parking lots that would occur as the result of the approval of a *Planning Act, Condominium Act* or *Ontario Building Code* application;

d. In Wellhead Protection Area B where the vulnerability equals ten (10) for any new application of salt on new medium or large parking lots that would occur as the result of the approval of a *Planning Act, Condominium Act* or *Ontario Building Code* application;

e. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for existing application of salt on roadways;

f. In Wellhead Protection Area B where the vulnerability equals ten (10) for new application of salt on roadways;

g. In Intake Protection Zone One (1) for existing handling and storage of salt;

h. In Intake Protection Zone One (1) for existing application of salt on medium and large parking lots; and

i. Where there is a Chloride and/or a Sodium Issue, in Wellhead Protection Area A for medium-sized parking lots; and

j. Where there is a Chloride and/or a Sodium Issue, in Wellhead Protection Areas B and C where the vulnerability is greater than or equals six (6) for:

   i. Existing application of salt on large or medium-sized parking lots;

   ii. Any new application of salt on new large parking lots that would occur as the result of the approval of a *Planning Act, Condominium Act* or *Ontario Building Code* application;

   iii. Any new application of salt on roadways, related to the development of new roads; and

   iv. Existing and new handling and storage of greater than five (5) tonnes of salt or greater than five thousand (5000) litres of brine.
The Risk Management Plan for application of salt on large and medium parking lots and the handling and storage of salt or brine shall contain, as a minimum, management practices that achieve a performance standard equivalent to that of an accredited site under the Smart about Salt program to reduce the impact of de-icing activities and for new parking lots include design considerations for roads and sidewalks to reduce the impact; and

The Risk Management Plan for application of salt on roadways shall include, as a minimum, measures to ensure application rate, timing and location reduce the potential for surface water run off and groundwater infiltration and meet the objectives of Environment Canada’s Code of Practice for Environmental Management of Road Salts including identification of areas where significant threats can occur as Vulnerable Areas and management practices in these areas.

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<tr>
<th>RW-MC-36</th>
<th>The Regional Municipality of Waterloo and Area Municipalities shall amend their land use planning documents to state:</th>
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<tbody>
<tr>
<td>a.</td>
<td>In Wellhead Protection Area B where the vulnerability equals ten (10) or where there is a Chloride and/or a Sodium Issue in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6), that Planning Act and Condominium Act applications proposing new roads as part of a subdivision and condominium applications where salt could be applied may be permitted subject to study in accordance with the Regional Implementation Guideline for Source Water Protection Studies and a Regional Salt Impact Assessment to the satisfaction of the Region; and</td>
</tr>
<tr>
<td>b.</td>
<td>Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is less than or equals six (6) that Planning Act and Condominium Act applications that propose new roads where salt could be applied may be permitted subject to study in accordance with the Regional Implementation Guideline for Source Water Protection Studies to the satisfaction of the Region.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>RW-CW-37</th>
<th>To provide further guidance about the importance of source water protection and to promote best management practices:</th>
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</thead>
<tbody>
<tr>
<td>a.</td>
<td>The Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the following activities in the following areas:</td>
</tr>
<tr>
<td>i.</td>
<td>In Wellhead Protection Area A and B where the vulnerability equals ten (10), activity of the existing application of salt on large or medium-sized parking lots;</td>
</tr>
<tr>
<td>ii.</td>
<td>Where there is a Chloride and/or Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for:</td>
</tr>
<tr>
<td>i.</td>
<td>Existing application of salt on large or medium-sized</td>
</tr>
</tbody>
</table>
parking lots;

ii. Existing application of salt on roadways; and

iii. Existing uncovered handling and storage of between one (1) to five (5) tonnes of salt or between one thousand (1000) and five thousand (5000) litres of brine.

b. The Regional Municipality of Waterloo shall develop and implement an education program about the application and handling and storage of salt in the following areas where there is a Chloride and/or a Sodium Issue:

i. In all Wellhead Protection Areas where the vulnerability is less than six (6) for the existing and new application of salt on large or medium-sized parking lots and the existing storage of salt;

ii. In all Wellhead Protection Areas for the existing application of salt on small parking lots;

iii. In Wellhead Protection Areas B, C and D where the vulnerability is greater than or equals six (6) for the storage of less than one (1) tonne of salt or less than one thousand (1000) litres of brine;

The incentive and education program shall encourage the implementation of the best management practices which form the core of the Smart about Salt Accreditation program to reduce the impact of winter de-icing activities.

c. The Area Municipalities, in conjunction with the Region of Waterloo, shall develop and implement an education program about winter salting where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas. The education program shall include messages about best salt management practices to protect drinking water in their winter maintenance bylaw promotion.

<table>
<thead>
<tr>
<th>RW-CW-38</th>
<th>The Regional Municipality of Waterloo and Area Municipalities shall acquire Smart about Salt Accreditation for the existing application of salt on large or medium-sized parking lots in the following areas:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. In Wellhead Protection Area A and B where the vulnerability is equal to ten (10); and</td>
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<tr>
<td></td>
<td>b. Where there is a Chloride and/or a Sodium Issue, in Wellhead Protection Areas A, B, and C where the vulnerability is greater than or equal to six (6).</td>
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</tbody>
</table>

| RW-CW/NB-39 | Where there is a Chloride and/or a Sodium Issue in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6), the Regional Municipality of Waterloo and Area Municipalities and the Ontario Ministry of Transportation shall review and revise their Salt Management Plans for the |
application of salt on roadways. The Salt Management Plan shall include, as a minimum, measures to ensure application rate, timing and location reduce the potential for salt-related surface water run-off and groundwater infiltration and meet the objectives of Environment Canada's Code of Practice for Environmental Management of Road Salts including identification of areas where significant threats can occur as Vulnerable Areas and management practices in these areas.

| RW-CW/NB-40 | In Wellhead Protection Area B where the vulnerability equals ten (10) and where there is a Chloride and/or a Sodium Issue, and in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6), the Regional Municipality of Waterloo and Area Municipalities and the Ontario Ministry of Transportation shall enhance road design measures in Environmental Assessments to modify, widen or expand existing roads to minimize the impact from any application of salt on roadways, related to the development of new roads. |
| The Storage of Snow |
| RW-CW-41 | The existing and new storage of snow is designated in accordance with Section 57 of the Clean Water Act and is prohibited within the following vulnerable areas where the following activities are identified as a significant drinking water threat:

a. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the existing storage of snow above grade with an area greater than 5 hectares or below ground with an area greater than 0.5 hectares and for any new storage of snow;

b. In Intake Protection Zone One (1) for any new storage of snow;

c. Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for the existing storage of snow above grade with an area greater than 5 hectares or below grade with an area greater than 0.5 hectares and any new storage of snow facility above grade with an area greater than 0.5 hectares or below grade with an area greater than 0.05 hectares; and

d. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for the existing or new storage of snow above grade with an area greater than 5 hectares or below grade with an area greater than 0.5 hectares. |
| RW-CW-42 | Where existing and new handling and storage of snow is or would be a significant drinking water threat within a vulnerable area, this activity shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for the existing storage of snow above grade with an area between 0.01 and 5 hectares or below grade with an area between 0.01 and 0.5 hectares;

b. Where there is a Chloride and/or a Sodium Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for any new storage of snow above grade with an area between 0.01 and 0.5 hectares;

c. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals six (6) for the existing storage of snow above grade with an area between 0.01 and 5 hectares or below grade with an area between 0.01 and 0.5 hectares; and

d. Where there is a Nitrate Issue, in all Wellhead Protection Areas where the vulnerability is greater than or equals eight (8) for any new storage of snow above grade with an area between 0.01 and 0.5 hectares.

The Risk Management Plan shall include, as a minimum, measures to reduce risk based on an assessment of criteria in the Ministry of the Environment implementation of Guideline B-4 (Snow Disposal and De-icing Operations in Ontario 2011) including measures that minimize the impact of surface and sub-surface drainage in selection of suitable sites for disposal.

| RW-CW-43 | To provide further guidance about the importance of source water protection and to promote best management practices, the Regional Municipality of Waterloo shall develop and implement an education program about the storage of snow in all Wellhead Protection Zones where there is a Chloride and/or a Sodium Issue and/or Nitrate Issue. The education program shall encourage the use of beneficial management practices that reduce the impact on groundwater. The education program shall advise property owners that the Ministry of the Environment should be contacted and that snow storage should meet the standards in Guideline B-4 (Snow Disposal and De-icing Operations in Ontario, 1994).

| RW-NB-44 | The Ontario Ministry of the Environment should consider an approval process for snow storage in Wellhead Protection Areas where it can be significant following Guideline B-4 (Snow Disposal and De-icing Operations in Ontario, 2011) including measures that minimize the impact of surface |
and sub-surface drainage for any new storage of snow.

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<th>The Handling and Storage of Fuel</th>
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The Risk Management Plan shall include, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to spills.

| **RW-MC-47**                     | The Regional Municipality of Waterloo and Area Municipalities shall amend their land use planning documents to prohibit new bulk liquid fuel facilities, gas stations and transportation terminals excluding fuel storage associated with a municipal emergency generator facility in Wellhead Protection Areas A and B where the vulnerability equals ten (10). |

| **RW-CW-48**                     | To provide further guidance about the importance of source water protection and to promote best management practices: |
|                                  | a. The Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing handling and storage of liquid fuel where it is a secondary land use in Wellhead Protection Area B where the vulnerability equals ten (10). The incentive program shall encourage the use of beneficial |
management practices that reduce the impact on groundwater;

b. The Region of Waterloo shall develop and implement an education program for homeowners with existing fuel oil tanks with storage of fuel less than or equal to 2,500 litres in Wellhead Protection Area A and B where the vulnerability equals ten (10). The education program shall provide homeowners with information relating to potential impacts of spills to drinking water sources and to fuel suppliers regarding their obligations for inspections; and

c. The Regional Municipality of Waterloo shall develop and implement an education program about the handling storage of liquid fuel where it is a secondary land use within Wellhead Protection Area B where the vulnerability equals ten (10). The education program shall encourage property owners to implement beneficial management practices for protection of groundwater.

| RW-MC-49 | Where existing and new handling and storage of fuel is or would be a significant drinking water threat within a vulnerable area for activities regulated under the Aggregate Resources Act within vulnerable areas:

a. The Ministry of Natural Resources, in consultation with the Region of Waterloo, shall ensure that licenses and site plans issued under the Aggregate Resources Act include appropriate terms and conditions to ensure that the risk to drinking water sources is appropriately managed. |

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

| RW-CW-50 | The existing and new handling and storage of a dense non-aqueous phase liquid is designated in accordance with Section 57 of the Clean Water Act and is prohibited within the following vulnerable areas where there is or would be a significant drinking water threat:

a. In Wellhead Protection Area A for the existing handling and storage of dense non-aqueous phase liquids; and

b. In Wellhead Protection Area A and Wellhead Protection Area B where the vulnerability equals ten (10) and all Wellhead Protection Areas, where there is a Trichloroethylene Issue and where the vulnerability is greater than or equal to eight (8) for the new handling and storage of dense non-aqueous phase liquids for trichloroethylene. |

| RW-CW-51 | Where existing and new handling and storage of a dense non-aqueous phase liquid is or would be a significant drinking water threat within a vulnerable area, this activity shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. In Wellhead Protection Area B and C for new and existing where the vulnerability is greater than six (6); and |
b. Where there is a Trichloroethylene Issue in Wellhead Protection Areas B, C and D where the vulnerability equals six (6).

The Risk Management Plan shall include, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to spills.

**RW-CW-52**

Where existing handling and storage of a dense non-aqueous phase liquid is a significant drinking water threat within a vulnerable area, the Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing handling and storage of dense non-aqueous phase liquids. The incentive program shall encourage, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to spills within all Wellhead Protection Areas, excluding in Wellhead Protection Area A, where the vulnerability is greater than or equal to six (6) and where there is a Trichloroethylene Issue, all Wellhead Protection Areas, excluding in Wellhead Protection Area A, where the vulnerability is greater than or equals six (6).

**RW-CW-53**

Where existing and new handling and storage of a dense non-aqueous phase liquid is a significant drinking water threat within a vulnerable area, the Regional Municipality of Waterloo shall develop and implement an education program about the handling and storage of dense non-aqueous phase liquids within all Wellhead Protection Areas where the vulnerability is less than six (6). The education program shall provide businesses with information relating to potential impacts of spills to drinking water and encourage implementation of beneficial management practices for protection of groundwater from dense non-aqueous phase liquid storage and handling.

### The Handling and Storage of an Organic Solvent

**RW-CW-54**

The existing and new handling and storage of an organic solvent is designated in accordance with Section 57 of the Clean Water Act and is prohibited within the following vulnerable areas where there is or would be a significant drinking water threat:

a. In Wellhead Protection Area A for the existing handling and storage below ground and new handling and storage below and above ground of organic solvent; and

b. In Wellhead Protection Area B where the vulnerability equals ten (10) for the new handling and storage below ground of organic solvent.

**RW-CW-55**

Where existing and new handling and storage of an organic solvent is or would be a significant drinking water threat within a vulnerable area, this activity shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

a. In Wellhead Protection Area A for existing above ground handling and storage of organic solvent; and

b. In Wellhead Protection Area B where the vulnerability equals ten (10) for existing handling and storage and new handling and storage
above ground of organic solvent.

The Risk Management Plan shall include, as a minimum, measures to reduce the likelihood of spills and leaks and contain and respond to spills.

### The Management of Run-off that Contains Chemicals Used in De-icing of Aircraft

**RW-CW-56**

Where the expansion of existing or new run-off containing de-icing chemicals would be a significant drinking water threat within a vulnerable area:

- a. Any new management of run-off that contains chemicals used in the de-icing of aircraft is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited in Intake Protection Zone One (1); and

- b. This activity shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons proposing to undertake any expansion of existing or new management of run-off that contains chemicals used in the de-icing of aircraft where this activity could be a significant drinking water threat within Wellhead Protection Area A and Wellhead Protection Area B where the vulnerability equals ten (10).

### The Use of Land as Livestock Grazing or Pasturing Land, an Outdoor Confinement Area or Farm Animal Yard

**RW-CW-57**

The existing and new use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard is designated in accordance with Section 57 of the *Clean Water Act* and is prohibited within the following vulnerable areas where there is or could be a significant drinking water threat:

- a. In Wellhead Protection Areas A and B where the vulnerability equals ten (10) for the new use of land as an outdoor confinement area or farm-animal yard;

- b. In Intake Protection Zone One (1) for the new use of land as an outdoor confinement area or farm-animal yard and the new use of land as livestock grazing or pasturing land; and

- c. Where there is a Nitrate Issue, in Wellhead Protection Area A for the existing and new use of land as an outdoor confinement area or farm-animal yard and the new use of land as livestock grazing or pasturing land.

**RW-CW-58**

To reduce the risk to drinking water sources from existing and new agricultural operations located within a vulnerable area where the use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard is or would be a significant drinking water threat, this activity shall be designated for the purpose of Section 58 of the *Clean Water Act* and a Risk Management Plan shall be required with the persons or agencies engaging or proposing to engage in the following areas:

- a. In Wellhead Protection Area A where there is no Nitrate Issue and
a. In Wellhead Protection Area A and Wellhead Protection Area B where the vulnerability equals ten (10); and

b. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C, D where the vulnerability is greater than or equal to six (6) for the new use of land as an outdoor confinement area or a farm-animal yard.

The Risk Management Plan must include, as a minimum, measures to manage the generation of manure, livestock activities, and reduce the potential for surface water run-off and groundwater infiltration.

RW-CW-59

To provide further guidance to the agricultural community about the importance of source water protection and to promote best management practices, the Regional Municipality of Waterloo shall develop and implement an incentive program for persons engaging in the activity of the existing use of land as an outdoor confinement area or a farm-animal yard for the existing use of land as livestock grazing or pasturing land in the following areas:

a. In Wellhead Protection Area A and Wellhead Protection Area B where the vulnerability equals ten (10); and

b. Where there is a Nitrate Issue, in Wellhead Protection Areas B, C, D and E where the vulnerability is greater than or equal to six (6).

RW-CW-60

The Regional Municipality of Waterloo shall develop and implement an education program about the use of land as livestock grazing or pasturing land, outdoor confinement area or a farm animal yard in the following areas:

a. In Intake Protection Zone Three (3) where the vulnerability is equal to eight (8);

b. Where there is a Nitrate Issue in all Wellhead Protection Areas outside of Wellhead Protection Area A; and

c. Where there is a Nitrate Issue all Wellhead Protection Areas where the vulnerability is less than six (6) and.
APPENDIX A:

LIST OF POLICIES AS PER SECTION 34 OF REGULATION 287/07
LIST A

**Title:** Significant threat policies that affect decisions under the *Planning Act* and *Condominium Act*, 1998

*Opening Statement:* "Clause 39 (1)(a), subsections 39 (2), (4) and (6), and sections 40 and 42 of the *Clean Water Act*, 2006 apply to the following policies:"


---

LIST B

**Title:** Moderate and low threat policies that affect decisions under the *Planning Act* and *Condominium Act*, 1998

*Opening Statement:* “Subsection 39 (1) (b) of the *Clean Water Act*, 2006 applies to the following policies:”

*Content:* No Applicable Policies

---

LIST C

**Title:** Significant threat policies that affect prescribed instrument decisions

*Opening Statement:* “Subsection 39 (6), clause 39 (7) (a), section 43 and subsection 44 (1) of the *Clean Water Act*, 2006 apply to the following policies:"


---

LIST D

**Title:** Moderate and low threat policies that affect prescribed instrument decisions

*Opening Statement:* “Clause 39 (7) (b) of the *Clean Water Act*, 2006 applies to the following policies:”

*Content:* No Applicable Policies

---

LIST E

**Title:** Significant threat policies that impose obligations on municipalities, source protection authorities and local boards

*Opening Statement:* “Section 38 and subsection 39 (6) of the *Clean Water Act*, 2006 applies to the following policies:"

LIST F

**Title:** Monitoring policies referred to in subsection 22 (2) of the *Clean Water Act, 2006*

**Opening Statement:** “Section 45 of the Clean Water Act, 2006 applies to the following policies:”

**Content:** RW-CW-1.8, RW-CW-1.9, RW-CW-1.10, RW-CW-1.11, RW-CW-1.12

---

LIST G

**Title:** Policies related to section 57 of the *Clean Water Act, 2006*

**Opening Statement:** “The following policies relate to section 57 (prohibition) of the Clean Water Act.”


---

LIST H

**Title:** Policies related to section 58 of the *Clean Water Act, 2006*

**Opening Statement:** “The following policies relate to section 58 (risk management plans) of the Clean Water Act.”


---

LIST I

**Title:** Policies related to section 59 of the *Clean Water Act, 2006*

**Opening Statement:** “The following policies relate to section 59 (restricted land use) of the *Clean Water Act.*”

**Content:** RW-CW-1.1, RW-CW-1.3

---

LIST J

**Title:** Strategic Action policies

**Opening Statement:** For the purposes of section 33 of Ontario Regulation 287/07, the following policies are identified as strategic action policies:

**Content:** RW-NB-1.22, RW-NB-1.23, RW-NB-1.24, RW-NB-1.25

---

List K

**Title:** Significant threat policies targeted to bodies other than municipalities, local boards or source protection authorities for implementation
**Opening Statement**: For the purposes of section 33 of Ontario Regulation 287/07, the following policies are identified as strategic action policies:

Content: RW-NB-1.7, RW-NB-1.15, RW-NB-1.17, RW-NB-1.21, RW-CW/NB-39, RW-CW/NB-40, RW-NB-44,
APPENDIX B:

TABLE: PRESCRIBED INSTRUMENTS WHICH APPLY TO SOURCE PROTECTION PLAN POLICIES IN LISTS C AND D ABOVE (s.34(4) of O.Reg. 287/07)
Table 1: Prescribed instruments which apply to source protection plan policies in Lists C and D above (s.34(4) of O.Reg. 287/07)

<table>
<thead>
<tr>
<th>Policy #</th>
<th>Legal Effect (conform with, have regard to)</th>
<th>Environmental Protection Act</th>
<th>Nutrient Management Act</th>
<th>Ontario Water Resources Act</th>
<th>Pesticide Act</th>
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APPENDIX C:

TABLE: POLICY SUMMARY MATRIX
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<th>Policy ID#</th>
<th>Legal Effect (conform with, have regard to, non-binding)</th>
<th>Policy affects decisions under the Planning Act and Condominium Act, 1998 (Lists A and B)</th>
<th>Policy affects Prescribed Instrument decisions (Lists C and D)</th>
<th>Significant threat policies that impose obligations on municipalities, source protection authorities and local boards (List E)</th>
<th>Monitoring policies referred to in s.22 (2) of the CWA (List F)</th>
<th>Part IV Policies - Significant threat policies that are designated in the plan as requiring a risk management plan, are prohibited under s. 57, or to which s. 59 of the CWA applies (Lists G, H, and I)</th>
<th>Strategic Action Policies (List J)</th>
<th>Significant threat policies targeted to bodies other than municipalities, local boards or source protection authorities for implementation List K</th>
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APPENDIX D:

LIST OF SCHEDULES

Region of Waterloo Water Supply
SOURCE PROTECTION PLAN

DRAFT

EXPLANATORY DOCUMENT

Prepared on behalf of:
Lake Erie Region Source Protection Committee

Under the Clean Water Act, 2006
(Ontario Regulation 287/07)
1. INTRODUCTION

The Explanatory Document provides stakeholders, the general public, other interested parties, as well as the Source Protection Authority and the Ministry of the Environment, with the intent and rationale behind the policy decisions made in the Source Protection Plan Policies (Volume II). Information on the context of the Source Protection Plan and the planning process is presented in Volume I of the Source Protection Plan.

As stated in section 40 of Ontario Regulation 287/07 of the Clean Water Act, 2006, the Explanatory Document contains the following information:

- An explanation of the reasons for each policy set out in the Source Protection Plan.
- An explanation of the reasons for designating an activity under paragraph 1 of subsection 22 (3) of the Act, including the reasons relied on by the committee to form the opinion that the activity must be prohibited in order to ensure that it ceases to be a significant drinking water threat.
- A summary of the comments received under sections 35 to 39 and an explanation of how the comments affected the development of the policies set out in the Source Protection Plan.
- An explanation of how the summary referred to in paragraph 7 of subsection 13 (1) affected the development of the policies set out in the Source Protection Plan.
- A summary of how the consideration of the potential financial implications for persons and bodies that would be implementing or affected by the Source Protection Plan influenced the development of the policies set out in the plan.
- If a policy described in subsection 22 (7) of the Act or paragraph 1 of section 26 of this Regulation is the only policy set out in a Source Protection Plan to deal with an activity that has been identified as a significant drinking water threat, a statement that the Source Protection Committee is of the opinion that,
  - the policy, if implemented, will promote the achievement of the objectives of the plan in accordance with paragraph 2 of subsection 22 (2) of the Act; and
  - a policy to regulate or prohibit the activity is not necessary to achieve those objectives.

This document is submitted to the Ministry of the Environment with the Source Protection Plan from the Source Protection Authority under section 22(16) of the Clean Water Act and under section 43(1) of Ontario Regulation 287/07.

Before submittal, this document will be updated to reflect any changes made to the draft Source Protection Plan and include a brief explanation of the effect, if any, of comments received during consultation on the plan under section 41 of Ontario Regulation 287/07 on the development of the plan.
2. POLICY DEVELOPMENT WITHIN THE REGION OF WATERLOO

2.1 Municipal Support

To date, the municipalities within the Grand River Source Protection Area and the Grand River Conservation Authority have been actively involved with the development of the Source Protection Plan policies. In the Region of Waterloo, this participation has extended over many years including early consultation on the Clean Water Act itself and on the development of the Terms of Reference and Assessment Report. Region of Waterloo staff have prepared several reports to Regional Council and hosted public information sessions in the lead up to policy development. The Region of Waterloo also requested and was designated to take the lead in policy development for its protection areas on behalf of the Source Protection Committee.

As set out within Section 8 of the 2010 Region of Waterloo’s Official Plan, “Waterloo Region is unique in Ontario in that it is the largest urban municipality to rely almost exclusively on groundwater supplies for its drinking water. Approximately three quarters of the Region’s drinking water comes from over 100 municipal wells. The remaining quarter of the Region’s drinking water is drawn from the Grand River. Protecting these valuable water resources from contamination and from land uses that could hinder groundwater recharge is essential to maintaining human health, economic prosperity and a high quality of life in the Region.”

The Region has acknowledged this unique situation for almost two decades through its leadership and implementation of its Water Resource Protection Master Plan (2007). Initiated in 1994, the Master Plan has been a cornerstone of the Region’s approach to drinking water management. The Master Plan, which was updated in 2007, included tasks to integrate the Plan with the objectives and other requirements of the Clean Water Act. The knowledge and experience gained through the implementation of the Master Plan has raised awareness of the need for source protection with the public and Area Municipalities. Previous experience in program implementation including development of land-use planning policies, incentive and education programs, and direct stakeholder interaction was critical in understanding the potential impacts of policies that might be developed under the Clean Water Act.

Building from existing networks, an “early engagement” process was initiated specifically for the Area Municipalities that would be affected by the policies prior to the Source Protection Plan being released for official public consultation. This process provided the municipalities with the opportunity to shape the source protection policies with regard to implementation and the available resources.

In September/November 2011, a summary of general principles and approaches being considered by Region staff to develop the policies was presented to Regional Council (E-11-102). The principles that guided the development of risk reduction policies were:

- Consider previous source protection program implementation experience and align with approaches in the Water Resources Protection Master Plan.
- More protective policies closer to the well.
- More protective policies for threats associated with an issue.
- Enable voluntary compliance prior to mandatory compliance.
- Consistent approach to policies for various threats.
Policies using existing prescribed instruments and local incentive/education programs should be considered as a priority to achieve objectives. Where these do not exist, policies that could facilitate implementation through new, local programs should be developed, followed by policies that require risk management plans and/or education/awareness programs.

- Compliance dates should be staggered over a 5 year period to minimize impact.
- Policies for existing activities must allow for required changes to be implemented in a reasonable time frame. Financial incentives could be considered to assist.
- Financial impact to property owners, including municipalities and the Grand River Conservation Authority is an important consideration.

As part of the policy development process, Region of Waterloo staff consulted with local municipal staff and the school boards through the existing Source Water Protection Liaison Committee (formerly the Water Resources Protection Liaison Committee), and held three Public Information Sessions. This Committee has been an integral component of the Master Plan and has provided support and guidance to Region staff as part of the Master Plan’s implementation. In addition, presentations were made to the Kitchener-Waterloo Chamber of Commerce and Area Municipal councils at Cambridge, Kitchener, Waterloo, Wilmot and Woolwich. Region of Waterloo Staff also met directly with numerous department managers and directors in Cambridge, Kitchener, and Waterloo to discuss the policies.

A first draft of the policies was presented to Regional Council in January (E-12-012). Changes to these policies have occurred in response to additional guidance from the Ministry of Environment, feedback from Area Municipal and Regional staff, and as part of the regulated pre-consultation with implementing agencies. Formal pre-consultation was required for all agencies with implementation responsibilities including: the Province (Environment, Natural Resources, Municipal Affairs and Housing, Transportation, Infrastructure), Area Municipalities, including the City of Brantford and Wellington County, and the Grand River Conservation Authority. Feedback provided through these organizations and groups were considered.

Draft policies have been reformatted to more closely align with other jurisdiction’s policies in the draft Source Protection Plan and to facilitate inclusion in the Region Official Plan. This reformating has improved the readability and reduced the total number of policies. While most of the policies continue to rely on risk management plans and prescribed instrument tools enabled by the Clean Water Act, several changes were made in response to consultation including: transition policies that will recognize some planning approval to enable the activity to be treated as existing rather than future; limiting the scope of policies in surface water areas contributing to wells to that of spill preparedness; adding new policies for the Mannheim Water Treatment Plant Intake in the Grand River; and adding new policies for Brantford’s intake protection areas where they occur within the Region. The final draft policies for Waterloo Region were presented to council in August 2012 (E12-102).

### 2.2 Financial Considerations

One of the specific requirements for an explanatory document is to advise how consideration of the potential financial implications for persons and bodies that would be implementing or affected by the source protection plan influenced the development of policies. These considerations are discussed below.
As presented in the previous section, the Region has gained considerable insight on the impacts of source protection through the implementation of the Water Resources Protection Master Plan. This experience also provides the basis on which financial impacts were assessed. Specifically, financial awareness was created through a number of initiatives as follows:

- Implementing source-protection based incentive programs to farmers for 15 years and urban businesses for five years. These programs include an approval process that includes implementation costs and use the principle that the property owner may accrue a financial benefit from the improved practices and so should contribute to the cost of the new practice;
- Designing and implementing a private parking lot maintenance accreditation program that utilized the cost and potential liability associated with winter maintenance programs;
- Implementing source protection based land-use policies through development applications;
- An assessment of road salt impacts at a supply well concluded that salt concentrations in supply wells are achievable at a modest cost with improved management practices and equipment upgrades. This study led to the development of a salt management program for municipal road agencies that includes assessment and implementation of new practices. This study also provided critical insight on the Region’s tiered approach to source protection as the largest improvements in water quality came from changes in practices closer to the wells; and
- A cost-benefit analysis of the potential for decreasing concentration of nitrate in a well with a nitrate drinking water issue through changes in agricultural management practices. This study again supported the Region’s tiered approach to source protection and identified specific practices that could be implemented to improve the cost at a reasonable cost.

This previous experience enabled staff to assess and give substantial consideration to the potential costs and impact to the business and residents of the Region of Waterloo as part of the decision making process in developing the Source Protection Plan policies. In essence, it was felt that the cost for implementation should be shared across all those affected by the policies. The policy framework is based on the principle of utilizing prescribed instruments first to place the onus on the provincial agency responsible for issuing prescribed instruments such as Environmental Compliance Approvals to protect municipal water supplies using provincial legislation. Financially, this will assist in spreading implementation cost across provincial and municipal agencies. The financial impacts to municipalities for implementation and property ownership within Waterloo Region are set out in detail within Staff Report E-12-075. Additional costs are projected to be incurred by the Region and Area Municipalities. These impacts include cost for mitigating risk on municipal properties, new resources for undertaking the responsibilities for the Risk Management Official, and incentive and education program implementation.

A number of Regional and Area Municipal properties have been identified as significant drinking water threats. These threats include application of salt on road and parking lots, stormwater management facilities, snow storage sites, and septic systems. The yearly costs to implement source protection for these properties are estimated to range from zero (North Dumfries, Wellesley, and Woolwich do not own properties with significant drinking water threats) to approximately $207,000 for Kitchener. The costs vary for each agency primarily by the threat type and the number of properties.
Throughout the consultation on the draft policies, concern was raised by Area Municipal staff on the potential inadvertent consequences of amending existing Environmental Compliance Approvals for stormwater management ponds and sanitary sewers. These concerns centred on the lack of specificity in what would be required with these amendments and that the regulatory agency could include requirements within these amendments beyond what was envisioned during the development of the policies. This concern made it difficult to predict the financial impact for these policies or assess the risk that the cost could be considerably higher than estimated. To address this, policies were added for these threats directing Area Municipalities to undertake a preliminary assessment of these structures that would assist in guiding both the Municipality and the Province on the extent to which risk reduction is necessary. The policies also include specific minimum content to guide the approval authority on the scope of measures Region of Waterloo staff had envisioned would be required to meet the intent of the Clean Water Act.

Implementing the tasks of the Risk Management Official Office is a new responsibility for the Region. Accordingly, Water Services staff has undertaken an assessment of the financial and staffing implications needed to implement these functions. In total, 4 full-time staff will be dedicated to implement these duties, the costs of which will be born by the Region. In addition, contract staff may be needed in the first few years to assist in dealing with the large number of existing threats that will need risk management plans. Finally, substantial legal support is anticipated to guide negotiations of the risk management plans and assist in appeals that will undoubtedly emerge with this new legislation. The fees that may be charged to persons applying for building permits or development applications may partially offset these costs.

The Risk Management Official will be required to provide notice to and sign off on risk management plans before applicants can initiate the development and building permit application processes where the development includes significant threat activities in well head protection areas. Municipalities have expressed concern that inclusion of this additional process within the development and building permit process will result in additional approval delays and potential additional costs to both city staff and the developer or applicant. Region staff is committed to consulting further with each Area Municipality in developing and integrating this process into existing municipal approval processes.

The proposed incentive program will help support the transition and/or upgrades that will be required to reduce the risk to supply wells. For wells with drinking water issues, stand-alone incentive or education policies are proposed, as part of the Region’s tiered approach, for the outer reaches of the issue contributing areas as it was felt that the main risk reduction emphasis was needed for properties closer to the supply well. It is proposed that the incentive program be implemented over ten years to spread out the cost to the Region and in recognition of the challenges in implementing incentives to several thousand properties. Education and awareness programs will be linked with the proposed incentive programs and will be developed and run parallel to these programs. The estimated cost for these programs is built on the continued availability of funds from the Clean Water Act Stewardship Program. In the event that the Province discontinues or reduces the availability of funds, the cost share and maximum amounts will need to be revisited. It is hoped that the scope of the stewardship program will be known before the Province approves the Source Protection Plan. The extent to which incentives may be available for source water protection measures will depend on whether these incentives are subject to the bonusing provision of the Municipal Act. This option is being assessed in conjunction with the Province.
Area Municipalities will be responsible for implementing septic system inspections in source protection areas in accordance with the Building Code. The cost for this program will be borne by the municipality and may be partially offset by administration fees charged to the property owner.

2.3 Policy Intent and Rationale

Section 8.1 of the Source Protection Plan contains definitions that apply within the Region of Waterloo. Section 8.2 contains general policies that enable specific provisions under the Clean Water Act regarding regulated activities and restricted land uses. The provisions of the Clean Water Act require this language be contained within the Source Protection Plan. These policies set out the timing for various sections to come into effect, the transition provisions and how Planning Act and Building Permit applications should be handled when the Source Protection Plan comes into effect and annual reporting requirements. These policies are an integral component of the Plan and must be consulted to understand the full effect of the policies regarding significant drinking water activities.

Also found within this section are the condition policies. A condition is a site with contamination that is the result of past activities. The Region of Waterloo has identified a comprehensive policy approach for addressing conditions through a combination of a number of policy tools. The use of prescribed instruments is preferred tool where there is one available. This is supported by the requirement for an environmental screening process for new development applications as well as increased communication and data sharing.

2.3.1 Part IV Policies

Waste Disposal Site and Storage Facilities

For those facilities not regulated by prescribed instruments, the use of the new Part IV tools to prohibit new and manage the risk from existing occurrences of this threat was preferred. The protection areas where prohibition and management are required are consistent with the Region’s tiered approach to risk reduction and require the same risk reduction approach as that drafted for prescribed instruments. Prohibiting new occurrences of this threat ensure the cumulative risk to the well is not increased. Risk Management Plans provide an opportunity to effectively deal with significant drinking water threat activities related to waste disposal and storage. Details related to the content and purpose of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. It is not envisioned that there will be many circumstances where this policy will be applied.

Sewage System or Works – Stormwater Discharge from a Stormwater Management Facility

For those facilities not regulated by prescribed instruments, the use of the new Part IV tools to prohibit new and manage the risk from existing occurrences of this threat was preferred. The protection areas where prohibition and management are required are consistent with the Region’s tiered approach to risk reduction and require the same risk reduction approach as that drafted to prescribed instruments. Prohibiting new occurrences of this threat ensure the cumulative risk to the well is not increased. Risk Management Plans provide an opportunity to effectively deal with significant drinking water threat activities related to stormwater discharge. Details related to the content and purpose of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk.
The minimum content reflects accepted industry standards to reduce the impact of the threat. It is not envisioned that there will be many circumstances where this policy will be applied.

The application and storage of Agricultural Source Material to land

In general, the Region’s approach to risk mitigation is based on the principle of not increasing the risk by adding new threats and a tiered approach to risk reduction with more restrictive measures closer to the well. Accordingly, the risks posed by this threat warrant prohibition of these activities where it could be a future threat in areas closer to the wells and prohibition of application where it is an existing threat within Wellhead Protection Area A where there is a Nitrate Issue. A number of factors were considered, and were relied upon by the Source Protection Committee in determining that this threat warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation and scoring of multiple vulnerability zones;
- Agricultural Source Material includes pathogens whereby one pathogen could result in immediate health impacts;
- Management of this threat cannot reduce numbers of pathogens to zero thereby eliminating the threat and potential adverse effects;
- The chemicals and pathogens reach the subsurface through direct and designed application which poses a greater risk than spills;
- Chemicals associated with this threat have already affected the drinking water quality in the well as there is a designated drinking water Issue and more restrictive risk-reduction measures are needed to reduce the risk; and
- The Nutrient Management Act acknowledges that the risk from this activity is high by prohibiting it within 100 m.

In addition, as there are alternatives available to the property owner to ensure viable crop production via the application of commercial fertilizers, it is felt that this prohibition would be acceptable to property owners. Region of Waterloo staff have undertaken measures to assess whether this activity is occurring and are not aware of its occurrence; however, there may be omissions in the Region’s data.

The approach to prohibiting new Agricultural Source Material application in Wellhead Protection Area A is part of the Region’s tiered approach to risk reduction that has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas with decreasing levels of restriction in other areas. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

This policy approach utilizes the new Risk Management Official responsibilities to manage the risk from this threat within Wellhead Protection Area B where there is not a drinking water issue and Wellhead Protection Areas B, C and D where there is a Nitrate Issue. Use of this tool recognizes that the Nutrient Management Plans required through the Nutrient Management Act are not required for many existing farms in the Region and that nutrient management is necessary to reduce the risk from this threat. Details related to the purpose or content of the tool assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. By definition, most agricultural
properties have utilized a variety of activities over the past and few activities will be considered to be a future threat.

Review of the Wellhead Protection Area extent and vulnerability has identified that management of the risk in areas where vulnerability is greater than 6 is necessary for wells which have drinking water issues to reduce the impact of this threat at the drinking water intake. Detailed technical studies at K26 have indicated that soil nitrate testing is needed to ensure nutrient management plans achieve the desired risk reduction goals for nitrogen. An economic cost-benefit analysis was undertaken by the Region in determining that this additional measure was appropriate and could be implemented at the least cost.

The application, handling and storage of Non-Agricultural Source Material to land

In general, the Region’s approach to risk mitigation is based on the principle of not increasing the risk by adding new threats and a tiered approach to risk reduction with more restrictive measures closer to the well. Accordingly, the Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B and Intake Protection Zone 1. The risks posed by this threat warrant prohibition of these activities where it could be a future threat in areas closer to the wells and where it is an existing threat within a Wellhead Protection Area A. A number of factors were considered and were relied upon by the Source Protection Committee in determining that this threat warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation and scoring of multiple vulnerability zones;
- Non Agricultural Source Material includes pathogens whereby one pathogen could result in immediate health impacts;
- Management of this threat cannot reduce numbers of pathogens to zero thereby eliminating the threat and potential adverse effects;
- For application, the chemicals and pathogens reach the subsurface through direct and designed application;
- For storage, in the event of a spill there might not be sufficient time to respond as the storage facility is within 100 m of the well and the quantity of pathogens could overwhelm the treatment system at the well; and
- The Nutrient Management Act acknowledges that the risk from this activity is high by prohibiting it within 100 m.

In addition, as there are alternatives available to the property owner to ensure viable crop production via the application of commercial fertilizers, it is felt that this prohibition would be acceptable to property owners. Region staff has undertaken measures to assess whether this activity is occurring and are not aware of its occurrence; however, there may be omissions in the Region’s data. There are no existing significant threats in Intake Protection Zone 1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

The approach to prohibiting new Non-Agricultural Source Material application in Wellhead Protection Areas A and B is consistent with the Region’s informal process when providing comments to the regulator on individual sites being considered for Non-Agricultural Source Material application. It is also part of the Region’s tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas, including prohibition of most future threats and with decreasing levels of restriction in other
areas. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

The application, handling and storage of Commercial Fertilizer

In general, the Region’s approach to risk mitigation is based on the principle of not increasing the risk by adding new threats and a tiered approach to risk reduction with more restrictive measures closer to the well. Accordingly, the risks posed by this threat warrant prohibition of this activity where it could be a future threat in areas closer to the wells, Intake Protection Zone 1, and prohibition of the storage where it is an existing threat within a Wellhead Protection Area A where there is a Nitrate Issue. A number of factors were considered, and were relied upon by the Source Protection Committee in determining that this threat warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation of multiple vulnerability zones;
- In the event of a spill, there might not be sufficient time to respond as the storage facility is within 100 m of the well; and
- Chemicals associated with this threat have already affected the drinking water quality in the well and more restrictive risk-reduction measures are needed to reduce the risk.

Region of Waterloo staff are not aware of the storage of fertilizer occurring in the Wellhead Protection Area. There are no existing significant threats in Intake Protection Zone 1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

The approach to prohibiting new threats in Wellhead Protection Area A is part of the Region’s tiered approach to risk reduction that has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas including prohibition of most future threats with decreasing levels of restriction in other areas. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

This policy approach utilizes the new Risk Management Official responsibilities to manage the risk from this threat. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A, B, and C where there is a drinking water issue. Chemical fertilizers do not contain pathogens so their use is less risky than agricultural source materials. The over application of fertilizers is less likely to occur than for agricultural source materials as there is a cost to the property owner for chemical purchase. In recognition of this, less restrictive policies are applied in Wellhead Protection Area B. Risk management plans are an effective means to reduce the risk from existing and future activities involving the application of the threat. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. By definition, most agricultural properties have utilized a variety of activities over the past and few activities will be considered to be a future threat.

Review of the Wellhead Protection Area extent and vulnerability has identified that management of the risk in areas where vulnerability is greater than 6 is necessary for wells which have drinking water issues to reduce the impact of this threat at the drinking water intake. Detailed
technical studies at K26 have indicated that soil nitrate testing is needed to ensure nutrient management plans achieve the desired risk reduction goals for nitrogen. An economic cost-benefit analysis was undertaken by the Region in determining that this additional measure was appropriate and could be implemented at the least cost.

The application, handing and storage of Pesticides
The risks posed by this threat warrant prohibition of this activity where it is a future threat within Wellhead Protection Area A and Intake Protection Zone 1 so as not to increase the overall risk to the well. There are no existing significant threats in Intake Protection Zone-1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

This policy approach utilizes the new Risk Management Official responsibilities within Wellhead Protection Areas A and B for existing and Wellhead Protection Area B for future storage and application. Risk management plans are an effective means to reduce the risk from existing and future activities. Details related to the content and purpose of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. Spill prevention and response is part of a property owner’s due diligence under the Environmental Protection Act. The Region's approach to new threats is based on the principle of not increasing the risk and a tiered approach to risk reduction that includes prohibition of new threats in high vulnerability areas.

The application, handing and storage of Road Salt
The Region’s approach to risk reduction related to application of road salt recognizes that winter de-icing activities are required to keep roads, parking lots and sidewalks safe for public use. It also recognizes that approaches to application will vary between public roads and parking lots and also vary depending on the size of the parking lot with increasing risk closer to the well and with larger scale operations.

The risks posed by this threat warrant prohibition of this activity within a Wellhead Protection Area A and Intake Protection Zone 1 where it would be a future threat so as not to increase the overall risk to the well. A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas, including prohibition of most future threats. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems. There are no existing significant threats in Intake Protection Zone 1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

The policy approach utilizes the new Risk Management Official responsibilities to manage the risk from this threat. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Area A and Wellhead Protection Area B where there is not a drinking water issue and in Wellhead Protection Areas A, B and C where there is a drinking water issue. Technical studies at several supply wells indicate that improved management practices over these areas are needed to reduce or stabilize salt levels in municipal wells over time. Specifically, where there is a drinking water issue, management of the risk in areas where vulnerability is greater than 6 is necessary to reduce the impact of this threat at the drinking water intake.
Risk management plans are an effective means to reduce the risk from existing and future activities involving the application, handling and storage of the threat. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Implementing this for future threats is a cost-effective approach to reducing risk. Specifically, as roads are linear feature that could transect the Wellhead Protection Area, the identification of vulnerable areas, tracking and reporting of application rates, and utilizing techniques to reduce the impact of salt application within the Wellhead Protection Area is necessary to managing the impact of this threat on drinking water supplies.

Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. Costs to municipalities to implement risk reduction measures for existing activities will be incorporated into existing capital and operation budgets. Spill prevention and response is part of a property owner's due diligence under the Environmental Protection Act. The Region's approach to salt application includes approaching large and medium sized properties in a tiered approach to reduce the risk with more regulatory approaches used closest to the wells and for the larger parking lots as they pose greater risk.

The Region’s approach to salt storage near wells with drinking water issues includes regulating properties that could store large and medium sized quantities in a tiered approach to reduce the risk with more restrictive approaches used closer to the wells and for the larger storage facilities as they pose greater risk.

The Storage of Snow
The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A, B and C and Intake Protection Zone 1. Accordingly, the risks posed by this threat warrant prohibition of large storage where it is an existing or new threat within a Wellhead Protection Area A and B and within Wellhead Protection Areas with vulnerability greater than 6 for wells with a Nitrate, Sodium and/or Chloride Issue and in Intake Protection Zone 1. A number of factors were considered and were relied upon by the Source Protection Committee in determining that this threat warranted prohibition of existing facilities and could not be effectively managed to reduce the risk. These included the following:

- Research shows that snow removed from roadways and parking lots can have very high concentrations of sodium and chloride and can have elevated nitrogen concentrations;
- Snow storage is seasonal and temporal and therefore the method of reducing the quantity (i.e., disposal) is through melting which will result in infiltration of salt or nitrogen-laden water; and
- Due to the seasonal and temporal most property owners would not consider proper design and construction to limit impacts from infiltration into the subsurface or runoff.

Further, there are additional alternate storage approaches as the policies only prohibit the largest snow storage areas and do not limit the continuing operation of smaller sized storage areas or facilities. Region staff is not aware of any existing large snow storage sites in the areas where prohibition of existing facilities applies. There are no existing significant threats in Intake Protection Zone 1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

This policy approach utilizes the new Risk Management Official responsibilities to manage the risk from this threat. Review of the Wellhead Protection Area and vulnerability has identified that management of the risk in areas where vulnerability is greater than 6 is necessary to reduce the
impact of this threat at the drinking water intake. Risk management plans are an effective means to reduce the risk from existing and future activities involving the handling and storage of the threat. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. Implementing this for future threats is a cost-effective approach to reducing risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs.

External technical studies have identified that snow from other locations stored on a site can have elevated sodium and chloride concentrations substantially elevated compared to concentrations from de-icing activities at that property. The Region's approach to snow storage for wells with drinking water issues includes regulating properties that could store large and medium sized quantities in a tiered approach to reduce the risk with more restrictive approaches used closer to the wells and for the larger storage facilities as they pose greater risk.

**The handling and storage of Fuel**

The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B. Accordingly, the risks posed by the handling and storage of liquid fuel warrants prohibition where it is an existing underground activity in Wellhead Protection Area A, a new underground activity in Wellhead Protection Areas A and B, and new small quantities of fuel oil tanks within Wellhead Protection Area A and above ground storage where it is a new threat within Wellhead Protection Areas A and B. A number of factors were considered, and were relied upon by the Source Protection Committee in determining that existing circumstances of this threat warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation of multiple vulnerability zones;
- In the event of a spill, the product is already below ground and as this would occur within 100 m of the well, it might not provide sufficient response time to prevent it from reaching the well;
- It is more difficult to monitor and detect leaks from subsurface tanks compared to above ground tanks; the Ontario Drinking Water Standard for some of the chemicals in fuel are very low indicating that small quantities can have significant effects on drinking water systems; and
- Above ground storage alternatives are available.

Region staff has undertaken measures to assess whether this activity is occurring and are not aware of any existing storage of liquid fuel within Wellhead Protection Area A; however, there may be omissions in the Region’s data. A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

This policy utilizes the new Risk Management Official responsibilities to manage the risk from this threat outside of these prohibited areas. Risk management plans are an effective means to reduce the risk from existing and future activities including handling and storage. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects
accepted industry standards to reduce the impact of the threat. Implementing this for future threats is a cost-effective approach to reducing risk. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. Spill prevention and response is part of a property owner’s due diligence under the Environmental Protection Act. This threat is also heavily regulated by Technical Standards and Safety Authority. In recognition of the above and that below ground tanks will be prohibited in the same area, less restrictive policies are applied in Wellhead Protection Area B.

**The handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs)**
The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B. The risks posed by this threat warrant prohibition of this threat where it is an existing threat in Wellhead Protection Area A or future threat in Wellhead Protection Area B and in Wellhead Protection Areas B and C where there is a Trichloroethylene Issue so as not to increase the overall risk to the well. A number of factors were considered, and were relied upon by the Source Protection Committee in determining that this threat warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation of multiple vulnerability zones;
- In the event of a spill, the chemicals can rapidly enter the subsurface and as this would occurred within 100 m of the well would not provide sufficient response time to mitigate the impact of the spill;
- Once in the ground, Dense Non-Aqueous Phase Liquids are very difficult if not impossible to mitigate; and
- The Ontario Drinking Water Standard for these chemicals is very low indicating that small quantities can have significant effects on drinking water systems.

Region staff is not aware of the existing occurrence of this activity where it is to be prohibited.

A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas, including prohibition of most future threats. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

This policy utilizes the new Risk Management Official responsibilities to manage the risk from this threat outside of these prohibited areas. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas B and C for this threat. Risk management plans are an effective means to reduce the risk. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. Spill prevention and response is part of a property owner’s due diligence under the Environmental Protection Act. The physical properties of this threat make it difficult to clean up once in the subsurface that warrants the use of this tool in vulnerable areas further away from the intake.
The handling and storage of Organic Solvents
The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B. The risks posed by this threat warrant prohibition of this threat in Wellhead Protection Area A where it is an existing and future threat, and in Wellhead Protection Area B where it is a future threat and where the storage and handling is below ground. A number of factors were considered, and were relied upon by the Source Protection Committee in determining that the existing activity warranted prohibition and could not be effectively managed to reduce the risk. These included the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent uncertainty exists in the subsurface soils, which precludes delineation of multiple vulnerability zones;
- In the event of a spill, the product is already below ground and as this would occur within 100 m of the well, it might not provide sufficient response time to prevent it from reaching the well;
- It is more difficult to monitor and detect leaks from subsurface tanks compared to above ground tanks;
- The Ontario Drinking Water Standard for many organic solvents are very low indicating that small quantities can have significant effects on drinking water systems; and
- Above ground storage alternatives are available.

Region staff is not aware of the existing occurrence of this activity where it is to be prohibited.

A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

This policy utilizes the new Risk Management Official responsibilities to manage the risk from this threat. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B where the activity is not prohibited. Risk management plans are an effective means to reduce the risk in these locations. Details related to the content of the risk management plan assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. Spill prevention and response is part of a property owner’s due diligence under the Environmental Protection Act.

The management of runoff that contains chemicals used in the de-icing of Aircraft
The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B and in Intake Protection Zone 1. The risks posed by this threat warrant prohibition of this threat where it is a future threat so as not to increase the overall risk to the well. There are no existing significant threats in Intake Protection Zone 1 or Wellhead Protection Areas A or B.

This policy utilizes the new Risk Management Official responsibilities to manage the risk from this threat. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Areas A and B where there is not a drinking water issue. For this threat, this approach acknowledges that the existing airport is anticipated to
grow, that de-icing activities are likely to remain outside of areas where it can be significant, is
governed by federal legislation and that the risks of de-icing can be managed through risk
management plans.

The use of land as a livestock grazing and pasturing land and outdoor confinement area or farm
animal yard
The Region has identified that it wishes to have greater control of activities that pose significant
threats within Wellhead Protection Areas A and B, in Wellhead Protection Areas A, B and C for
wells with a Nitrate Issue, and within Intake Protection Zone 1. The risks posed by this threat
warrant prohibition of exiting outdoor confinement areas and farm animal yards in Wellhead
Protection Area A where there is a Nitrate Issue, and new outdoor confinement areas and farm
animal yards in Wellhead Protection Areas A and B, and new occurrences of this threat in
Wellhead Protection Area A where there is a Nitrate Issue and in Intake Protection Zone 1. A
number of factors were considered, and were relied upon by the Source Protection Committee
in determining that the existing occurrence of outdoor confinement areas and farm animal yards
warranted prohibition and could not be effectively managed to reduce the risk. These included
the following:

- Delineation and scoring of the 100 m area around the well recognizes that inherent
  uncertainty exists in the subsurface soils, which precludes delineation of multiple
  vulnerability zones;
- Agricultural Source Material includes pathogens whereby one pathogen could result in
  immediate health impacts;
- Management of this threat cannot reduce numbers of pathogens to zero thereby
  eliminating the threat and potential adverse effects;
- Animal confinement and yards pose a high risk due to the concentration of animals in a
  small area that can result in large quantity of agricultural source material deposited in an
  uncontrolled manner;
- Animal movement in this confined area can remove and or disturb subsurface soil
  leading to increased vulnerability; and
- Chemicals associated with this threat have already affected the drinking water quality in
  the well and more restrictive risk-reduction measures are needed to reduce the risk.

Region staff has undertaken measures to assess whether this activity is occurring and are not
aware of any existing animal confinement or farm animal yards where its occurrence is to be
prohibited. Further, there are no existing significant threats in Intake Protection Zone 1 and it is
not possible for future threats to occur due to existing land uses and zoning constraints.

A tiered approach to risk reduction has been developed by the Region for well fields with a
drinking water issue. This approach utilizes more restrictive risk management measures close to
the well and in the higher vulnerable areas, including prohibition of most future threats. A tiered
approach helps reduce agency implementation costs and is a research-supported approach to
reducing impacts to drinking water systems.

The Region has identified that it wishes to have greater control of activities that pose significant
threats within Wellhead Protection Areas A, B and C where there is a drinking water issue.
Review of the Wellhead Protection Area extent and vulnerability has identified that management
of the risk in areas where vulnerability is greater than 6 is necessary to reduce the impact of this
threat at the drinking water intake. Risk management plans are an effective means to reduce
the risk where these activities are not prohibited. Details related to the content of the risk
management plan assist the approval authority with understanding the minimum risk reduction
measures needed to manage the risk. The minimum content reflects accepted industry
standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs.

2.3.2 Prescribed Instruments

**Waste Disposal Site and Storage Facilities**
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate waste handling and storage. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool. In addition, the Region's approach to risk mitigation is based on the principle of not increasing the risk by adding new threats.

Accordingly for these threats, existing activities with current Environmental Compliance Approvals (ECA) will continue to be managed, but a review of the ECA will be required to ensure that they are adequately protective of groundwater sources. Whereas, new activities requiring an ECA will not be approved through this process due to the nature and variability of this threat. The details related to the content of the ECA assist the approval authority with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat, particularly in Issue Contributing Areas.

**Sewage System and Works - Septic System and Septic System Holding Tanks, Sewage Treatment Plant Effluent Discharges and Industrial Effluent Discharge**
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate large septic systems, sewage treatment plant effluent discharges to land and water, including lagoons and industrial effluent discharges. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool. A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas, including prohibition of most future threats. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

Accordingly for these threats, existing activities with current Environmental Compliance Approvals (ECA) will continue to be managed, but a review of the ECA will be required to ensure that they are adequately protective of groundwater sources. In accordance with the Region's tiered approach, new activities within close proximity to the well and in an Issue Contributing Areas (ICA) with high vulnerability will not be approved through this process and new activities requiring an ECA in an ICA with low vulnerability will be managed; however, the approach is less restrictive with new industrial effluent discharges because discharge within a Wellhead Protection Area E is a less direct impact on the groundwater. Therefore, all new industrial effluent discharge will be managed through the ECA process.

The minimum content for the Environmental Compliance Approval reflects accepted industry standards to reduce the impact of the threat.

**Sewage System and Works – Storage of Sewage**
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate storage of sewage, sewage treatment plant effluent discharges and industrial effluent discharges. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool. A tiered
approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures for future threats. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems.

Accordingly for the storage of sewage, existing activities with current Environmental Compliance Approvals (ECA) will continue to be managed, but a review of the ECA will be required to ensure that they are adequately protective of groundwater sources. The tiered approach is demonstrated in the Region’s approach to new storage of sewage: In areas where there is no Issue, new underground storage will not be permitted; whereas in an Issue Contributing Area (ICA) with a high vulnerability no new below or above ground storage will be permitted. However, new storage will be managed in an ICA with low vulnerability. The minimum content for the Environmental Compliance Approval reflects accepted industry standards to reduce the impact of the threat.

**Sewage System and Works – Sanitary Sewers and Related Pipes**
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate sanitary sewers and related pipes. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool.

Existing and new sanitary sewers and related pipes, excluding new combined sewers, with current Environmental Compliance Approvals (ECA) will continue to be managed, but a review of the ECA will be required to ensure spill management practices are adequately protective of groundwater sources. New combined sewers will not be permitted through this process that is consistent with current industry practices. The vulnerability thresholds are based on the vulnerability score of the Wellhead Protection E for that particular capture zone, for example, where there is a Nitrate Issue and the Issue Contributing Area E score is 6.3 or where there is a Chloride and/or Sodium Issue and the Issue Contributing Area E score is 8.1.

**Sewage System and Works – Discharge of Stormwater from a Stormwater Management Facility**
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate discharge of stormwater from a stormwater management facility. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool. A tiered approach to risk reduction has been developed by the Region that utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas, including prohibition of most future threats.

Accordingly, existing stormwater management facilities with current Environmental Compliance Approvals (ECA) will continue to be managed, but a review of the ECA in consultation with the municipality and subject to the findings of municipality’s assessment will be required to ensure that they are adequately protective of groundwater sources. Development of new stormwater management ponds close to the supply well increases the overall risk, which the Region wishes to avoid; therefore new stormwater management facilities will not be permitted through this process within Wellhead Protection Area A. Stormwater management facilities are necessary for new development and therefore will be permitted with an approved ECA farther from the well.
The application and storage of Agricultural Source Material to land
This policy approach relies on the existing responsibility of the Ministry of Agriculture and Rural Affairs to manage application of nutrients on farm properties. This approach is supported by the Region's overall principles used to develop source protection policies. A cost effective risk management tool is to use established provincial approval systems when future activities will require issuing a prescribed instrument and to review and amend existing prescribed instruments. Details related to the conditions of approval assist the ministry with understanding the minimum risk reduction measures needed to manage the risk. The minimum content reflects accepted industry standards to reduce the impact of the threat. Costs to property owners to implement risk reduction measures for existing activities will be partly offset through incentive programs. By definition, most agricultural properties have utilized a variety of activities over the past and few activities will be considered to be a future threat.

The application and storage of Non-Agricultural Source Material to land
This policy approach relies on the existing responsibility of the Ministry of Agriculture and Rural Affairs to manage application and storage of nutrients on farm properties and the Ministry of Environment regarding other lands. This approach is supported by the Region's overall principles used to develop source protection policies. A cost effective risk management tool is to use established provincial approval systems when activities will require issuing a prescribed instrument and to review and amend existing prescribed instruments. The policy approaches address Environmental Compliance Approvals that were issued by the Ministry of Environment prior to January 2011 and that would not otherwise be administered by Ministry of Agriculture and Rural Affairs until after 2016. It also directs the Ministry of Environment to revise Environmental Compliance Approvals where application is on non-farm land. There are no existing significant threats in Intake Protection Zone 1 and it is not possible for future threats to occur due to existing land uses and zoning constraints.

The handling and storage of fuel
The policy approach relies on the existing responsibility of the Ministry of Natural Resources and the use of prescribed instruments within the Aggregated Resources Act to address this threat within an aggregate operation. A cost effective risk management tool is to use established provincial approval systems when activities will require issuing a prescribed instrument and to review and amend existing prescribed instruments.

Conditions
This policy approach relies on the existing responsibility of the Ministry of Environment to regulate waste handling and storage. The use of established provincial approval systems is supported by the Region's overall policy development principles and is a cost effective risk management tool. The risks posed by this threat warrant a review of all existing and new relevant prescribed instruments that govern the Condition site to ensure that they are being managed and remediated in a way that reduces their impact on drinking water sources.

2.3.3 Land Use Planning
Sewage System or Works - Septic Systems
This policy utilizes existing Planning Act authorities to prohibit or manage the future risk from this threat as part of the development approval process. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Area A and B where there is not a drinking water issue and in Wellhead Protection Area A, B and C where it is a drinking water issue and in Intake Protection Zone 1. In addition, a tiered approach is used which prohibits the activity close to the well and more permissive policies for high
vulnerability areas at greater distances. The risks posed by this threat warrant prohibition of new occurrences of this threat in Wellhead Protection Area A, Intake Protection Zone 1 and other wellhead protection areas where the wells are either groundwater under the influence of surface water (GUDI) or where there is a drinking water issue for chloride, nitrogen and/or sodium so as not to increase the overall risk to the well or intake.

Technically, septic systems are designed to discharge pathogens and nutrients to the subsurface and are typically constructed in the shallow subsoil. In addition, since drinking water in Waterloo Region typically includes water softening, process wastewater will be discharged to septic systems. Further GUDI wells obtain some portion of their water supply from shallow aquifers where septic systems may be constructed. Finally, in well K23, nitrogen mass loading calculations indicate that septic systems could contribute the majority of the loading to the supply well. In these situations, prohibiting new systems where there is already a drinking water issue represents good land use planning.

In areas further from the well, management of the risk in areas where vulnerability is greater than 6 is necessary to reduce the impact of this threat at the drinking water intake. Accordingly a study to assess the impact is required to manage the risk. The scope of this study is similar to what Waterloo Region already requests as part of development applications that include this threat.

**Sewage System or Works – Discharge from a Stormwater Management Facility**

The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Area A. The risks posed by this use warrant prohibition of this threat where it is a future threat so as not to increase the overall risk to the well. Stormwater management ponds can be designed to directly infiltrate surface water runoff that may contain a variety of chemicals from the related catchments. In addition, construction of surface water features within 100 m of a supply well could change the classification of the water supply system under the *Safe Drinking Water Act* and/or could affect the degree of treatment required for the intake. Prohibition of this use adjacent to supply wells is good land use planning.

Within Wellhead Protection Areas B and E, Intake Protection Area 3, and in all protection areas where there is a Chloride, Sodium and/or Nitrate issue, the risks posed by this activity associated with Planning Act applications, necessitate further study be undertaken so as not to increase the overall risk to the well and/or reduce the impact of this threat at the drinking water intake. Stormwater management ponds can be designed to directly infiltrate surface water runoff that may contain a variety of chemicals from the related catchments. Design of these facilities is integral will new development planning approval. Requiring an assessment of the impact to and recommends for design measures in system construction to minimize the impact to drinking water systems, to the satisfaction of the Region, represents good land use planning. Additional consideration on the potential impact to the drinking water source is required where wells are constructed in bedrock aquifers as the occurrence of surface water within 500 m could change the classification of the water supply system under the *Safe Drinking Water Act* and/or could affect the degree of treatment required for the intake.

**Road Salt**

This policy utilizes existing *Planning Act* authorities to manage the future risk from this activity as part of the development approval process. The proposed tiered policy approach is supported by the requirement that development applications proposing new roads within less vulnerable areas be supported by a study assessing salt impact to the satisfaction of the Region of Waterloo.
Handling and Storage of Fuel
This policy utilizes existing Planning Act authorities to manage the future risk from this activity as part of the development approval process. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Area A and B where there is not a drinking water issue. The risks posed by this activity warrant prohibition of land uses associated with this threat where it is a future threat so as not to increase the overall risk to the well. As this land use is explicitly linked to the activity and there is greater risk of impact to the well arising from spills due to the large quantities of materials stored as part of this land use, prohibition in highly vulnerable areas close to the well is good land use planning. The Regional Official Plan already prohibits these uses in Wellhead Protection Areas.

Transport Pathways
This policy utilizes existing Planning Act authorities to manage the future risk that the creation of transport pathways could increase the risk of other threats as part of the development approval process. The Region has identified that it wishes to have greater control of activities that pose significant threats within Wellhead Protection Area A and B where there is not a drinking water issue. Land-use planning documents should require an assessment of the degree to which transport pathways may be established and identify mitigation measures to protect drinking water sources.

Area Municipalities are requested to circulate site plan applications to the Region within vulnerable areas that could result in the development of a transport pathway to provide an opportunity to assess the impact and comment on potential mitigation measures.

Conditions
This policy utilizes existing Planning Act authorities to ensure that new construction associated with development applications does not prevent or exacerbate the remediation of contaminated sites to protect sources of drinking water. Specifically, the policy requires establishment of a process to ensure an assessment is undertaken during development.

2.3.4 Education and Outreach
Waste Disposal Site – Application of Hauled Sewage to Land, Sewage System or Works -Septic System and Septic System Holding Tanks, The Application, Handling and Storage of Agricultural Source Material, The Application, Handling and Storage of Commercial Fertilizer, The Application, Handling and Storage of Salt, The Storage of Snow, The handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs) and The use of land as a livestock grazing and pasturing land and outdoor confinement area or farm animal yard
These policies utilize education and awareness to encourage water quality improvements. A tiered approach to risk reduction has been developed by the Region for well fields with a drinking water issue. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas. In areas further from the wells, incentives and/or education programs are utilized. Review of the Wellhead Protection Area extent and vulnerability in conjunction with the tiered approach has identified that education and awareness are a cost effective approach at greater distance from the well. They will be applied in Wellhead Protection Areas where the vulnerability is less than 6 for well fields where there is a drinking water issue, and where appropriate, in Intake Protection Zone 3 to assist in reducing the risk to the City of Brantford’s surface water intake. Education and awareness programs reduce the risk from existing threats and will be paired with incentive programs to achieve risk reduction. Details related to the purpose or content of the tool assist the implementing authority with
understanding the minimum program content needed to manage the risk. Education assists property owners with understanding the importance of implementing beneficial practices to protect drinking water.

**The application, handing and storage of Road Salt**

This policy utilizes education and awareness to encourage water quality improvements. This tool has been identified as the primary method of risk reduction for this threat in relation to the loading from low density residential homes and small parking lots as it is a low contribution to the overall salt application. For storage of salt, the Region has decided that increased awareness is needed throughout the entire capture zone for the well. In addition, review of the Wellhead Protection Area extent and vulnerability, has identified that education and awareness will be applied policies will be applied in Wellhead Protection Areas where the vulnerability is less than 6 for well fields where there is a drinking water issue. Education and awareness programs reduce the risk from existing threats and will provide important social marketing support to incent behaviour change and are effective approach at greater distance from the well. Details related to the purpose or content of the tool assist the implementing authority with understanding the minimum program content needed to manage the risk.

The approach for these policies is part of a tiered approach to risk reduction that has been developed by the Region for well fields with a drinking water issue to reduce the risk from winter de-icing activities. This approach utilizes more restrictive risk management measures close to the well and in the higher vulnerable areas as well as focuses mitigation on activities for de-icing roads, large parking lots and medium sized parking lots which receive considerably greater salting levels compared to small parking lots. A tiered approach helps reduce agency implementation costs and is a research-supported approach to reducing impacts to drinking water systems. In most cases, education will be utilized with other tools to achieve risk reduction. Education assists property owners with understanding the importance of implementing beneficial practices to protect drinking water and providing additional education to property owners will reduce the risk to source water.

This tool has been identified as the primary risk-reduction measure for small salt storage facilities in vulnerable areas greater than and equal to 6 and for small parking lots in all vulnerable areas. The risk posed by these smaller structures and application on these smaller lots is less than for larger facilities or lots. In the opinion of the source protection committee these policies, if implemented, will promote the achievement of the objectives of the plan in accordance with paragraph 2 of subsection 22(2) of the Act and a policy to regulate or prohibit the activity is not necessary to achieve those objectives.

**The handling and storage of Fuel**

This policy utilizes education and awareness to encourage water quality improvements. Education and awareness programs reduce the risk from existing threats. There is considerable existing legislation covering this activity. Existing legislation requires an inspection of small fuel oil tanks systems every 10 years by certified contractors and has addition provisions requiring fuel supply companies to monitor tank Conditions. Providing additional education to home and property owners of their obligations will ensure these systems are adequately maintained to reduce the risk to source water.

For small fuel oil tanks typical of a home oil heating system, the preferred tool is education and outreach to ensure the appropriate maintenance of the tank and response in case of a spill. In the opinion of the source protection committee this policy, if implemented, will promote the achievement of the objectives of the plan in accordance with paragraph 2 of subsection 22(2) of
the Act and a policy to regulate or prohibit the activity is not necessary to achieve those objectives.

2.3.5 Incentive Programs

*Sewage System or Works – Septic System and Septic System Holding Tanks, The Application Handling and Storage of Agricultural Source Material, The application, handling and storage of Commercial Fertilizer, The Application, Handling and Storage of Road Salt, The application, handling and storage of Pesticides, The handling and storage of Fuel, The handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs) and The use of land as a livestock grazing and pasturing land and outdoor confinement area or farm animal yard*

This policy utilizes incentives, and indirectly education, to encourage water quality improvements. Incentives will be available to address all existing threats in areas where the threats can be significant for wells where there are no drinking water issues and for wells with water quality issues and where additional mitigation requirements have been required by other policies for Region of Waterloo wells as documented in the Source Protection Plan. Incentives assist property owners with the cost of implementing beneficial practices to protect drinking water and *Clean Water Act* policies related to existing threats. Incentives will be utilized with other tools to achieve risk reduction.

*Conditions*

This policy utilizes incentives, and indirectly education, to encourage assessment and remediation of Significant Conditions to protect sources of drinking water.

2.3.6 Specify Action

Specified Action is used where no other prescribed instrument, legislation, or *Clean Water Act* tool are available to municipalities to manage the threat, where the action will compliment other threat policies, and or where the policy is a Strategic Action.

*Sewage System or Works – Septic System or Holding Tank*

Septic systems are designed to discharge nutrients and pathogens to the subsurface. A properly functioning septic system will reduce the likelihood that the drinking water treatment and disinfection systems will become overloaded. The Region of Waterloo has identified the implementation of the mandatory maintenance inspection program as the primary tool to address this threat. This program supports the management of this threat by providing a consistent approach for determining if small septic systems are functioning as designed and to ensure compliance with the Ontario Building Code.

*Sewage System or Works – Sanitary Sewers and Related Pipes*

Sanitary sewers and related pipes including pumping stations are only a significant threat in Wellhead Protection Area E and Intake Protection Area 3 for the City of Brantford Intake. Accordingly the only threat from these systems is spills to surface water. For Wellhead Protection Area E, the spill would have to enter the surface water system and flow by the groundwater supply well, of which only a small portion might be captured by the well. For Brantford's intake, the protection area extends well beyond the minimum response time needed to shut off the intake to protect the drinking water. Accordingly, the Region of Waterloo has identified the need for contingency plans to be prepared by the Area Municipalities to respond to spills in a consistent and timely manner.

*The Application, Handling and Storage of Road Salt*

The Region of Waterloo has identified that it wishes to have greater control of activities that pose significant threats. These policies take advantage of the study requirements within
Environmental Assessments to include additional design considerations to reduce the impact of additional salt loading from modified roads on source water. Including these requirements in the assessment stage of building new roads is a cost effective approach to reducing the impact from new threats. These policies also require an update to the salt management plans for the Ministry of Transportation to incorporate best management practices as well as Smart about Salt accreditation for municipal facilities and parking lots.

Storage of Snow
This policy requests development of a provincial approval process for this threat that would follow existing provincial guidance. It would be applied to the lower vulnerability areas where this threat is not regulated by the municipality.

The Conveyance of Oil by way of Underground Pipeline
The existing regulatory framework regarding pipeline construction is extensive. If a new pipeline is construction, the policy approach directs that there be appropriate requirements for maintenance and inspection of the pipeline within a vulnerable area as well as ensures that any new pipeline is constructed in a manner or location that would protect drinking water sources. The policy relies on the existing regulatory framework.

Conditions
The existing regulatory framework for conditions provides the Ministry of Environment with authority to address Significant Conditions. These policies request the Ministry of Environment provide an update of their activities and how this is protecting drinking water sources related to these conditions to the Source Protection Authority and the Region of Waterloo. They also request to establish a process for on-going communication regarding contamination and abatement activities for Significant Conditions.

Policies in the plan require Area Municipalities to share information in their possession related to Significant Conditions with the Region of Waterloo.

2.3.7 Strategic Action
Spill Prevention Plans, Spill Contingency Plans and Emergency Response Plans along highways, railway lines or shipping lanes
The Region of Waterloo is requested to ensure spill contingency plans or emergency response plans for the purpose of protecting existing drinking water sources with respect to spills that occur within a well head protection area along highways are updated and the most current information is available in the case of a spill.

Transport Pathways
Constructed pathways may facilitate the movement of contaminants vertically and laterally below the ground and result in faster or more widespread distribution. The Region of Waterloo has set forward a number of policies to effectively manage increased risks to drinking water sources from threats located near transport pathways and to increase communication regarding the creation of new transport pathways.
2.4 Summary of Comments received during Pre-consultation and how they have been considered

In accordance with Ontario Regulation 287/07 made under the Ontario Clean Water Act, 2006 the Region of Waterloo initiated pre-consultation for the development of the Grand River Source Protection Plan with the various implementing bodies affected by the plan.

Each draft policy, if included in the final Grand River Source Protection Plan, would require an agency to implement was circulated to the affected agency for review and comment. This pre-consultation process began on April 12, 2012. Each agency was provided a package that included each draft policy, the rationale behind the policy and maps that identified the areas to which the policy applied. In addition, the package also provided two summary tables: policies by agency and policies by threat and tool.

To be considered in the Draft Grand River Source Protection Plan, agencies were given to June 15, 2012 to provide comments to the Region of Waterloo. The last set of comments was received on August 13, 2012.

The following table summarizes the results of the pre-consultation on the proposed Region of Waterloo policies within the Grand River Source Protection Area.

<table>
<thead>
<tr>
<th>Summary of Pre-Consultation Comments Received</th>
<th>How Comment was Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ministry of Municipal Affairs and Housing</strong></td>
<td></td>
</tr>
<tr>
<td>Policy RW-GEN-NB-30.03 requires municipalities to circulate Site Plan applications to the Region for comment; however under the Planning Act this is not required, so the Region may encourage this process, but cannot make it a requirement.</td>
<td>This policy has been deleted because this can be addressed through the Risk Management Office where appropriate.</td>
</tr>
<tr>
<td>Policy RW-GEN-NB-30.11 could be reworded to indicate that buildings/structures require approval.</td>
<td>This policy has been deleted because of the challenges of regulating snow storage under the Planning Act.</td>
</tr>
<tr>
<td>Land use planning documents can demonstrate compliance with respect to land uses, but cannot demonstrate compliance with respect to activities.</td>
<td>The policy wording has been modified to remove reference to “proof” and instead request that copies be provided of their land use documents that are updated in regard to source protection policies.</td>
</tr>
<tr>
<td>For some of the policies it is unclear how the policies can be implemented through the Planning Act. There are some policies that appear to be regulating an activity associated with a permitted land use. Other legislative tools may be required, particularly where the intent is to prohibit.</td>
<td>Policies related to pesticides, salt application, and small septic systems have been revised. Land use policies for waste disposal sites and wastewater, including sanitary sewers, have been deleted.</td>
</tr>
</tbody>
</table>
The policies which specify parking lot sizes may unintentionally limit the types of permitted land because there is a requirement to provide a specific number of parking spaces related to the size and type of land use.

It is unclear if mitigation measures would be allowed to construct parking lots that are larger than those permitted in the policies or if applicants could circumvent the policy by creating multiple smaller parking lots that were immediately adjacent to one another.

| Comment about the unintentional restriction of land uses is noted; however, policies will not be revised. |
| Where mitigation measures would be allowed a Risk Management Plan is identified as the tool. We will revise the policies to clarify the overall intent that is to limit the amount of parking and driving space on a property. |

If stormwater management facilities are identified locally as a land use then Planning Act could regulate their location. However, if they are not designated land uses, they would be considered an activity and would have to be regulated through other legislative means.

Where stormwater management facilities are prohibited, it is unclear what the potential impacts would be on development and human health and safety if there are no facilities.

| This policy already exists in our Region Official Plan. |
| Stormwater management facilities are only prohibited within Wellhead Protection Area A (100m zone). |

The policies related to transition, restricted land use and Conditions should be revisited from an implementation perspective. There is no indication as to when the Risk Management Official is required to review Planning Act applications and this could create issues related to ensuring that decisions are made within legislative timeframes as outlined in the Planning Act. It may be beneficial to develop complete application policies or amend any existing policies in this regard so that required information is submitted as part of the overall application.

| Comment noted. Policies were revised to address the concerns identified. |

Some policies reference the Regional Implementation Guidelines. Our ministry has yet to be circulated this document and is unsure what the implications of this document may have on these and other policies. Until such a time that we have been able to review these guidelines, it is unclear whether additional changes would be required.

| Comment noted. The Region of Waterloo staff continues to work on the Guidelines, with the expectation to have them completed before the Grand River Source Protection Plan is approved. They will be subject to a formal consultation process. |

The ministry is unable to comment on the policies that speak to aggregate extraction because of the matter before the Board related to the Region of Waterloo Official Plan and aggregate extraction.

| Comment noted. |

**Ministry of the Environment**

A number of text revisions were recommended to address technical wording matters.

| Policies have been revised as appropriate. |

Recommended incorporating RW-GEN-NB-30.11 with other snow storage threat policies.

<p>| This policy has been deleted. |</p>
<table>
<thead>
<tr>
<th>Consider deleting policy RW-MON-NB-31.01 or presenting it as narrative within the Plan because this policy paraphrases legislative requirements.</th>
<th>This policy has been deleted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The MOE requests that the Prescribed Instrument and monitoring policies be revised to allow for more flexibility and to be more permissive in terms of detailed content.</td>
<td>Comment noted; however no revisions made. The Region of Waterloo will revise the rationale to justify this approach.</td>
</tr>
<tr>
<td>Monitoring policies should be explicitly stated within the related policy for clarity and accuracy.</td>
<td>Comment noted; however we left the monitoring policies on their own to follow the format of the rest of the plan.</td>
</tr>
<tr>
<td>The monitoring policy directed at the TSSA is not legally permissible because TSSA is not a “public body” as defined by the Clean Water Act.</td>
<td>This policy has been deleted.</td>
</tr>
<tr>
<td>The policies related to timing need to be revised.</td>
<td>Policies have been revised as requested.</td>
</tr>
<tr>
<td>We recommend integrating policies where similarities exist before the Draft Plan stage.</td>
<td>Policies have been integrated.</td>
</tr>
<tr>
<td>Ensure the rationale is clear to support prohibiting an existing activity. Consider including enumeration results to put the number of persons affected into context.</td>
<td>Rationale has been revised.</td>
</tr>
<tr>
<td>The significant Conditions policy which requests the MOE to provide documents to the Region of Waterloo relating to contamination is very broad in scope. Please use MOE recommended wording.</td>
<td>Comment noted. The policy has been revised.</td>
</tr>
<tr>
<td>The significant Conditions policy that requests the MOE to prioritize enforcement activities in consultation with the Region of Waterloo does not provide enough flexibility for MOE to consider all inspection priorities.</td>
<td>The policy has been revised as requested. A new policy will be added to request the MOE work with the Region of Waterloo to develop a consultation approach regarding inspection and enforcement for significant Conditions.</td>
</tr>
<tr>
<td>In practice, there are few conditions sites where a prescribed instrument will be available for use as a policy tool to SPCs. In some instances where clean-up activities are on-going at a condition site, either a “mobile” or a site-specific Certificate of Approval may be required to manage discharges to the environment from the clean-up equipment or process. Examples include in-situ groundwater “pump and treat” equipment that involves the discharge of treated groundwater to the environment (this would require a sewage works CofA) or a process that includes in-situ processing of contaminated waste materials (this would require a waste CofA). In some instances in-situ clean up equipment also requires an Air CofA to manage discharges to the atmosphere from this equipment. An Air CofA is not a prescribed instrument under the CWA.</td>
<td>Comment noted. The Region of Waterloo maintains that this tool should be available to be used even if it is only applicable in a few cases.</td>
</tr>
</tbody>
</table>
Regardless of whether the prescribed instrument in question is for a mobile or site specific piece of equipment, it is important to realize that the scope of the CofA associated with that equipment is restricted to any discharges to the environment from the equipment itself. The CofA is intended to ensure that any such discharges do cause adverse effects to the receiving environment. The scope of this kind of instrument does not include establishing general clean up requirements for the condition site itself. Therefore, it is the ministry’s positions that this type of prescribed instrument is not an appropriate tool to require a condition site to be cleaned up to meet a specified objective.

For DNAPL policies, consider developing policies with different volumes of DNAPLS since there isn’t a minimum threshold volume. The Region of Waterloo will address this by not designating residential properties for DNAPL storage.

For policies related to salt application on roadways, please use Hamilton-Halton’s policy wording. The Region of Waterloo will maintain their current policies for this threat as they relate to MTO and will revise the rationale to articulate this approach.

Consider parallel RMP policies for situations where a Prescribed Instrument may not apply. Parallel policies, as recommended by the MOE, have been added.

Consult circumstance tables regarding reference to solid and liquid forms of salt to identify the situations where road salt could be a significant to ensure the references and quantities are indeed significant drinking water threats. These policies apply in areas with a Chloride or Sodium Issue, in which case the circumstances as identified in the tables do not apply. The Region of Waterloo developed quantity thresholds to manage this threat.

The Part IV prohibition policy for small septic systems is not a policy option because it is subject to the Building Code of Ontario. This policy has been deleted.

The policies related to the approval process for snow storage should be revised to make them more implementable and give MOE more flexibility in when and how policies are implemented. Policies have been revised based on MOE’s comments.

Land use planning is not a legally permissible tool to address transport pathways because they are not significant drinking water threats and therefore cannot be prohibited. This policy has been deleted. An alternative policy was added.

**Ministry of Agriculture, Food and Rural Affairs**

The ministry supports many of the policies including prohibition within WHPA-A and IPZ1, management through RMP, education policies and prescribed instrument policies requiring the review and potential amendment of NMP and NMS. Comment noted. No change required.
The ministry cannot ensure that the application rate and timing are appropriate, as this is overseen by the farmer or nutrient application company. We recommend that the farmer or application company be identified in the policies, rather than OMAFRA (policies RW-ALL-MC-2.02, RW-ALL-MC-2.10).

We will modify the applicable policies to specify measures implemented by the farmer and/or nutrient application company.

<table>
<thead>
<tr>
<th>The ministry made recommendations to resolve some technical and process issues, particularly with respect to approvals of NASM Plans.</th>
<th>The policies have been modified as suggested. In addition parallel policies for MOE have been created for NASM approval.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ministry made some suggestions about process considerations regarding RMP approvals.</td>
<td>Comments noted.</td>
</tr>
<tr>
<td>For farms that are not phased in, we recommend that the RMO consider how decisions to permit or deny changes will affect normal business practices, and we recommend that consultation with the property owner be a part of the decision process (policy RW-GEN-NB-30.14).</td>
<td>We will modify the policy by removing the reference to the Risk Management Official and decision by implement body to state that the &quot;implementing body is satisfied that…&quot;</td>
</tr>
<tr>
<td>The ministry supports prohibition within 100m of a municipal well for a number of existing and future activities. In some cases, the Region is managing and not prohibiting these activities and the ministry would like additional rationale as to why this is not being prohibited.</td>
<td>We will not be changing the policies to prohibition policies because by doing so would conflict with our under-lying rationale, which refers to explicit requirements under the Nutrient Management Act, which only prohibits NASM in all circumstances. Our overall rationale, where there is no Issue, is to be permissive for existing threats in 100m.</td>
</tr>
<tr>
<td>• the existing application of ASM, • the existing and future application of commercial fertilizer, and • the existing storage of NASM • the storage of commercial fertilizer • the storage of fuel, • the application and storage of pesticides</td>
<td>Our decision and approach is based on 15 years of experience working with the local farmers to increase awareness and improve practices around our wells.</td>
</tr>
<tr>
<td>The ministry recommends that the RMP policies indicate that the RMO should consult with OMAFRA program staff concerning any nutrient application rate, timing and location requirements as well as soil testing requirements.</td>
<td>We recognize the need for an agronomist in establishing application practices. We endeavor to discuss nutrient application and testing with OMAFRA staff outside of the Risk Management Plan negotiation.</td>
</tr>
<tr>
<td>The ministry expressed concern about the technical merit of requiring soil nitrogen testing. The ministry recommends that the nitrate issue be addressed using an approach based on appropriate agri-environmental management practices.</td>
<td>We feel that soil nitrogen testing is required to aid in refining of the overall nutrient management planning.</td>
</tr>
</tbody>
</table>
The ministry does not support prohibition of the following activities where there is a Nitrate Issue:

In WHPA-A:
- Existing outdoor confinement areas
- Existing storage of ASM

Outside of WHPA-A:
- The future use of land as an outdoor confinement area or farm animal yard
- The future storage of ASM
- The future storage of fuel
- The future storage of NASM

We feel that prohibition is appropriate in these situations due to the drinking water Issue. We have confirmed that there are no instances of the prohibited existing threat activities.

For the future threats, it is important to note that the only trigger for these activities to be flagged as “new” would be rezoning land to agricultural. In addition, they are consistent with our overall approach to not establish new threats in highly vulnerable areas.

The ministry does not support the Restricted Land Use designation if it applies outside of the zones identified in the individual Section 57 (prohibition) and Section 58 (risk management plan) policies. The ministry also recommends that exemptions not be granted by the RMO, as this would result in inconsistency of policy application.

We have revised this policy, which includes the removal of the Risk Management Official's ability to make exemptions.

**City of Waterloo**

The City of Waterloo indicated that the policies are complex and not necessarily intuitive. The implementation will impact costs and timelines associated with the development review process and it may prohibit certain development in certain areas. Jurisdictions between the Region and Area Municipalities will become less clear (e.g. site plan control, sewer construction).

Comments noted. The policies have been rewritten to consolidate them where applicable and to make them easier to understand.

The City of Waterloo requested clarification on a number of policies, threat activity definitions, and in some cases the implementation process.

We provided answers and/or revised the policy to provide more clarity.

The City of Waterloo made recommendations to resolve inconsistencies, technical and wording issues.

The applicable policies were revised as suggested.

**City of Cambridge**

The City of Cambridge requested clarification on a number of policies, threat activity definitions, and in some cases the implementation process.

We provided answers and/or revised the policy to provide more clarity.

The City of Cambridge made recommendations to resolve inconsistencies, technical and wording issues.

The applicable policies were revised as suggested.

The City of Cambridge provided input on the potential impact these policies would have on city operations and developers.

Comment noted.

The City of Cambridge requested a definition for enhanced construction with respect to sanitary sewers.

This comment is no longer applicable because the term is no longer used in this context.
<table>
<thead>
<tr>
<th>The City identified general concerns for proposed policies affecting stormwater management facilities.</th>
<th>These policies have been modified to allow municipalities to prioritize SWM facilities for assessment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The City of Cambridge will rely on the Region to inform it of existing septic systems, which require inspection and which were constructed before July 6, 1998. In addition, the Region will have to provide the City with mapping of the areas for which they want site plan applications circulated.</td>
<td>Comments noted.</td>
</tr>
<tr>
<td>The City of Cambridge identified opportunities to consolidate policies.</td>
<td>The policies have been rewritten to consolidate them where applicable.</td>
</tr>
</tbody>
</table>

### Technical Standards and Safety Authority

| Of TSSA’s general comments provided to all Source Protection Committee Chairs, the ones that applied to the Region’s policies related to inspections. They indicated that any inspections and reports would have an associated fee. In addition, the reports would be available through its access to information and privacy policy. | The TSSA policy was deleted. |
| TSSA reminded SPCs that it is not a “public body” under the Clean Water Act and therefore cannot be identified as an “implementing body”. | The TSSA policy was deleted. |

### Ministry of Infrastructure

| The ministry recommends tying the Restricted Land Use policy to land uses that pose significant threats because designating all land uses within WHPA A, B or C may inadvertently affect land use planning by creating administrative barriers, especially where these WHPAs overlap with urban growth centres of Uptown Waterloo and Downtown Cambridge. | We will not be identifying specific land uses at this time because every land use has the potential to allow at least one activity that we would like to restrict. Having said that we have revised the policy to exempt residential properties for fuel and septic related activities. We are exploring options to decrease the impact on the administrative and planning process. |

### Ministry of Transportation

<p>| The ministry does not feel that the policy requiring road design measures in Environmental Assessments in necessary because it exists in current legislation. | This policy has been revised to say they shall “enhance” these measures to encourage the MTO to provide more consideration to source protection and salting issues with respect to road construction. |</p>
<table>
<thead>
<tr>
<th><strong>Grand River Source Protection Plan</strong></th>
<th><strong>DRAFT- Explanatory Document</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The ministry asked the Region to consider using the policy text from the Halton-Hamilton draft proposed SPP in place of the Region’s policy about Salt Management Plans.</td>
<td>Comment noted. The wells within Halton-Hamilton do not have chloride or sodium Issues so the policies within the plan do not address this issue.</td>
</tr>
</tbody>
</table>

**Ministry of Natural Resources**

| The ministry felt that the wording to delineate geographic areas is awkward and asked the Region to consider revising to make it clearer where the policies apply. | The wording has been revised; however, it is important to note that the description of where the policies apply is more complicated than many other areas due to the presence of Issues in some of the Region’s wellfields. |

**City of Brantford**

| Brantford doesn’t have the jurisdiction to implement the education initiative within the Region of Waterloo even though the policy is to protect Brantford’s Intake. The city suggested that the Grand River Conservation Authority would be an appropriate body to implement this program. | The policies have been revised to require the Region to implement the education programs. |

**City of Kitchener**

| The draft policies are too numerous and too complex to be readily implemented by staff. There is a high risk of communicating incorrect information. Possible solutions may include consolidating some policies, simplifying language, and developing user-friendly mapping tools to link policies with properties. | We have consolidated the policies considerably with the intention of making them more understandable. We agree that a mapping tool and training will be required to assist City staff with implementation. |

| The request to circulate site plan applications to the Region will result in increased time and costs for this process. It would be better to identify the vulnerable areas in which the applications should be circulated. | This policy has been deleted. |

| Is there a mechanism to scope the types of land uses that are Threats and require RMO sign-off so that the time and costs associated with this new process can be decreased? | We have revised the Restricted Land Use policy to provide more clarity. |

<p>| The annual reporting should be combined into one report from each municipality. Reporting on the land use planning documents should be on an annual basis. Reporting on education and outreach should be undertaken by Region, not area municipalities. | The annual reporting can be combined into one report. We have revised the reporting requirements for the land use planning documents. Where education initiatives have been identified for the area municipalities, they should report on their efforts. |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchener will not know which properties have been identified as a</td>
<td>Comments noted. The Region will identify the properties with Significant Conditions to the City.</td>
</tr>
<tr>
<td>Significant Condition. Direction will be required from the Region.</td>
<td></td>
</tr>
<tr>
<td>Kitchener charges private individuals on a cost-recovery basis for file</td>
<td></td>
</tr>
<tr>
<td>searches and responses. The Region must be prepared to continue their</td>
<td></td>
</tr>
<tr>
<td>involvement after the re-development of any Conditions to ensure that</td>
<td></td>
</tr>
<tr>
<td>any Groundwater Plans used to secure approval of a development application</td>
<td></td>
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<tr>
<td>is implemented by the proponent.</td>
<td></td>
</tr>
<tr>
<td>Any prohibitions directed at (largely) commercial applicators must also</td>
<td>Comment noted. A public education policy will not be included for pesticides at this time. The education policies were used for threats that contribute to an Issue.</td>
</tr>
<tr>
<td>be accompanied by, at least a scoped/targeted, education program. Public</td>
<td></td>
</tr>
<tr>
<td>education policies exist for other Threats, but not pesticide application.</td>
<td></td>
</tr>
<tr>
<td>The salt and septic education programs should be developed and</td>
<td>The Region agrees that the messages should be consistent and will work with the area municipalities to facilitate that. However, the intention of the salt education initia</td>
</tr>
<tr>
<td>implemented by the Region, not the area municipalities, to maintain a</td>
<td>tive is for the area municipalities to build on the Region’s existing efforts and promote the salt.</td>
</tr>
<tr>
<td>Region-wide message.</td>
<td></td>
</tr>
<tr>
<td>What constitutes an acceptable septic tank inspection?</td>
<td>This is mandatory under the Ontario Building Code and it must meet their requirements.</td>
</tr>
<tr>
<td>The stormwater management facility policies that require monitoring,</td>
<td>The policies have been revised to remove reference to monitoring, maintenance, and enhanced construction techniques. The policies have been revised to include pumping stations and</td>
</tr>
<tr>
<td>maintenance, reporting or enhanced construction techniques will have</td>
<td>requirements for spill contingency plans.</td>
</tr>
<tr>
<td>substantial cost impacts for the City. There are some outstanding</td>
<td></td>
</tr>
<tr>
<td>questions about which types of ponds to which the policies will apply.</td>
<td></td>
</tr>
<tr>
<td>Consider making the monitoring requirements less prescriptive and add a</td>
<td></td>
</tr>
<tr>
<td>policy that speaks to the requirement for municipalities to identify and</td>
<td></td>
</tr>
<tr>
<td>assess the facilities that are most suitable for SOME monitoring (</td>
<td></td>
</tr>
<tr>
<td>municipality to determine in consultation with Region).</td>
<td></td>
</tr>
<tr>
<td>For the sanitary sewer draft policies there is no direction on</td>
<td>The policies have been revised to remove reference to inspection requirements and enhanced construction standards. The policies have been revised to include pumping stations and requirements for spill contingency plans.</td>
</tr>
<tr>
<td>frequency of mandatory inspection, criteria for the inspection, nor</td>
<td></td>
</tr>
<tr>
<td>what “appropriate maintenance” would ensue from the inspection. The</td>
<td></td>
</tr>
<tr>
<td>draft policies are silent on pumping stations, are they not considered</td>
<td></td>
</tr>
<tr>
<td>a threat? Spills in general would seem to constitute more of a threat</td>
<td></td>
</tr>
<tr>
<td>than leaks, and spills are not well addressed by the draft policies.</td>
<td></td>
</tr>
<tr>
<td>The required “enhanced construction standards” will increase costs to</td>
<td></td>
</tr>
<tr>
<td>develop and redevelop properties.</td>
<td></td>
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</tbody>
</table>
A number of text revisions were recommended to ensure consistency of wording with other sections of the Grand River Source Protection Plan and to address technical wording matters. Policies have been revised as appropriate.

Consider grouping monitoring policies. You don’t need to state one for every threat. The number of monitoring and reporting policies has been reduced.

There were policies missing for the local threat and Emergency Response Plans. These policies have been added.

Consider consolidating policies. Policies have been consolidated.
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: C06-60/P&W/WS.12

SUBJECT: BIOSOLIDS HEAT DRYING FACILITY AND P3 CANADA FUND

RECOMMENDATION:

THAT the Regional Municipality of Waterloo endorse an application to the P3 Canada Fund seeking financial support for up to 25% of the cost of constructing a biosolids heat drying facility and take the following actions in support of this application, all subject to further Council approval, as described in Report E-12-078 dated August 14th, 2012:

a) Authorize Region Staff to enter into negotiations with Deloitte and Touche LLP to extend the current Value For Money analysis to complete a full Business Case analysis in support of the implementation of a biosolids heat drying facility through a public-private partnership delivery model; and

b) Waive the Region’s Purchasing By-law requirement for publicly advertising for consulting assignments in excess of $100,000, and allow issuing a request for quotation to obtain three quotes to undertake a Municipal Class Environmental Assessment for the biosolids heat drying facility.

SUMMARY:

In 2009, the Federal Government established a Crown Corporation named PPP Canada (Public-Private Partnership Canada, or P3 Canada), recognizing the need for alternative methods of delivering large public infrastructure projects. This approach consists of transferring to the private sector one or more of the following functions to deliver public infrastructure: design, build, operate, maintain, finance. To encourage municipal and provincial government bodies to adopt the P3 approach for infrastructure projects, P3 Canada established the $1.2 billion P3 Canada Fund. The P3 Canada Fund would cover up to 25% of the capital costs and eligible supporting implementation costs using a P3 delivery approach. Based on the P3 Canada Fund criteria as well as direct discussions with P3 Canada staff, the Region identified that the biosolids heat drying facility would be an ideal candidate for P3 delivery and has submitted a P3 Canada Fund application for this project. This facility was part of the preferred biosolids management strategy in the Biosolids Master Plan approved by Regional Council (Report E-11-067 dated August 16, 2011). The estimated capital cost of the heat drying facility is approximately $60 million and therefore, P3 Canada would provide up to 25% ($15 million) funding if the Region’s application for P3 Canada funding is successful.
Based on the discussions held with P3 Canada, the Region is optimistic that its application would be short-listed; therefore it is recommended that staff continue with further actions in support of this application which includes development of a detailed business case and completion of a Municipal Class Environmental Assessment (Class EA). Based on the anticipated timelines for the P3 Canada Fund and overall project delivery, it is necessary that these two phases of the project be expedited.

Regional staff has already initiated the first step for a business case and retained Deloitte and Touche LLP (Deloitte) to undertake a Value for Money (VFM) analysis. The VFM analysis is used to assess the feasibility for proceeding with the P3 approach by demonstrating value to taxpayers. Completion of the VFM analysis is expected by late August 2012. It is recommended that staff enter into discussions with Deloitte (who has successfully completed a business case analysis for the Region’s Rapid Transit initiative, and has also completed similar P3 business case assignments for other municipalities) to extend the VFM analysis to also complete the business case which is one of the requirements to receive P3 Canada funding for the biosolids heat drying facility.

It is also recommended that Council waive the Region’s Purchasing By-law requirement for publicly advertising for consulting assignments in excess of $100,000, and allow issuing a request for quotation to obtain three quotes to undertake a Municipal Class Environmental Assessment for the biosolids heat drying facility. It is expected that the total value of this assignment will be less than $300,000.

Should Council approve the recommendations in this report, it is expected that award recommendation for these two assignments will be presented to the Planning Works Committee on September 11, 2012, and to Regional Council on September 19, 2012. At the September 11 meeting, staff will also present the results of the VFM analysis.

REPORT:

P3 Canada and P3 Canada Fund

In 2009, the Federal Government established a Crown Corporation named PPP Canada (Public-Private Partnership Canada, or P3 Canada), recognizing the need for alternative methods of delivering large infrastructure projects. P3 Canada reports directly to the Federal Ministry of Finance and their mandate is to improve the delivery of public infrastructure by achieving better value, timeliness and accountability to taxpayers through P3 delivery. As part of the effort to encourage government bodies to adopt the P3 approach for infrastructure projects, P3 Canada established the $1.2 billion P3 Canada Fund.

Between April 15 and June 15, 2012, P3 Canada announced Round 4 Call for Applications to the P3 Canada Fund. The P3 Canada Fund is open to Canadian municipalities, provinces and First Nations who are considering an infrastructure project using P3 delivery. The value of the P3 Canada Fund contribution is up to 25% of the direct capital costs and supporting implementation costs of an infrastructure project that uses a P3 delivery approach and meets P3 Canada criteria.

Through consultation with P3 Canada, Regional staff further investigated the requirements for a successful P3 Canada Fund application and P3 project implementation. Consultations consisted of teleconference with P3 Canada staff, participation in a P3 Canada-hosted seminar, and a visit to the Region by the P3 Canada Director of Business Development. Eligible projects
fall under a number of infrastructure categories including nine ‘priority areas’ for strategic use of the P3 Canada Fund which includes “Water and Wastewater”.

Criteria stated by P3 Canada that would allow a P3 project to receive P3 Canada funding include:

- of sufficient size to attract private sector interest;
- of sufficient complexity so that they present an opportunity to realize efficiencies through innovation;
- typically outside the core operations of the government;
- allows for risks associated with some or all components of the project delivery to be transferred to the private partner;
- provides positive Value for Money (VFM), in other words, offers better value to taxpayers compared to traditional procurement; and
- can be a performance-based contract.

Based on the above criteria and discussions with P3 Canada, the Region identified that the biosolids heat drying facility (a key part of the Region’s proposed biosolids management strategy) would be an ideal candidate for P3 delivery and receiving P3 Canada funding. Accordingly, through staff authority to submit applications, the Region submitted a Round 4 P3 Canada Fund application before the June 15, 2012 deadline. The Region was officially notified that the application had been received by P3 Canada and is currently undergoing a screening process; notification of short-listed applications is expected around September 2012.

**Biosolids Heat Drying Facility**

Biosolids are the wet solids end product from the processes used to treat wastewater and are typically high in organic and nutrient content. With adequate conditioning, biosolids quality can be beneficially enhanced to take advantage of their nutrient value, soil enhancing capability, or even their fossil fuel replacement potential.

The Region’s three largest wastewater treatment plants (WWTP), the Kitchener, Waterloo and Galt WWTPs, currently process approximately 80% of the Region’s wastewater flow. Currently, the biosolids at these three WWTPs undergo digestion and dewatering, primarily to stabilize and reduce the volume of biosolids into a cake before disposal off site by contractors.

In August 2011, Regional Council approved the Biosolids Master Plan (BMP) Update (Report E-11-067 dated August 16, 2011). The BMP outlines a comprehensive strategy for the future management of biosolids generated from all 13 of the Region’s WWTPs. The BMP strategy is based on the philosophy that biosolids are a valuable, renewable resource and if properly managed can help reduce the Region’s carbon footprint.

The goal of this strategy is to continue to improve the quality of biosolids, further reduce its volume and environmental impacts, and generate energy. The main components of this strategy are:

- A new central heat drying facility for anaerobic biosolids;
- A new enhanced digestion system to be installed at the Ayr WWTP; and
- Installation of co-generation facilities at the three largest WWTPs for electricity generation.
The central heat drying facility is the focus of the P3 Canada Fund submission. The other two components of the BMP will be part of separate projects.

Heat drying is a well proven technology and an effective biosolids management option that reduces additional volume, is economically attractive, and gives flexibility for the end use of the dried product. It can be applied to agricultural land, sold as a fertilizer, or used as renewable fuel for cement kilns or for emerging energy recovery processes.

The actual location of the central heat drying facility will be defined through the Municipal Class Environmental Assessment study (Class EA). However, the possibility of locating the heat drying facility at one of the Region’s landfills offers a unique opportunity to significantly offset the energy requirements for the operation of the heat dryer. This could be accomplished through the transfer of waste heat from existing facilities that currently utilizes the landfill methane gas for energy. The heat drying facility project as envisaged in the BMP would make an ideal candidate for P3 delivery as it meets all of P3 Canada’s criteria for a successful project. The BMP estimated the capital cost of the heat drying facility to be approximately $60 million of which, the P3 Canada Fund would contribute up to 25% ($15 million) funding. Other costs that would be eligible are implementation costs such as design and engineering. Costs that would not be eligible include advisory services for procurement and operation/maintenance costs.

**Interim Biosolids Management**

Currently, biosolids from the Region’s larger WWTPs are digested, dewatered, and land applied or landfilled. The current contract will expire at the end of 2012. The BMP recommended that until the proposed heat drying facility is operational, all existing dewatered biosolids contracts be consolidated into one single contract.

Staff is in the process of implementing the new single contract for managing the Region’s biosolids. Pending Council approval, the successful contractor will be responsible for transport and disposal of biosolids cake for a period of five years starting in 2013, extendable by the Region yearly for a maximum of five additional years. Bidders will be encouraged to also propose alternate biosolids management procedures in addition to the current land application and landfilling.

**Business Case to Support P3 Canada Funding**

Based on discussions held with P3 Canada, the Region is optimistic that its application to receive P3 Canada funding for the biosolids heat drying facility will be short-listed. Therefore it is recommended that staff continue with further actions in support of the application which would be for the Region to prepare and submit a business case that supports a P3 delivery of the biosolids heat drying facility.

The business case is a robust analysis of the project, including detailed description, project costs, market sounding results, a VFM analysis, identified procurement strategy, and sources of funding. The VFM analysis is particularly important as positive value must be shown to demonstrate value to taxpayers. This is accomplished by transferring to the private sector one or more of the following functions of project delivery:
- Design,
- Build,
- Operate,
- Maintain,
- Finance (design, construction, maintenance and operation).

A positive VFM is only achieved if costs of a P3 approach can be offset by the reduction of retained risks. Therefore, as part of the VFM analysis, a detailed risk analysis and risk valuation exercise is being undertaken. Regional staff has already retained Deloitte and Touche LLP (Deloitte) to undertake this analysis with completion expected by late August 2012.

P3 Canada indicated that in order to remain in Round 4 of the Call for Applications, they expect a Business Case report (supporting a P3 delivery model for the project in question) be submitted no later than March 31, 2013. Furthermore, P3 Canada is looking for projects which could be ready for construction within three years of the application submission, in other words summer of 2015.

To meet this aggressive schedule, it is recommended that staff enter into negotiations with Deloitte to extend the ongoing VFM analysis to also complete the full business case for the biosolids heat drying facility. The total cost of the VFM analysis is $44,728 excluding applicable taxes. Deloitte has completed a similar analysis for the Region’s Rapid Transit initiative and also similar business case assignments for other municipalities. The experience that Deloitte has gained by undertaking similar P3 business cases will reduce the time and costs to complete this assignment. The Region’s Purchasing By-law 04-093 for procuring goods and services allows in Section 21.(1), (g) the extension of previous assignments that would prove more cost effective to the Region.

**Environmental Assessment**

In order to implement the biosolids heat drying facility, the Region is required to undertake a Municipal Class Environmental Assessment (Class EA). Should the Region be successful with its P3 Canada Fund application, a Canadian Environmental Assessment would also be required. The Provincial and Federal Class EA processes are similar. The main difference is the involvement of Federal Agencies during the public consultation process of the project.

To meet P3 Canada’s requirement that projects be ready for construction by summer 2015, it is essential that all of the planning phase of the project, including the Class EA study, be completed by the summer of 2013.

To meet this aggressive schedule, it is necessary that the Class EA work be initiated in September 2012. Region staff recommend waiving the Region’s Purchasing By-law requirement to publicly advertise the request for consultant proposals (Purchasing By-law Section 18.1.(1), (d)), and allow issuing a request for quotation to obtain three quotes to undertake a Municipal Class Environmental Assessment for the biosolids heat drying facility (Purchasing By-law Section 18.(1)). It is expected that the total value of this assignment will be less than $300,000.

**Implementation and Next Steps**

Should Council approve the recommendations in this report, it is expected that award recommendation for the two noted assignments will be presented to the Planning and Works
Committee on September 11, 2012, and to Regional Council on September 19, 2012. At the September 11, 2012 meeting, staff will also present the results of the ongoing VFM analysis.

Key milestone dates for the implementation of the biosolids heat drying facility using the P3 approach are as follows:

- Submission of P3 Canada Fund application: June 15, 2012 (completed)
- Planning and Works Committee Report for Business Case and Class EA Assignment Award: September 11, 2012
- Short-listing of P3 Canada Fund applications: September, 2012
- Submission of business case by Region: March 31, 2013 *
- Completion of Classes EA by Region: Summer 2013 *
- Consultant selection for the procurement of the P3 consortium: Fall 2013 *
- Selection of the P3 consortium: Spring 2015 *
- Project ready for construction: middle of 2015
- Construction completion: end 2017
* anticipated future Council reports

CORPORATE STRATEGIC PLAN:

The implementation of the strategy recommended in the Biosolids Master Plan supports the Corporate Strategic Plan Focus Areas 1 and 2: Environmental Sustainability, and Growth Management and Prosperity, respectively; and the following strategic objectives: Reduce greenhouse emissions and work to improve air quality in Waterloo Region, protect the quality and quantity of our drinking water sources, and develop, optimize and maintain infrastructure to meet current and projected needs.

FINANCIAL IMPLICATIONS:

The Council-approved 2012 Ten Year Capital Forecast includes a total of $51.5 million for the implementation of the biosolids management strategy. This estimate will be updated during the 2013 budget deliberations, once more details on the level of contribution required by the Region through a P3 approach is available.

P3 Canada would provide up to 25% ($15 million) funding for the project.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

The Region’s Finance Department and Corporate Resources Department (Legal) has been involved in the submission of the P3 Canada Fund application and in the preparation of this report.

ATTACHMENTS

NIL

PREPARED BY: Kaoru Yajima, Senior Project Engineer

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: D10-20(A)

SUBJECT: KING AND VICTORIA MULTIMODAL HUB – PROGRESS REPORT

RECOMMENDATION:

For information.

SUMMARY:

The new Region of Waterloo multimodal hub (Hub) is a proposed central transportation node on the Regional Rapid Transit (RT) line and a centre of activity in downtown Kitchener. Located as a prominent property on the north-east quadrant of the intersection of King and Victoria Streets, the Hub is being developed to simultaneously serve as a focal transportation node in the regional transportation network as well as an iconic site with high quality, higher density, mixed-use land development.

This report has been prepared to update Council on the work completed to date and the key milestones anticipated during remainder of the year 2012 and into 2013.

Key highlights include:

- Project governance structure has been established and the Project Charter adopted.
- Acquisition of all the component land/property parcels is complete except for one parcel at 520 King Street W (Beer Store), the acquisition process of which is ongoing.
- Most of the preparatory project development works such as planning studies, business plan studies, conceptual designs, and regulatory approval processes are either already complete or underway. All such sub-projects are expected to be substantially complete by mid 2013 with the site achieving readiness for the land development and construction phases.

As part of the preparatory works, the Region is also developing broad-based design guidelines for the Hub which reflect the Region’s and the City of Kitchener’s growth management objectives, financial considerations and input from the public. The Hub is a landmark gateway property to the Kitchener core. As the owner, the Region, in conjunction with the City of Kitchener, will have control over urban design, a critical element in the redevelopment of this property.

REPORT:

Introduction

The new Region of Waterloo multimodal hub (Hub) is a proposed transportation node and a centre of activity in downtown Kitchener. The site is located at the northeast corner of the intersection of King and Victoria Streets and is bounded by King Street W, Victoria Street N, Duke Street W and the CN Railway corridor. Following authorization by Regional Council in August 2007, the Region is
presently nearing completion of the acquisition of the component lands totalling 1.6 hectares (3.95 acres). In its built-out form, the Hub will be a combination of a central transportation facility seamlessly integrating various convergent local as well as inter-regional travel modes together with a higher density, mixed-use land development that will also serve as a catalyst for redevelopment in this part of the City of Kitchener known as the Innovation District.

As a transportation facility, the Hub will serve as a vital node of the local transportation network enabling the safe and efficient mobility of people across various modes. In order to achieve such functionality, a new set of transportation infrastructure will be developed which includes platforms and interface elements along the RT line; platforms to serve inter-city GO train and VIA Rail services; a passenger pick-up/drop-off (Kiss and Ride) facility; amenities to support the Grand River Transit (GRT) and intercity bus services operated by GO Transit and other carriers; and underground and at-grade connections to and from the facilities enabling the integration of pedestrians, cyclists, taxis and car share/co-operative services. Similarly, network improvement works including grade-separation (underpass) of the Weber Street and King Street road alignments have been planned to be completed in conjunction with the construction of the Hub site’s transportation infrastructure.

In terms of land development and place-making, the Hub is expected to become an iconic catalyst to further attract high-quality, high-density, mixed-use redevelopment in the downtown Kitchener area. The Hub is poised to become a new centre of activity in downtown Kitchener. It is within walking distance of existing commercial, retail and residential areas; and extensive opportunities for intensification have been identified in and around the area. Subsequently, a safe, comfortable and vibrant public realm will foster walking and cycling and will make transit more attractive to potential users. As such, the Hub will, directly and indirectly, support the growth management and reurbanization goals in the Regional Official Plan, the City of Kitchener’s Official Plan as well as the Province’s Places to Grow: Growth Plan for the Greater Golden Horseshoe.

To date, the Region has been advancing the project with progress made towards property acquisitions, planning studies and preliminary design work, and development of the project management mechanisms – with the intent of delivering the construction of the transportation infrastructure of the Hub site before or concurrent with the opening of the RT line.

In the following sections, this report provides a summary of the progress made including key milestones achieved, key milestones anticipated in the immediate future, costs and financial implications. Being the first progress report, this report also provides an overview of the project’s governance structure and definition of the scope of work. A subsequent progress report is planned to be presented early in 2013.

**Project Governance and Charter**

The Project Team, with the membership as listed below, has been organized to oversee the overall management of the project.

Chair – Kevin Eby, Director of OMB Appeals and King/Victoria Transit Hub

Jean Haalboom, Regional Councillor
Jim Wideman, Regional Councillor
Sean Strickland, Regional Councillor

Graham Vincent, Director of Transportation Planning
Eric Gillespie, Director of Transit Services
Debra Arnold, Director of Legal Services
Calvin Barrett, Director of Financial Services and Development Financing
The Project Team serves to provide strategic direction and guidance, authorize strategic changes and approvals, streamline partner and stakeholder interests and synergies, provide resolutions, and monitor the progress of the project and its components. Individual members also act as liaisons to their respective executive groups and the partners and stakeholders of the project.

The Project Charter was adopted by the Project Team in May 2012. The Project Charter further establishes and clarifies the project’s objectives and success factors as well as its management approach and guidelines.

**Project Scope of Work**

For management purposes, the project work being undertaken to develop the Hub site has been organized into the following task groups (or phases).

- Site Acquisition, Custody and Preparation
- Preliminary Analysis and Design
- Environmental Assessment (EA) and the City of Kitchener Official Plan Amendment (OPA) Processes
- Procurement of Site Development
- Design, Construction and Commissioning
- Coordination with Intersecting Projects

Attachment 1 depicts a high-level Work Breakdown Structure (WBS) of the scope of work. Outline descriptions of the scope of work under each WBS phase are given in Attachment 2.

Prior to the procurement, the Region is developing broad-based design guidelines which reflect the synthesis of the Region’s and the City of Kitchener’s growth management objectives, financial considerations, and input from the public. The guidelines on urban design aspects in general are presented through the Urban Design Brief and the Planning Justification reports prepared as part of the City of Kitchener’s Official Plan and Zoning Bylaw amendment applications. Similarly, the Preliminary Site Design and Access Plan Study offers additional specific design parameters and concepts focusing on productive, effective and attractive interfaces and connectivity amongst the various travel modes converging at the Hub. As owners, the Region will have greater control over design excellence in conjunction with the City of Kitchener.
Summary of Progress to Date and Major Milestones Anticipated in 2012–2013

Key progress indicators and milestones achieved to date as well as on-track to be achieved during the remainder of the year 2012 and through the year 2013 are listed as follows.

- Project governance structure has been established and the Project Charter adopted.

- Acquisition of all the component land/property parcels is complete except for one parcel at 520 King Street W (Beer Store). Progress is being made on negotiations to acquire the Beer Store property. Property parcels which are already acquired are also being used for interim revenue generation such as commercial parking and rentals while the site is undergoing preparations for future development.

- Demolition of the property at 50 Victoria St N (formerly Noble Trade building) is expected to be completed by the end of 2012.

- An application to the City of Kitchener to permanently close Waterloo Street within the site perimeter and transfer the land titles to the Region is planned for Fall 2012.

- Most of the preparatory project development works such as planning studies, business plan studies, conceptual designs, and regulatory approval processes are either already complete or underway. All such sub-projects are expected to be substantially complete by mid 2013 with the site achieving readiness for the land development and construction phases.

- The Heritage Impact Study was undertaken to examine the impact of new developments at the Hub site area with a particular focus on the Rumpel Felt buildings. The first draft of the Study was completed in April 2012 and is presently under review by the City of Kitchener representatives.

- The planning and design activities are proceeding along two broad themes, namely, (i) transportation infrastructure planning and (ii) land development planning. A conceptual design of the transportation infrastructure (i.e., rail station and platforms, bus facilities, and passenger and cycling amenities) and the potential “envelope” of the land development concepts are expected by the end of 2012. Similarly, interfaces with intersecting projects, such as the RT alignment, King Street Grade Separation and GRT Network Redesign, are also expected to be finalized by the end of 2012.

- A public information session is planned for Fall 2012 on the topics of: (i) City of Kitchener Official Plan and Zoning Bylaw amendments (ii) Preliminary Site Design and Access Plan Study and (iii) permanent closure of Waterloo Street within the Hub site.

- Preparatory work is underway for applying to the City of Kitchener to amend its Official Plan and Zoning Bylaw. City officials are reviewing the draft submissions presently; and the official applications are scheduled to be submitted in Fall 2012. A public meeting, required officially as part of the application process, will be held at an appropriate date following the submission of the application. A Council Information Report on the status of the City of Kitchener Official Plan and Zoning Bylaw amendment applications is planned for later in 2012.

- Completion of the Preliminary Site Design and Access Plan Study followed by a Council Information Report on its recommendations are expected by December 2012. This Study is going to recommend conceptual design and layout options for the Hub site’s transportation infrastructure and interfaces with Rapid Transit, GO/VIA rail transport, local road network, buses, pedestrians and cycling routes.
The Market Scope and Feasibility Study is scheduled to be completed by early 2013 which will analyze the market demand, development possibilities and economic performances to recommend the best land development options. The findings of this Study will also inform the decision on the potential procurement risks and suitable delivery model(s).

Environmental assessment (EA) of the proposed transportation infrastructure works plus all other outstanding works concepts not yet assessed through such a regulatory review is already initiated. The bulk of the EA project work (i.e., the consulting assignment) is expected to be substantially completed by the end of 2012 and finalized by mid 2013. With this, all the necessary permits and approvals from the applicable jurisdictions are likely to be obtained by mid 2013.

A Risk Assessment in support of filing of a Record of Site Conditions (RSC) is underway and is expected to be completed in 2014. The status of the RSC filing will not prevent the start of construction.

Additional details on key progress indicators and milestones achieved for each WBS phase are given in Attachment 2.

**Coordination with Intersecting Projects**

Team members from across the intersecting projects are represented in the governance and decision-making structure of this project. This approach of participatory engagement has proven to be a very effective means of establishing and maintaining a high degree of understanding and collaboration.

The scope of work of the Hub project intersects or overlaps with the following projects.

<table>
<thead>
<tr>
<th>Intersecting Project Name</th>
<th>Key Scope of Intersection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Transit Corridor</td>
<td>Public consultation events; stakeholder requirements and engagement; and resource-sharing opportunities</td>
</tr>
<tr>
<td>Community Building Strategy</td>
<td></td>
</tr>
<tr>
<td>Active Transportation Master Plan Study</td>
<td>Integration; public consultation events; stakeholder requirements and engagement</td>
</tr>
<tr>
<td>Weber Street Grade Separation Construction</td>
<td>Stakeholder requirements and engagement; real estate acquisition strategy</td>
</tr>
<tr>
<td>King Street Grade Separation Construction</td>
<td>Construction schedule coordination; interface configuration / architecture between the Hub and the King Street frontage; local network traffic operations; stakeholder requirements and engagement; real estate acquisition strategy</td>
</tr>
<tr>
<td>Rapid Transit (RT) Construction</td>
<td>Procurement coordination; RT station placement; construction schedule coordination; interface configuration / architecture between the Hub and the King Street frontage; local network traffic operations; stakeholder requirements and engagement</td>
</tr>
<tr>
<td>Grand River Transit (GRT) Route Network Redesign</td>
<td>Integration; public consultation events; stakeholder requirements and engagement</td>
</tr>
</tbody>
</table>

**Area Municipal Consultation/Coordination**

All the project work, including the scope across intersecting projects, is being undertaken in consultation with the City of Kitchener staff. In particular, (i) City of Kitchener Official Plan and Zoning Bylaw amendment applications and (ii) the joint promotion of the Hub site (to attract new economic development opportunities) are being jointly conducted. The City of Kitchener staff are also represented in steering committees and working groups of the component sub-projects.
CORPORATE STRATEGIC PLAN:

The Hub project will contribute, directly and indirectly, towards accomplishing the following Action Items of the Region of Waterloo Strategic Focus 2011–2014.

- **3.4.1** Implement the multimodal transportation hub at Victoria and King Streets.
- **3.2.1** Work with Local Municipalities and other stakeholders to expand an integrated and safe network of regional, local and off-road cycling and walking routes.
- **2.3.2** Continue to identify and support partnership opportunities that foster innovation and economic development (e.g. post secondary institutions, technology, manufacturing, food processing, etc.).
- **2.1.2** Work with area municipalities to develop and implement a comprehensive strategy to promote intensification and reurbanization within existing urban areas.

FINANCIAL IMPLICATIONS:

As reported in the June 2012 Periodic Financial Report, total spending to date on property relating to the Hub project is $6.8 million, which includes land acquisition and related costs, including land transfer taxes, commissions and consulting engineering fees associated with site redevelopment (including remediation, surveys and demolition). As part of a future Hub redevelopment strategy (to be considered by Regional Council), a detailed financing plan will be recommended.

Planning and consulting costs along with site operating, maintenance and repair costs associated with the ongoing development of the Hub project amounts to approximately $700,000 to July 2012 and will be funded from the RT/RTMP property tax commitment of 1.5% (1% net) per year to 2018. Ongoing site operating costs are being partially offset with revenues from building leases and parking space rentals.

**Capital Cost of Infrastructure and Land Development**

An estimate of the site infrastructure and land development capital costs is expected upon completion of the Preliminary Site Design and Access Plan Study, and the Market Scope Study. The Preliminary Site Design and Access Plan Study, which will identify requirements and develop conceptual designs for the transportation infrastructure and the street interface elements, is expected to be complete by the end of 2012. The Market Scope Study, which undertakes real-estate economic analysis together with a market sounding exercise, will provide a realistic projection of the type and scale of development that could be commercially sustained at the site; and is scheduled to be completed by early 2013. Regional staff will report on the outcome of these studies along with the cost estimates in early 2013.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Staff support has been drawn for various roles, including specialists and managers of component sub-projects, from Planning, Housing and Community Services and Facilities Management and Legal of Corporate Resources. Procurement activities are being processed with assistance from Finance. Staff from Rapid Transit of Transportation and Environmental Services are being consulted and closely coordinated within all intersecting scope and stages.
ATTACHMENTS:

Attachment 1 - Multimodal Hub Project Work Breakdown Structure
Attachment 2 - Outline of scope and current progress status of the work activities

PREPARED BY:  Shiva Tiwari, Transportation Planning Engineer

APPROVED BY:  Rob Horne, Commissioner of Planning, Housing and Community Services
### Attachment 2: Outline of scope and current progress status of the work activities.

<table>
<thead>
<tr>
<th>Ref. to Attach. # 1</th>
<th>Activity Name</th>
<th>Description of Scope</th>
<th>Progress Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Site Acquisition, Custody and Preparation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 110                 | 510 King Street W | Acquisition of the property/parcel and demolitions | • Property acquisition completed in October 2010.  
• Demolition completed in June 2011. |
| 120                 | 520 King Street W (Beer Store) | Acquisition of the property/parcel and demolitions | • Negotiations ongoing. |
| 130                 | 16 Victoria Street N (EMS Facility) | Acquisition of the property/parcel; interim use as Regional EMS facility and sales office; and demolitions | • Property acquisition completed in May 2008.  
• Regional EMS centre moved to occupy the building facility.  
• Relocation of the EMS Centre followed by demolition of the building is planned to commence by mid 2014 and complete by the end of 2014. |
| 140                 | 50 Victoria Street N | Acquisition of the property/parcel and demolitions | • Property acquisition completed in December 2008.  
• Demolition planned to commence in Summer 2012. |
| 150                 | 60 Victoria Street N (Rumpel Felt Building) | Acquisition of the property/parcel; further actions in conjunction with the proceeds of the Market Scope Study and the OP/ZB amendments process | • Property acquisition completed in December 2008.  
• OP/ZB Amendments application under review by the City of Kitchener.  
• Recommendations for future steps also expected from the Market Scope Study in early 2013. |
| 160                 | Waterloo Street | Land transfer from the City of Kitchener and closure | • EA process commenced; and to be followed by application to the City of Kitchener for permanent closure of the road and transfer of land titles. |
| 170                 | Site Management and Preparation | Security, interim revenue uses and contaminated site assessment | • Necessary approvals obtained from the City of Kitchener and the site currently being utilized for revenue uses including commercial parking and facility (showroom) lease.  
• Contaminated Risk Assessment process ongoing and expected to complete by the end of 2014. |
| 200                 | Preliminary Analysis and Design | | |
| 210                 | Regional Government Accommodation Needs Study | Forecast the space needs of Regional government agencies and departments | • Completed in August 2011. |
| 220                 | Initial Design Charrette | An exploratory visioning/brainstorming exercise between Regional and City of Kitchener staff | • Completed in July 2011. |
| 230                 | City of Kitchener OP/ZB Amendment Supportive (Planning) Studies | Conduct background studies; undertake analyses to inform and meet the requirements of the City’s OP and Zoning Bylaw amendment processes | |
| 231                 | Heritage Impact Study | Background study with a focus on Rumpel Felt Buildings | • Initial Draft completed in May 2012.  
• Subsequent review to be undertaken by the City of Kitchener. |
<p>| 232                 | Noise &amp; Vibration Study | Background study to guide the Zoning provisions for noise-sensitive land uses | • Initial Draft completed in April 2012. |</p>
<table>
<thead>
<tr>
<th>Ref. to Attach. # 1</th>
<th>Activity Name</th>
<th>Description of Scope</th>
<th>Progress Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>233</td>
<td>Urban Design Brief</td>
<td>Master-planning type of exercise to provide guidance to the design and development of the site.</td>
<td>• Initial Draft completed in April 2012.</td>
</tr>
<tr>
<td>234</td>
<td>Planning Justification Report</td>
<td>Synthesize from existing regulatory provisions, background planning studies, visible issues, and the extent of possibilities to support the OP/ZB Amendments application</td>
<td>• Initial Draft completed in July 2012.</td>
</tr>
<tr>
<td>240</td>
<td>Preliminary Site Design and Access Plan Study</td>
<td>Develop conceptual designs for the Hub’s interface and circulatory transportation infrastructure; understand and address pedestrian and cycling network convergence and requirements; and preliminary siting and layout of the building structures and amenities</td>
<td>• Currently underway and expected to be complete by the end of 2012. • Major public event planned for September 2012.</td>
</tr>
<tr>
<td>250</td>
<td>Reference Design and Preliminary Business Case Analysis</td>
<td>Expand on the results of the Preliminary Site Design and Access Plan Study from a financial performance perspective</td>
<td>• Equivalent draft expected by December 2012 as part of the Market Scope Study (WBS ID: 410).</td>
</tr>
<tr>
<td>300</td>
<td>Environmental Impact Assessment (EA) and City of Kitchener Official Plan (OP) and Zoning Bylaw Amendment Process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>310</td>
<td>City of Kitchener OP and Zoning Amendment Initiation (Application)</td>
<td>Apply to the City of Kitchener to amend the OP and Zoning Bylaw governing the development “envelope” of the Hub site</td>
<td>• Application currently under preparation and submission is planned for fall 2012.</td>
</tr>
<tr>
<td>320</td>
<td>Waterloo Street Closure Bylaw Initiative (Application)</td>
<td>Apply to the City of Kitchener to close Waterloo Street and transfer land titles to the Region</td>
<td>• Initiation planned for fall 2012.</td>
</tr>
<tr>
<td>330</td>
<td>Environmental Assessment (EA) Initiation</td>
<td>Procure a consulting assignment and mobilize to undertake the EA process.</td>
<td>• Procurement of consultant ongoing. • Formal EA process commencement planned for fall 2012 and completion expected by mid 2013.</td>
</tr>
<tr>
<td>340</td>
<td>EA Alternatives Analysis</td>
<td>Technical analyses as required by the applicable type/class of the EA process</td>
<td>• To be executed following the mobilization of the EA consulting assignment.</td>
</tr>
<tr>
<td>350</td>
<td>Combined Public Consultations</td>
<td>Combine into one event, as feasible, public consultations emanating from the Planning Studies, OP/ZB Amendment, EA processes, and intersecting projects</td>
<td>• A combined public session held on June 2012 jointly for (i) Preliminary Site Design and Access Plan Study and (ii) Active Transportation Master Plan (ATMP). • Next feasible opportunity to combine public events for (i) City of Kitchener OP/ZB amendments (ii) Preliminary Site Design and Access Plan Study and (iii) permanent closure of Waterloo Street: identified and planned for fall 2012. • The statutory public meetings required as part of the City of Kitchener OP/ZB amendments and the Environmental Assessment process, and any other public events will be consolidated as far as practicable, i.e., typically combined if occurring within a month. • Public walk-in storefront maintained as part of the CTC Community Building Strategy Study at the Kitchener City Hall premises; the storefront has been very well-received by the public as a government point of contact for all related projects including the Rapid Transit project.</td>
</tr>
</tbody>
</table>

The statutory public meetings required as part of the City of Kitchener OP/ZB amendments and the Environmental Assessment process, and any other public events will be consolidated as far as practicable, i.e., typically combined if occurring within a month. Public walk-in storefront maintained as part of the CTC Community Building Strategy Study at the Kitchener City Hall premises; the storefront has been very well-received by the public as a government point of contact for all related projects including the Rapid Transit project.
<table>
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<th>Description of Scope</th>
<th>Progress Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>City Council Process on OP/Zoning and Waterloo Street Closure</td>
<td>City of Kitchener Council hearings and approval</td>
<td>• Expected in 2013.</td>
</tr>
<tr>
<td>370</td>
<td>EA Conclusion</td>
<td>Post processing including implementing the rectification measures as identified through the EA process</td>
<td>• Expected to be substantially complete (project activities) by the end of 2012 and finalized (permits and approvals obtained) by mid 2013.</td>
</tr>
<tr>
<td>400</td>
<td>Procurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>Business Plan</td>
<td>Market Scope Study (Feasibility Study) followed by Options Evaluation and Business Case preparation</td>
<td>• Internal mobilization of the Market Scope Study commenced in May 2012; and the Study is expected to complete by early 2013. • Business Case preparation planned to commence in January 2013 and completed by mid 2013.</td>
</tr>
<tr>
<td>420</td>
<td>Procurement Options Analysis</td>
<td>Analyze potential risks and the associated value for money (VFM) and the return on investment (ROI); analyze potential procurement methods for their suitability for consideration by the Council</td>
<td>• To be initiated following completion of the Market Scope Study (Business Plan).</td>
</tr>
<tr>
<td>430</td>
<td>Regional Council Process on Procurement Model</td>
<td>Regional Council Decision Report</td>
<td></td>
</tr>
<tr>
<td>440</td>
<td>Project Delivery Charter</td>
<td>Establish Regional vision, objectives and commitment on the business plan and procurement</td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>Senior Government Funding Applications</td>
<td>Seek and apply for funding sources as required and available</td>
<td></td>
</tr>
<tr>
<td>460</td>
<td>Bid Process</td>
<td>Bid process for delivery of the Hub site development</td>
<td>• To be initiated following Council decision on procurement.</td>
</tr>
<tr>
<td>470</td>
<td>Contracts</td>
<td>Contracts</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>Detailed Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>Construction</td>
<td>Region's role and activities under these phases depend on the specifics of the procurement method.</td>
<td></td>
</tr>
<tr>
<td>700</td>
<td>Commissioning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: D18-01

SUBJECT: MONTHLY REPORT OF DEVELOPMENT ACTIVITY FOR JUNE 2012

RECOMMENDATION:


SUMMARY:

In accordance with the Regional By-law 01-028, as amended, the Commissioner of Planning, Housing and Community Services has:

1. Approved the following part lot control exemption by-law;
2. Accepted the following plan of condominium application;
3. Draft approved the following plan of condominium;
4. Modified the following draft plan of condominium; and
5. Released for registration the following plans of subdivision and plans of condominium.

REPORT:

City of Cambridge

1. Draft Approval of Plan of Condominium 30CDM-11102
   Applicant: 1663680 Ontario Ltd.
   Location: 507-539 Parkview Crescent
   Proposal: To permit the development of 17 townhouse condominium units.
   Processing Fee: Paid June 14, 2012
   Commissioner’s Release: June 19, 2012
   Came Into Effect: July 10, 2012

2. Registration of Draft Plan of Condominium 30CDM-10103
   Draft Approval Date: September 1, 2010
   Phase: Phase 2
   Applicant: Mill-Gate Homes
   Location: 695 Myers Road
   Proposal: To permit the development of 7 townhouse condominium units.
   Processing Fee: Paid May 22, 2012
   Commissioner’s Release: June 28, 2012
City of Kitchener

1. Plan of Condominium Application 30CDM-12202
Date Accepted: June 12, 2012
Applicant: 2066577 Ontario Ltd.
Location: 285 Old Huron Road
Proposal: To permit the development of 12 street-fronting townhouse condominium units.
Processing Fee: Paid June 11, 2012

2. Registration of Draft Plan of Subdivision 30T-04210
Draft Approval Date: February 1, 2010
Phase: Stage 4
Applicant: Activa Holdings Inc.
Location: Woolwich Street
Proposal: To permit the development of 27 single detached units.
Processing Fee: Paid May 25, 2012
Commissioner’s Release: June 12, 2012

3. Registration of Draft Plan of Subdivision 30T-04210
Draft Approval Date: February 1, 2010
Phase: Stage 5
Applicant: Activa Holdings Inc.
Location: Woolwich Street
Proposal: To permit the development of 46 single detached units.
Processing Fee: Paid May 25, 2012
Commissioner’s Release: June 12, 2012

City of Waterloo

1. Modification to Draft Plan of Condominium 30CDM-10408
Applicant: Jameshill Developments Ltd.
Location: 221-223 Erb Street West
Proposal: Parking, storage lockers and storage spaces were inadvertently identified and approved as common elements (Condition 1 of Draft Approval) rather than units. Condition 1 has been modified to identify the parking spaces, storage spaces and storage lockers to reflect the original intent of the application and the approved plan.
Processing Fee: Not applicable due to the nature of the modification.
Commissioner’s Approval: June 29, 2012
Came Into Effect: Immediately

2. Registration of Draft Plan of Condominium 30CDM-10408
Draft Approval Date: December 28, 2011
Phase: Entire Plan
Applicant: Jameshill Developments Ltd.
Location: 221-223 Erb Street West
Proposal: To permit the development of 77 apartment condominium units.
Processing Fee: Paid June 12, 2012
Commissioner’s Release: June 28, 2012
3. **Registration of Draft Plan of Condominium 30CDM-74651**

<table>
<thead>
<tr>
<th>Draft Approval Date:</th>
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<tbody>
<tr>
<td>Phase:</td>
<td>Entire Plan</td>
</tr>
<tr>
<td>Applicant:</td>
<td>Waterloo North Condominium Corp. No. 18</td>
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<tr>
<td>Location:</td>
<td>43 Caroline Street North</td>
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<tr>
<td>Proposal:</td>
<td>The amended plan of condominium provides for the creation of one residential unit (by converting the common elements superintendent suite into a unit), the delineation of new Exclusive Use Areas for a storage locker and parking space associated with the new residential unit, and the relocation of one Exclusive Use parking space.</td>
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<tr>
<td>Processing Fee:</td>
<td>Paid June 4, 2012</td>
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<td>Commissioner’s Release:</td>
<td>June 29, 2012</td>
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**Township of North Dumfries**

1. **Part Lot Control Exemption By-law 2510-12**

| Applicant:          | 828543 Ontario Inc. and 839658 Ontario Inc. |
| Location:           | Vincent Drive, Ayr |
| Proposal:           | To permit the development of 8 semi-detached units. |
| Processing Fee:     | Paid June 18, 2012 |
| Commissioner’s Release: | June 26, 2012 |

**Residential Subdivision Activity January 2012 to June 30, 2012**

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<th>Area Municipality</th>
<th>Units in Residential Registered Plans</th>
<th>Residential Units Draft Approved</th>
<th>Pending Plans (Units Submitted)</th>
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<tr>
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</tr>
<tr>
<td>Cambridge</td>
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*The acceptance and/or draft approval of plans of subdivision and condominium processed by the City of Kitchener under delegated approval authority are not included in this table.*

For comparison, the following table has also been included:

**Residential Subdivision Activity January 1, 2011 to June 30, 2011**

<table>
<thead>
<tr>
<th>Area Municipality</th>
<th>Units in Residential Registered Plans</th>
<th>Residential Units Draft Approved</th>
<th>Pending Plans (Units Submitted)</th>
</tr>
</thead>
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<tr>
<td><em>Kitchener</em></td>
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<tr>
<td>Region of Waterloo</td>
<td>289</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

*The acceptance and/or draft approval of plans of subdivision and condominium processed by the City of Kitchener under delegated approval authority are not included in this table.*
Area Municipal Consultation/Coordination

These planning approvals, including consultation with Area Municipalities, have been completed in accordance with the Planning Act. All approvals contained in this report were supported by the Area Municipal councils and/or staff.

CORPORATE STRATEGIC PLAN:

This report reflects actions taken by the Commissioner in accordance with the Delegation By-law adopted by Council. The activities described in this report are operational activities with the objective of Focus Area 1: Growth Management and Prosperity.

FINANCIAL IMPLICATIONS:

NIL

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

NIL

PREPARED BY: Andrea Banks, Program Assistant

APPROVED BY: Rob Horne, Commissioner of Planning, Housing and Community Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: D25-80

SUBJECT: IMPLEMENTATION GUIDELINE FOR CULTURAL HERITAGE LANDSCAPE CONSERVATION – PUBLIC CONSULTATION ON FIRST DRAFT

RECOMMENDATION:

For information.

SUMMARY:

The Implementation Guideline for Cultural Heritage Landscape Conservation is intended to provide guidance to development applicants, the Regional Heritage Planning Advisory Committee (HPAC), Municipal Heritage Advisory Committees (MHAC), and Regional and Area Municipal staff, in the conservation of significant Cultural Heritage Landscapes (CHLs) in the Region of Waterloo – through identifying, documenting, designating and incorporating the CHL into the existing heritage review process.

A CHL is defined in the Provincial Policy Statement (2005) as a geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to Heritage Conservation Districts, villages, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

Through the Provincial Policy Statement (PPS), the Province of Ontario requires that significant CHLs be conserved. The Regional Official Plan (ROP) adopted by Council in 2009 includes policies to ensure that CHLs will be conserved within the Region. This Implementation Guideline provides detailed guidance on the application of the CHL policies in the Regional Official Plan.

The Implementation Guideline for CHL Conservation provides a common framework that all municipalities in the Region will use to conserve CHLs. CHL conservation will result in several refinements to the existing heritage review process which is undertaken during the development review and Environmental Assessment processes. The refinements will support future development by ensuring that CHLs are proactively identified, effectively documented and able to be efficiently assessed. Designating a CHL does not change the permitted uses for a property, but will require that the impacts of proposed development be assessed and if necessary mitigated.

This First Draft of the Implementation Guideline for CHL Conservation has been prepared by Cultural Heritage staff in consultation with Regional Community Planning, Legal Services and Transportation and Environmental Services Divisions, and with substantial input from Heritage and Planning Staff at the Cities of Cambridge, Kitchener and Waterloo.

The Draft is now ready to be circulated for wider review and comment by Area Municipalities, MHACs, HPAC, Grand River Conservation Authority and Ministry of Tourism, Culture and Sport, as well as...
heritage and planning consulting firms, Waterloo Region Homebuilders Association and the general public. The commenting period will take place over the summer months and into the early fall.

The comments and suggestions that are received will be used to refine a Second Draft, which will be circulated in preparation for a formal Public Meeting planned to be held later in the fall, in order to receive formal comments before a final draft is submitted for Council's consideration. A copy of the First Draft Implementation Guideline is attached to this report.

REPORT:

The Implementation Guideline for Cultural Heritage Landscape Conservation is referenced in Policy 3.G.5 of the Regional Official Plan (ROP). The document will provide guidance to development applicants, the Regional Heritage Planning Advisory Committee (HPAC), Municipal Heritage Advisory Committees (MHAC), and Regional and Area Municipal staff in the identification, documentation and further conservation of Cultural Heritage Landscapes (CHLs) within the Region of Waterloo. Implementing the ROP CHL policies as outlined in the Implementation Guideline will refine the current heritage review process to include CHL conservation during both the Environmental Assessment and development review processes.

A CHL is defined in the Provincial Policy Statement (2005) as a geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to Heritage Conservation Districts, villages, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

Implementation Guidelines are policy tools that provide detailed guidance in the application of Regional Official Plan policies. This Implementation Guideline outlines the existing policy context and CHL conservation process for the Region of Waterloo, and provides guidance for the implementation of Regional Official Plan policies 3.G.5, 3.G.6 and 3.G.7 through the following sections which comprise the Implementation Guideline:
- Guideline for the Identification and Evaluation of CHLs
- Guideline for the Preparation of a CHL Technical Study
- Guideline for the Designating CHLs in an Official Plan
- Guideline for the Conservation of a CHL through a Cultural Heritage Impact Assessment

ROP Policies 10.B.9 and 10.B.10 recognise Implementation Guidelines as:

> . . . statements adopted by resolution of Regional Council which detail the manner in which policies established in this Plan will be implemented. The content and scope of these Implementation Guidelines will be determined by the Region, in consultation with the Area Municipalities and the Grand River Conservation Authority as appropriate, will be updated from time-to-time and will be in conformity with the policies in this Plan. (ROP 10.B.9).

Implementation Guidelines may not be used as a means of introducing “new policy provisions that could be the basis for denying development applications . . . or for interfering with the natural justice rights of landowners and the public” (ROP 12.2.2.3; 10.B.10). The development of these guidelines is subject to a public review process in order to receive input from interested government agencies and members of the public. Proposed Implementation Guidelines must be publicized in newspapers and circulated to public agencies and affected organizations in order to provide interested parties an opportunity to comment upon them. They must also be the subject of a formal Public Meeting where Council may receive comments directly from interested agencies or individuals.
Development of the First Draft Implementation Guideline for CHL Conservation

The development of the First Draft Implementation Guideline for CHL Conservation is the culmination of many years of work. Beginning in 2004, the Region initiated discussions on cultural heritage landscapes as one form of heritage resource within the Region to be conserved. The Region hosted a workshop for heritage planners in conjunction with the Heritage Resources Centre at the University of Waterloo and circulated a CHL Discussion Document in 2005 (P-05-034).

In 2006, a consultant was hired to undertake an initial inventory of Candidate CHLs of Regional significance and to suggest a policy framework for conserving CHLs through identification, assessment, protection, and development review. The resulting report “Cultural Heritage Landscapes in Waterloo Region: A Framework for Inventory, Assessment and Policy Development” was circulated to Area Municipalities for information and provided a foundation on which to discuss a preferred Regional approach to CHL conservation. The subsequent consultations resulted in a strong consensus that identification and protection of CHLs should be accomplished using a Regional framework, implemented at the Area Municipal level.

In the following years, ongoing consultation with Area Municipalities and HPAC lead to the CHL conservation policies included in the Regional Official Plan adopted by Council in 2009, and the attached First Draft Implementation Guideline for CHL Conservation. Area Municipal Official Plans are currently at various stages of development and approval, and will all include CHL conservation policies in order to ensure conformity with the ROP.

The next step is to broadly circulate the First Draft Implementation Guideline for review and comment by Area Municipalities, MHACs, HPAC, Grand River Conservation Authority and Ministry of Tourism, Culture and Sport, as well as heritage and planning consulting firms, Waterloo Region Homebuilders Association and the general public. The commenting period will take place over the summer months and into the early fall.

At the close of the commenting period, comments that have been received will be considered for incorporation into a Second Draft. The second draft will be circulated in preparation for a Public Meeting at the Planning and Works Committee planned to be held later in the fall, in order to receive formal comments before a final draft is submitted for Council’s consideration.

Implications of CHL Conservation

Designating a CHL does not change the permitted uses for a property, but will require that the impacts of proposed development be assessed through the existing heritage review process, and if necessary mitigated. Heritage review currently takes place within both the development review and Environmental Assessment (EA) processes. Identified cultural heritage resources in areas proposed for development or public works projects are flagged during the pre-consultation process or in the Preliminary Design Report (PDR). If the proposed development or public works project has a potential negative impact on the identified cultural heritage resources, a Cultural Heritage Impact Assessment (CHIA) may be required to support the development application or to meet EA requirements.

CHIAs assess the impacts of the proposed development on identified cultural heritage resources and recommend measures for their conservation. The assessments are required and reviewed by Area Municipal and where appropriate Regional staff. Where a Municipal Heritage Advisory Committee (MHAC) exists, the MHAC may also be asked to review and provide comments on CHIAs. HPAC is circulated and comments on CHIAs for projects that may impact heritage resources of Regional interest. The CHIA, with accompanying comments, is used by municipal staff in reviewing the proposed development application or public works project.

Currently, the conservation of CHLs is being addressed in the heritage review process in an informal ad hoc manner. The Region’s CHL conservation framework outlined in this Implementation Guideline will
refine the existing heritage review process to include a landscape perspective. The refinements will support, not inhibit, future development by making the process both more efficient and effective.

Through the Implementation Guideline:
- Area Municipalities are directed to proactively identify and document CHLs, and to formally recognize CHLs through designating CHLs in their Official Plan. These requirements ensure that CHLs are recognized early and included during heritage review.
- Guidance is provided for effectively documenting each CHL to ensure that landscape based information is available during the heritage review process, and on how to undertake a CHIA for a CHL, something relatively new for most heritage consultants. As a result, the required CHIAs will be more focused, comprehensive and constructive.

The majority of CHLs are expected to be identified in areas where heritage review is already required due to the presence of individual heritage resources; the number of CHIAs required is not expected to significantly increase.

Conservation of CHLs, as with the conservation of any cultural heritage resources in Waterloo Region, provides for: a higher quality of life; a stronger and more defined regional identity; a wealth of social, environmental and economic opportunities; and a broader foundational understanding of the people and places of our past.

**Area Municipal Consultation/Coordination**

ROP Policy 10.C.9 requires that the content and scope of Implementation Guidelines be determined by the Region in consultation with Area Municipalities and other appropriate agencies. Regular consultation has taken place with Area Municipal Heritage Staff, including an informal circulation of an early draft of the Implementation Guideline and discussions around related Official Plan policies. The majority of comments returned by Area Municipal staff have been incorporated in this First Draft, which will also be circulated to the Area Municipalities for further comment.

**CORPORATE STRATEGIC PLAN:**

The Implementation Guideline for CHL Conservation will help achieve strategic objective 2.4 Promote and enhance arts, culture and heritage.

**FINANCIAL IMPLICATIONS:**

The cost of developing the Implementation Guideline has been accommodated through budgeted funds already approved by Council.

**OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:**

Legal Services, Community Planning and Transportation and Environmental Services staff have assisted in the development of the Implementation Guideline. Council and Administrative Services staff has circulated the First Draft of the Implementation Guideline and posted it on the Region’s website.

**ATTACHMENTS:**

Attachment 1 - First Draft Implementation Guideline for Cultural Heritage Conservation Version (August 2012)

**PREPARED BY:** Kate Hagerman, Cultural Heritage Specialist

**APPROVED BY:** Rob Horne, Commissioner of Planning, Housing and Community Services
FIRST DRAFT
Regional Implementation Guideline

Cultural Heritage Landscape Conservation

August 2012
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A. INTRODUCTION

The purpose of the Region of Waterloo Implementation Guideline for Cultural Heritage Landscape Conservation is to provide guidance to applicants, municipal heritage advisory committees (MHACs) and municipal staff on the implementation of the cultural heritage landscape policies of the 2009 Regional Official Plan (ROP), for the preparation and review of development applications, and for the undertaking of heritage review during the Environmental Assessment (EA) process.

This document outlines the existing policy context and Cultural Heritage Landscape (CHL) conservation process for the Region of Waterloo, and provides further detail for the implementation of Regional Official Plan policies 3.G.5, 3.G.6 and 3.G.7 through the following guidelines:

- Guideline for the Identification and Evaluation of CHLs
- Guideline for the Preparation of a CHL Technical Study
- Guideline for the Designating CHLs in an Official Plan
- Guideline for the Conservation of a CHL through a Cultural Heritage Impact Assessment

The Regional Official Plan relies on implementation guidelines in a number of subject areas to provide additional technical guidance in the application of certain policies. Implementation guidelines elaborate upon ROP policy, but may not be used as a means of introducing “new policy provisions that could be the basis for denying development applications or for interfering with the natural justice rights of landowners and the public” (Policy 10.B.10).

The content and scope of Regional Implementation Guidelines is determined through a full, open, and transparent consultation process with Area Municipalities, other agencies, interested organizations and citizens. As relevant policies are updated, added, or deleted, the implementation guidelines must also be revised to ensure conformity to the provisions of the Plan.

Italicized terms within this document are defined in the glossary. Terms that are within the glossary but have not been italicized should be understood using their common definition. Bolded text has been used for emphasis.

As stated in the ROP, through the planned conservation of the region’s cultural heritage resources including CHLs, Waterloo Region will realize the benefits of: a higher quality of life; a stronger and more defined regional identity; a wealth of social, environmental and economic opportunities; and a broader foundational understanding of the people and places of our past.
A.1 What are Cultural Heritage Landscapes?

A Cultural Heritage Landscape (CHL) is a location where the influence of humans on the natural landscape has resulted in a place with distinctive character and cultural importance. These historically significant landscapes are valued for the important contribution they make to our understanding of the history of a place, an event, an individual and/or a community.

CHLs are usually characterized by:
- a concentration of cultural heritage resources, such as buildings, structures and landforms;
- a concentration of supporting structural elements such as vegetation, fences or roads;
- a sense of visual coherence; and
- a distinctiveness which enables the area to be recognized from neighbouring areas.

A Cultural Heritage Landscape (CHL) is defined in the Provincial Policy Statement (2005) as a geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts.

Examples may include, but are not limited to Heritage Conservation Districts, villages, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

A.2 Rationale for CHL Conservation

Conserving a CHL means identifying, protecting, using and/or managing a CHL in such a way that the heritage value, attributes and integrity of the CHL are retained.

CHL conservation provides a means to conserve groupings of cultural heritage resources that together have greater heritage significance than their constituent elements or parts. A CHL has both property-based cultural heritage resources and attributes that may not be linked to real property (i.e. views, circulation networks, land use patterns, architectural details, natural features, vegetation). The attributes of a CHL help to contextualize, cluster and connect the individual cultural heritage resources. As a result, the conserved CHL is more valuable than the sum of its parts.

Conservation of CHLs, like other cultural heritage resources, provides the following benefits:
- Sense of Place - The region’s tangible cultural heritage resources, combined with stories of the past, provide a physical and psychological foundation for our Regional identity. CHLs provide important information about, and opportunities for, understanding the events, processes and activities that have shaped, and are continuing to shape our region.
- Authenticity - CHLs often support ongoing traditions and reflect particular ways of life. CHLs allow people to participate in our Region’s cultural heritage continuum: learning from the multilayered past; enjoying the vibrancy of the present; and creating meaningful linkages for the future.
- Quality of Life - CHLs provide economic, environmental, social and cultural benefits through aesthetic, ecological, recreational and educational opportunities. Conserving CHLs will make our region a better place to live, work, play and visit.
A.3 Impacts of Undertaking a CHL Conservation Process

Undertaking a CHL conservation process ensures that cultural heritage resources are proactively identified and that the necessary information is available to effectively consider cultural heritage conservation at a landscape scale during the land use planning process.

Priority-based Planning – The CHL conservation process is a tool to manage change. The process will be used to better inform land use decisions and is not meant to negatively impact permitted land uses. Conservation of cultural heritage resources is very often one of many land use development priorities (i.e. increasing land-use density, economic development, encouraging tourism or recreation, environmental conservation, increasing transportation choice, providing affordable housing). Full consideration of all priorities, including CHL conservation, during the land use and infrastructure planning process will result in the best possible development or construction/rehabilitation solution that meets as many of the priorities as possible. Note: Normal farming practices are protected under the Farming and Food Protection Act and would not be impacted by CHL conservation.

Increased Transparency - The CHL conservation process requires Area Municipalities to proactively identify and document CHLs. Designating CHLs within an Official Plan, is a means to making municipal staff, developers, property owners and the public aware of the historically significant landscapes within the community that are to be conserved.

Informed Decision Making – Individually designated CHLs are supported by documentation in the form of a Technical Study which provides a Statement of Significance for the CHL, and inventories and maps the cultural heritage resources and attributes associated with the CHL. This research provides the foundation of information on which proposed development, site alteration and public works projects will be reviewed.

Effective Heritage Protection - Identifying and designating an area as a CHL does not provide automatic protection to the individual cultural heritage resources and attributes associated with the CHL. The CHL conservation process helps to identify the cultural heritage resources and attributes that must be protected in order to conserve the CHL and ensures that proposed development and site alteration undergoes heritage review.

Individual cultural heritage resources and attributes continue to be protected through existing and new Ontario Heritage Act designations, conservation easements, municipal register listings, and through the implementation of recommendations made within Cultural Heritage Impact Assessments.

A.4 Policy Context – Provincial Legislation

The Province requires municipalities to conserve significant CHLs and provides a variety of legislative planning and financing tools primarily under the Ontario Heritage Act, Provincial Policy Statement and Planning Act to municipalities for use in the conservation of cultural heritage resources, including CHLs.

A.4.1 The Ontario Heritage Act

The Ontario Heritage Act (OHA) provides three key tools for CHL conservation.
1. If a CHL is contained on a single property (i.e. farmstead, park, garden, estate, cemetery), a municipality can designate the CHL as an individual property under Part IV of the OHA.

2. If the CHL includes a grouping of properties, a municipality can designate the area as a Heritage Conservation District (HCD) under Part V of the OHA.

An OHA designation provides the strongest heritage protection available for conserving a CHL. It allows the municipality to deny demolition permits, to guide change through development review on and adjacent to the protected property(ies) and to control property alterations through a heritage permit system. Within the Region, there are currently eight CHLs designated as HCDs under Part V, and several other single property CHLs designated under Part IV of the OHA.

3. A municipality may list a CHL as an individual or grouping of non-designated property(ies) of heritage value or interest on their Municipal Heritage Register.

Under the OHA municipalities are required to maintain a Municipal Heritage Register that lists all designated and non-designated cultural heritage resources of heritage value or interest. The list is meant to provide easily accessible information about cultural heritage value for land-use planners, property owners, developers, the tourism industry, educators and the general public. Owners of listed properties must provide 60 days notice prior to demolition or removal of a building or structure, and the property may be subject to a Cultural Heritage Impact Assessment or Conservation Plan during the development review process.

**A.4.2 The Planning Act and the Provincial Policy Statement**

The Province has identified the conservation of cultural heritage resources including CHLs, as an area of Provincial Interest to be considered under the Planning Act and through the Provincial Policy Statement (PPS).

Under the guidance of the Planning Act, municipalities make local planning decisions and prepare planning documents including Official Plans. A municipal Official Plan sets out the municipality’s general planning goals and policies that will guide future land use, including the conservation of cultural heritage resources. These planning decisions and planning documents determine the future of their community and must be consistent with the Provincial Policy Statement and applicable provincial legislation.

The PPS, policy 2.6.1 states that “Significant built heritage resources and significant cultural heritage landscapes shall be conserved.” Conserved is defined as “the identification, protection, use and/or management of cultural heritage and archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment (HIA)”.

The initial step in conserving cultural heritage resources - identification, can take place under the OHA, as noted in the previous section, and/or in Official Plans, or other planning documents prescribed under the Planning Act, such as Council adopted inventories, plans or studies.

Identified cultural heritage resources are conserved through the requirement of Cultural Heritage Impact Assessments and/or Conservation Plans to support proposed development that has the potential to directly or indirectly impact the identified cultural heritage resource.
A.4.3 Provincial Resource Documents

The Ministry of Tourism, Culture and Sport (MOC) provides additional non-legislative resources to assist communities in the conservation of cultural heritage resources, such as toolkits and guides. The MOC outlines in the Ontario Heritage Toolkit, that cultural heritage resources should be identified, listed, researched, evaluated and protected. It is up to municipalities to use the most effective and appropriate tools available at each step of this process in order to ensure the ongoing conservation of the CHLs within their jurisdiction.

B. REGIONAL APPROACH

As stated in the previous section, the Province of Ontario requires that significant CHLs be conserved through the land use planning process using complementary policy provisions at the Provincial, Regional and Area Municipal level. The Province has provided a variety of CHL conservation tools, but a uniform province-wide approach to CHL conservation has not been established. The Region has therefore, in discussions with the Provincial and Area Municipal staff, developed the following Regional approach to CHL conservation.

The Regional CHL conservation approach incorporates the full spectrum of provincially legislated tools for CHL conservation and allows municipalities to choose the most appropriate conservation tool for each CHL. The chosen CHL conservation tool will be a reflection of the combined level of heritage conservation and change management desired by the municipality, public and property owners.

B.1 CHL Conservation under the Ontario Heritage Act

Currently, municipalities have three tools to conserve CHLs under the OHA:
- Part IV designation of an individual property;
- Part V designation of an Heritage Conservation District; and
- Listing of a CHL on the Municipal Heritage Register as an individual or grouping of non-designated property(ies) of heritage value or interest.

In order for a Municipal Heritage Register listing to conserve a CHL, the listing process must include: a full evaluation and documentation of the CHL; public consultation and Council approval; and provide the municipality the authority to conserve the CHL during the development review process.

The three CHL conservation tools under the OHA will continue to be used by Area Municipalities in the Region. As it is a well entrenched practice, the complete process for designating or listing a CHL under the OHA is not addressed as part of this Implementation Guideline. However, this Implementation Guideline may prove useful in the preliminary identification, evaluation and documentation of CHLs being conserved under the OHA.

B.2 CHL Conservation under the Planning Act

Although CHL conservation tools under the OHA have been available for many years, a large number of CHLs within the region remain unidentified with no landscape level conservation measures in place.
In order to assist with the conservation of the full range of CHLs within the region, the Region has developed policies in the Regional Official Plan which enable and require municipalities to conserve previously unidentified CHLs under the Planning Act by designating CHLs in their Official Plans.

Conserving CHLs under the Planning Act, the CHL conservation process outlined in this Regional Implementation Guideline, should be used as an alternative to CHL conservation under the OHA, when:

- There are multiple CHLs that a community needs to officially identify and conserve within a short time frame, using limited resources;
- OHA designation cannot currently be achieved and interim conservation is required;
- OHA Part IV and/or V designations are in place to protect individual property-based cultural heritage resources within a CHL, but do not conserve the larger context of the resources (e.g. the attributes of the CHL);
- Future impacts to the CHL can be addressed through requirements for CHIA on new development (i.e consents, zone change applications, Official Plan Amendments, and site plans), Conservation Plans, and/or through implementing planning and financial tools that support the conservation of the CHL (i.e. design guidelines, site specific zoning, financial incentives);
- There are opportunities for new development to enhance the existing character of the area and/or conserve the grouping of cultural heritage resources.

A comparison of the above mentioned CHL conservation tools can be found in Appendix F.

**B.3 Regional Policy**

The Regional Official Plan (ROP) contains the following policies specifically related to the conservation of CHLs.

**Cultural Heritage Landscapes**

3.G.5 The Region will prepare and update a Regional Implementation Guideline for Cultural Heritage Landscape Conservation. This guideline will outline the framework for identifying Cultural Heritage Landscapes, including Cultural Heritage Landscapes of Regional interest, and for documenting each individual landscape through a Cultural Heritage Landscape Conservation Plan (an amendment may be made to change this to CHL Technical Study) that includes:

(a) a statement of significance;

(b) a listing of the cultural heritage resources and attributes being conserved within the Cultural Heritage Landscape through the use of existing planning tools, such as Heritage Act designations, listings on the Municipal Register, official plan policies, secondary plans and zoning bylaws; and

(c) recommendations for additional conservation measures.

3.G.6 Area Municipalities will designate Cultural Heritage Landscapes in their official plans and establish associated policies to conserve these areas. The purpose of this designation is to conserve groupings of cultural heritage resources that together have greater heritage significance than their constituent elements or parts.
Designating a CHL in an Area Municipal Official Plan means identifying an individual CHL on a list and map or schedule contained in or appended to the Official Plan. Depending on the Area Municipal approach, the CHL can be designated as a legal part of the Official Plan or as a for information attachment with no legal policy status.

3.G.7 The Region will assist Area Municipalities with the preparation of Cultural Heritage Landscape Conservation Plan (an amendment may be made to change this to CHL Technical Study) for Cultural Heritage Landscapes of Regional interest.

3.G.13 Area Municipalities will establish policies in their official plans to require the submission of a Cultural Heritage Impact Assessment in support of a proposed development that includes or is adjacent to a designated property, or includes a non-designated resource of cultural heritage value or interest listed on the Municipal Heritage Register. (an amendment may be made in order to allow for the consideration of CHIAs within or adjacent to a Cultural Heritage Landscape)

Adjacent is defined as lands that are situated in sufficiently close proximity such that development or site alteration could reasonably be expected to produce a negative impact on an identified cultural heritage resource.


B.4 Area Municipal Policy

General policies for the conservation of CHLs must be included in an Area Municipal Official Plan (OP) in order for the plan to be consistent with the ROP and the PPS.

The Region recommends that the general CHL conservation policies include, but not be limited to a commitment by the Area Municipality to:

1) Identify and document individual CHLs through a Cultural Heritage Landscape Technical Study as outlined in ROP 3.G.5;
2) Designate individual CHLs in the Area Municipal Official Plan;
3) Review development and site alteration within or adjacent to designated Cultural Heritage Landscapes to ensure that the cultural heritage resources and attributes of the CHL will be conserved. A Cultural Heritage Impact Assessment may be required to assist the municipality in making this determination.

Associated CHL conservation policies may include a commitment by the municipality to:
- list and/or designate under the Ontario Heritage Act individual cultural heritage resources and attributes inventoried within a CHL;
- consider the impact of lot creation and/or reconstruction within the CHL;
- further investigate CHLs to identify additional and/or evolving cultural heritage resources and attributes; and
- promote the awareness, appreciation and enjoyment of CHLs.

B.5 Expectations and Outcomes of ROP Policies and Implementation Guideline

Implementation of the ROP CHL conservation policies using this Implementation Guideline will result in:
1. Comprehensive Region-wide identification and evaluation of CHLs;
2. Documentation of individual CHLs in CHL Technical Studies, to include but not be limited to:
   - an official name;
   - a statement of significance; and
   - an inventory and map of cultural heritage resources and attributes, with references to existing and recommended conservation measures;
3. Individually designated CHLs in Area Municipal Official Plans; and
4. Municipal authority to require a Cultural Heritage Impact Assessment to support proposed development and site alteration within or adjacent to an identified CHL.

C. CONSERVATION PROCESS

The following process for conserving CHLs under the Planning Act has been developed to ensure that CHLs are recognized early in the land use planning process, and that comprehensive information on the cultural heritage resources and attributes of the CHL are available when making land use decisions.

The CHL conservation process includes:

- identifying and documenting individual CHLs in a Technical Study that evaluates, inventories and maps the cultural heritage resources and attributes associated with the CHL and documents current and proposed conservation measures;
- designating of CHLs in Area Municipal Official Plans, excluding CHLs currently conserved under the Ontario Heritage Act; and
- reviewing proposed development, site alteration, and public works projects within or adjacent to designated CHLs to determine whether the cultural heritage resources and attributes associated with the CHL will be conserved.

Area Municipalities will incorporate general policies for the conservation of CHLs in their Official Plan to allow for the designating of any individual CHLs using the process outlined below. Information on general policies for CHL conservation at the Area Municipal level can be found in section A.5.4.

The CHL conservation process has seven key steps to be undertaken through the implementation of the guidelines in this document. The following chart outlines the connection of each key step to the associated guideline. A process chart is included on the following page.
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Step 1
Identification of Candidate CHLs

Candidate CHL #1  Candidate CHL #2  Candidate CHL #3  Candidate CHL #4  Candidate CHL #5

Step 2
Inventory & Mapping

(Each CHL will undergo the same process as CHL #1 from this point forward)

Step 3 & Step 4
Evaluation of Significance

Identification of “Significant” CHL

Regional Consultation
--
CHLs of Regional Interest

Step 5
NOT a “Significant” CHL
No further action

Documentation of CHL in a Technical Study

Step 6
(more than one CHL may be ready to designate at one time)

Preparation of Report Recommending CHL Designation through an Area Municipal Official Plan Amendment

Step 7

Designate CHL in Area Municipal Official Plan

Conservation of the CHL in the development review and EA processes through the requirement of CHIAs
D. GUIDELINES

I. Guideline for the Identification and Evaluation of CHLs

3.G.5 The Region will prepare and update a Regional Implementation Guideline for Cultural Heritage Landscape Conservation. This guideline will outline the framework for identifying Cultural Heritage Landscapes, including Cultural Heritage Landscapes of Regional interest, and for documenting each individual landscape through a Cultural Heritage Landscape Conservation Plan (an amendment may be made to change this to CHL Technical Study) that includes:

a) a statement of significance;

b) a listing of the cultural heritage resources and attributes being conserved within the Cultural Heritage Landscape through the use of existing planning tools, such as Heritage Act designations, listings on the Municipal Register, official plan policies, secondary plans and zoning bylaws; and

c) recommendations for additional conservation measures.

Application

In accordance with policy 3.G.5 of the Regional Official Plan, this guideline will apply when Area Municipal staff and Municipal Heritage Committees are identifying and evaluating the significance of the Candidate CHLs. A CHL that is determined to be a cultural heritage resource of Regional interest is also subject to policies 3.G.2, 3.G.14 and 3.G.15.

Purpose

The purpose of this guideline is to ensure an efficient, consistent, comprehensive and defensible process is used to identify CHLs worthy of conservation within the Region.

Guideline for the Identification and Evaluation of CHLs

A Cultural Heritage Landscape is a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts (Provincial Policy Statement, 2005).

Significant CHLs are to be conserved as required by the PPS section 2.6.1. All CHLs that are evaluated as significant using the process below, which is based on Ontario Heritage Act Regulation 9/06, shall be conserved.

Conservation means the identification, protection, use and/or management of cultural heritage and archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment (PPS 2005).
Candidate CHLs that are evaluated as *significant* will be referred to throughout the remainder of the conservation process as CHLs; those evaluated and found to not be *significant* will not be taken any further through the process and will no longer be referred to as CHLs.

1. **Area Municipal staff and Municipal Heritage Committees (MHC) will develop a list of Candidate CHLs** for their municipality.

   1.1 The list of Candidate CHLs will include, but not be limited to:
   
   a) areas that correspond to the **historic themes and associations** important to the community;
   
   b) areas that contain a **grouping of cultural heritage resources** identified through a visual survey; and
   
   c) landscapes **valued by the community** suggested by the public through consultations or in written documents such as local histories, planning documents, listings of important landscapes, etc.

   1.2 Municipalities may use the additional information and resources for identifying Candidate CHLs included in appendix A.

   1.3 Upon request, the Region will assist with the preliminary identification of Candidate CHLs.

   1.4 Area Municipalities and the Region will work together to develop shared or complementary conservation processes for **cross jurisdictional CHLs** such as those related to rivers, valleylands or agricultural practices.

2. **The Region will review the list of Candidate CHLs and indicate if any of the Candidate CHLs are of Regional interest, and/or provide a list of CHLs of Regional interest to the Area Municipality to be considered for conservation**

   2.1 Identification of CHLs of Regional interest will take place in accordance with the *Regional Implementation Guideline for Conserving Regionally Significant Heritage Resources* based on the Criteria for Regionally Significant Heritage Resources (RSHR) adopted by Regional Council in 2002 (P-02-083) (see appendix E).

3. **For each Candidate CHL, an inventory of cultural heritage resources and attributes** will be created to include but not be limited to:

   - Buildings and structures,
   - Architectural details,
   - Landmarks,
   - Views,
   - Natural features (water, topography),
   - Vegetation,
   - Archaeological resources,
   - Land-use patterns,
   - Circulation networks,
   - Boundary/linear features,
   - Public access, and
   - Open space.

   3.1 The Inventory of cultural heritage resources and attributes will be included in the CHL Technical Study.
4. A Candidate CHL will be geographically defined through **detailed mapping** of the *cultural heritage resources* and *attributes*.

4.1 For the purpose of designating in an Official Plan, the CHL may be mapped with a simple location marker in the Official Plan such as an unbounded shape or asterisk, with detailed mapping included in the CHL Technical Study.

4.2 Mapped **boundaries and/or buffer zone(s)** may be included if they aid in the conservation of the CHL. Demarcating a firm boundary for a landscape that is organic and continues to evolve is not required.

4.3 Development review and Environmental Assessment will take place on lands that are within or *adjacent* to the CHL.

5. The **significance** of each Candidate CHL will be evaluated based on a three pronged approach, related to the PPS definition of a CHL, to include the: cultural heritage value or interest; historical integrity; and community value of the landscape.

5.1 A Candidate CHL that has cultural heritage value or interest, historical integrity and community value is **significant** and should be recommended for being designated in the Area Municipal Official Plan.

6. Criteria for determining **cultural heritage value or interest** of a CHL is based on the criteria used to evaluate the cultural heritage value or interest of other forms of *cultural heritage resources* provided by the Province in Ontario Regulation 09/06. Municipalities may use the chart in appendix B to evaluate the cultural heritage value or interest of each CHL.

6.1 The findings of the cultural heritage value or interest evaluation are summarized in a CHL **Statement of Cultural Heritage Value or Interest**.
7. **Historical integrity** is a measure of: how well the existing landscape physically reflects the landscape of the past; and the functional continuity of the landscape over time. In order to measure integrity, the historic context of the landscape in terms of use, relationships, views, circulation networks, boundaries, etc. must be understood. Municipalities may use the chart in appendix C to gather information to evaluate the historic integrity of each CHL.

7.1 The findings of the Historic Integrity evaluation of a CHL are summarized in a CHL **Statement of Historical Integrity**.

8. The PPS states that a CHL must be **valued by the community**. Community value can be evaluated by determining the presence of indicators of community value. Municipalities may use the chart in appendix D to gather information to evaluate the community value of each CHL.

8.1 The findings of the Community Value evaluation of a CHL are summarized in a CHL **Statement of Community Value**.

9. An overall **Statement of Significance** which combines the cultural heritage value or interest, historical integrity and community value of the Candidate CHL will be developed.

9.1 The Statement of Significance provides the justification for conserving the CHL.

9.2 Research completed to support the evaluation of significance will be included in the CHL Technical Study.

10. For organic and/or evolving landscapes, the inventory, mapping and measures of significance must illustrate and evaluate the evolution of the landscape over time.
II. Guideline for the Preparation of a CHL Technical Study

3.G.5 The Region will prepare and update a Regional Implementation Guideline for Cultural Heritage Landscape Conservation. This guideline will outline the framework for identifying Cultural Heritage Landscapes, including Cultural Heritage Landscapes of Regional interest, and for documenting each individual landscape through a Cultural Heritage Landscape Conservation Plan (an amendment will be made to change this to CHL Technical Study) that includes:
   a) a statement of significance;
   b) a listing of the cultural heritage resources and attributes being conserved within the Cultural Heritage Landscape through the use of existing planning tools, such as Heritage Act designations, listings on the Municipal Register, official plan policies, secondary plans and zoning bylaws; and
   c) recommendations for additional conservation measures.

3.G.7 The Region will assist Area Municipalities with the preparation of Cultural Heritage Landscape Conservation Plans (an amendment will be made to change this to CHL Technical Studies) for Cultural Heritage Landscapes of Regional Interest.

Application
In accordance with policies 3.G.5 and 3.G.7 of the Regional Official Plan, this guideline will apply when a Cultural Heritage Landscape Technical Study is being developed for a Candidate CHL being recommended for conservation.

Purpose
The purpose of this guideline is to ensure appropriate and consistent methods and report formats are applied in the preparation of CHL Technical Studies.

Compliance with these guidelines will:
- Enable the documentation of the CHL’s cultural heritage resources and attributes, with references to existing and recommended conservation measures;
- provide the base research needed by consultants to undertake an effective Cultural Heritage Impact Assessment (CHIA); and
- help to minimize the time required to prepare a CHL Technical Study.

Guideline for the Preparation of a CHL Technical Study

The CHL Technical Study is an important resource document developed and maintained by the municipality, in consultation with Municipal Heritage Committees and/or community stakeholders.
The CHL Technical Study builds on the information gathered during the CHL identification and evaluation process. The document includes all of the information gathered during the identification and evaluation of the Candidate CHL as well as information on the current and future heritage conservation measures associated with the CHL.

1. **The CHL Technical Study** will include, but is not limited to:

   - **Existing Information from the Identification and Evaluation of the Candidate CHL**
     - the **Statement of Significance** (Cultural Heritage Value, Historical Integrity and Community Value) (see section 2 below);
     - an **Inventory and Map** of the Cultural Heritage Resources and Attributes of the landscape (see section 3 below);

   - **Additional Information**
     - an analytical listing of **current and recommended conservation measures** for the Cultural Heritage Resources and Attributes of the CHL (see section 4 below);

   - **Recommended but Optional Information**
     - a **shared vision** for the CHL (see section 5 below); and
     - a **management strategy** for the CHL (see section 6 below).

1.1 The Region will assist area municipalities in the preparation of CHL Technical Studies for CHLs of Regional interest.

1.2 The Technical Study will be **made available to consultants** preparing CHIAs for proposed development, site alteration and public works projects within and adjacent to the CHL.

1.3 CHL Technical Studies are **evolving documents** which will require updating as land use and policy changes are made.

2. **The Statement of Significance** is a brief summary of the cultural heritage value or interest, historical integrity and community value of the CHL as developed during the evaluation of significance of the Candidate CHL.

3. The comprehensive **Inventory and Map** of Cultural Heritage Resources and Attributes includes, but not be limited to: buildings and structures; architectural details; landmarks; views; natural features; vegetation; archaeological resources; land-use patterns; circulation networks; boundary/linear features; public access; and/or open space as developed for the Candidate CHL.

4. **The Analytical Listing of Conservation Measures** for the cultural heritage resources and attributes of the CHL includes, but not be limited to:

   - a **comprehensive listing** of existing conservation measures;
   - a **thorough evaluation** of the ability of the existing conservation measures to conserve the inventoried heritage features and their context; and
   - **recommendations** for additional conservation measures where needed.

4.1 CHL conservation measures may include, but are not limited to the following planning and financial tools:

   - Protection of individual properties under the Ontario Heritage Act through designation or conservation easements;
- Protection of a specific areas within the CHL as Heritage Conservation Districts (HCD) under the Ontario Heritage Act and through related HCD policies, guidelines, studies and plans;
- Listing of individual or groupings of non-designated property(ies) on the Municipal Heritage Register;
- Official Plan policies (i.e. settlement boundaries, land designations);
- Secondary or Community Plan policies;
- Community Improvement Plans;
- Area design guidelines;
- Corridor management plans or scenic corridor designations;
- Park management plans;
- Height, massing and setback restrictions that maintain the character of an area, implemented through zoning and/or site plan control;
- Demolition control;
- Subdivision development agreements;
- Stewardship activities;
- Financial incentives for OHA designated properties or within Community Improvement Plan areas
- Public education and heritage resource interpretation, etc.

4.2 The analytical listing of conservation measures process will assist in highlighting vulnerable cultural heritage resources and attributes and will result in recommendations for improved conservation measures.

5. A Shared Vision for the CHL may be created by community stakeholders based on the collective understanding of the significance of the CHL; its cultural heritage value, historical integrity and community value.

6. A Management Strategy may be developed that records what role the community will play in maintaining and enhancing the significance of the CHL. The Management Strategy could include:
   - a list of actions and a schedule for their implementation; and
   - a plan to monitor the impact of CHL conservation

7. A CHL Technical Study that includes all of the following may be referred to as a CHL Conservation Plan (based on Ministry of Culture, Tourism and Sport – Info Sheet #5):
   - Identification of the conservation principles appropriate for the type of cultural heritage resource being conserved;
   - Analysis of the cultural heritage resource, including documentation of the resource, descriptions of cultural heritage value or interest, assessment of the resource conditions and deficiencies, discussion of historical, current and proposed use;
   - Recommendations for conservation measures and interventions, short or long term maintenance programs, implementation, and the qualifications for anyone responsible for the conservation work;
   - Schedule for conservation work, inspection, maintenance, costing, and phases of the rehabilitation or restoration work; and
   - Monitoring of the cultural heritage resource and the development of a long term reporting structure.
Regional Official Plan

3.G.6 Area Municipalities will designate Cultural Heritage Landscapes in their official plans and establish associated policies to conserve these areas. The purpose of this designation is to conserve groupings of cultural heritage resources that together have greater heritage significance than their constituent elements or parts.

Designation of a CHL in an Area Municipal Official Plan means to identify each individual CHL on a list and map or schedule contained in or appended to the Area Municipal Official Plan. Depending on the Area Municipal approach, the designated CHL can form a legal part of the Official Plan, or be provided solely as information with no legal policy status.

Application

In accordance with policy 3.G.6 of the Regional Official Plan, this guideline will apply when Area Municipalities designate a CHL in their Official Plan.

Purpose

The purpose of this guideline is to ensure appropriate and consistent methods and approaches are applied when designating CHLs in Area Municipal Official Plans.

Designating a CHL within an Official Plan:
- enables a community to proactively identify a valued cultural heritage resource;
- is a means to making property owners and applicants aware of the presence of CHLs; and
- allows municipalities to require a Cultural Heritage Impact Assessment (CHIA) to ensure that proposed development, site alteration and/or public works projects conserve the cultural heritage resources and attributes of the CHL.

Guideline for the Designating CHLs in an Official Plan

1. Area Municipal Official Plans will include general policies for the conservation of significant CHLs.

   1.1 These policies will include a commitment by the municipality to: identify and document individual CHLs through a Cultural Heritage Landscape Technical Study as outlined in ROP 3.G.5; designate individual CHLs in the Area Municipal Official Plan; and review development, site alteration and public works projects within or adjacent to designated CHLs to ensure that the cultural heritage resources and attributes of the CHL will be conserved.

2. Area Municipal Official Plans will designate CHLs.

   2.1 The Official Plan will identify the designated CHL using an official name, a statement of significance and a general location map of the CHL, and may include additional CHL conservation policies and/or a detailed map.
2.2 A **report that recommends designating** a CHL through an amendment to the Official Plan will be prepared to include:
- Official CHL Name
- Reason for Designating - Statement of Significance
- Impacts of Designating, including but not limited to the documentation of the CHL in a CHL Technical Study and the potential requirement of a Cultural Heritage Impact Assessment for proposed *development* and *site alteration* within and *adjacent* to the CHL.

2.3 The CHL Technical Study shall be provided to support the recommendation.

2.4 Standard procedures for Official Plan Amendments under the Planning Act will be followed with respect to giving notice, providing information and public consultation.

4. Area Municipalities may have additional processes and methods for identifying and conserving CHLs so long as they result in:
   a) Comprehensive identification and evaluation of CHLs;
   b) Documentation of each CHL, to include but not be limited to: an official name; a statement of significance; and an inventory and map of *cultural heritage resources* and *attributes*, with references to existing and recommended conservation measures; and
   c) The municipal authority to require a Cultural Heritage Impact Assessment to support proposed *development* and *site alteration* within and *adjacent* to identified CHLs.
IV. Guideline for the Conservation of a Cultural Heritage Landscape through a Cultural Heritage Impact Assessment

Regional Official Plan

3.G.6 Area Municipalities will designate Cultural Heritage Landscapes in their official plans and establish associated policies to conserve these areas. The purpose of this designation is to conserve groupings of cultural heritage resources that together have greater heritage significance than their constituent elements or parts.

Conserve: the identification, protection, use and/or management of cultural heritage and archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be address through a conservation plan or heritage impact assessment.

3.G.13 Area Municipalities will establish policies in their official plans to require the submission of a Cultural Heritage Impact Assessment in support of a proposed development that includes or is adjacent to a designated property, or includes a non-designated resource of cultural heritage value or interest listed on the Municipal Heritage Register (an amendment will be made in order to allow for the consideration of CHIAs within or adjacent to a Cultural Heritage Landscape).

Adjacent will be defined as lands that are situated in sufficiently close proximity such that development, site alteration or public works could reasonably be expected to produce a negative impact on an identified cultural heritage resource.

Application
In accordance with policies 3.G.6 and 3.G.13 of the Regional Official Plan, this guideline will apply when development, site alteration or public work is proposed within or adjacent to a designated CHL.

Purpose
The purpose of this guideline is to ensure that Cultural Heritage Impact Assessments (CHIA) are required when appropriate and completed effectively, in order to facilitate the conservation of the cultural heritage resources and attributes associated with a CHL during the land use planning and development process and when public works projects are undertaken.

Guideline for the Conservation of a CHL through a Cultural Heritage Impact Assessment

1. Proposed development, site alteration and public works projects within and adjacent to a designated cultural heritage landscape will be reviewed by area municipal staff to determine whether the cultural heritage resources and attributes of the CHL will be conserved. To assist in the determination a CHIA may be required.
1.1 A **Cultural Heritage Impact Assessment** (CHIA) should be required if the proposed development, site alteration or public work project may result in any of the following list of potential negative impacts (source: Ministry of Culture, Tourism and Sport - InfoSheet #5):

- **Destruction** of any, or part of any, cultural heritage resource or attribute of the CHL
- **Alteration** that is not sympathetic to, or is incompatible with, the historic fabric and appearance of the CHL
- Creation of **shadows** that alter the appearance of cultural heritage resource or attributes, or change the viability of associated vegetation
- **Isolation** of a cultural heritage resource or attribute from its surrounding environments, context or significant relationship
- **Direct or indirect obstruction** of a significant view or vista within, from or of built and natural features
- **Change in land use** where the change in land use negates the property's cultural heritage value or interest
- **Land disturbance** such as change in grade that alter soils, and drainage patterns that adversely affect a cultural heritage resource or attribute
- Increase in other disturbances such as noise and/or traffic in or near the CHL that impacts the property's cultural heritage value or interest

2. Public works projects within and adjacent to a designated cultural heritage landscape may be subject to a CHIA as part of the Environmental Assessment process. CHIAs may be scoped or waived based on the potential negative impacts of the proposed work.

3. Proposed development, site alteration and public works projects that have the potential to impact a heritage resource of Regional interest will require a Cultural Heritage Impact Assessment (CHIA) that will be provided to the Region for comment as part of the heritage review process.

4. Where it is determined that a CHIA is required, the CHIA will be prepared by a qualified professional with expertise in cultural heritage landscapes.

5. The CHIA will contain, but not be limited to, the following (based on the Ministry of Culture, Tourism and Sports - Info Sheet #5):

- Historical research, site analysis and evaluation of the CHL, if not previously undertaken by the municipality;
- Identification of the significance and cultural heritage resources and attributes of the CHL;
- A description of the proposed development or site alteration;
- An assessment of the impacts of the proposed development or site alteration on the CHL;
- Consideration of alternatives, mitigation and conservation measures that may reduce the adverse effects of the proposed development or site alteration;
- A schedule and reporting structure for implementing the recommended conservation or mitigative or avoidance measures and for monitoring the CHL as the proposed development or site alteration progresses; and
- A summary statement and conservation recommendations.
6. Development proponents and municipal staff are encouraged to consult with Area Municipal planning staff and cultural heritage professionals early in the planning process. Early consultation will provide access to any available background information, ensure that cultural heritage resources are appropriately identified, and enable opportunities for project design to maximize enhancement of and minimize negative impacts to the CHL.

E. GLOSSARY OF DEFINITIONS

**Attribute** - A quality or characteristic inherent in or ascribed to a cultural heritage landscape. These include, but are not limited to: architectural details; land-use patterns; circulation networks; relationships between built and natural heritage resources; public access; and/or open space.

**Heritage attributes** - Means the principal features, characteristics, context and appearance that contribute to the cultural heritage significance of a protected heritage property (PPS).

**Built heritage resources** – one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to the community. These resources may be identified through designation or heritage conservation easement under the Ontario Heritage Act, or listed by local, regional, provincial or federal jurisdictions (PPS/ROP).

**Conserve/conserved (for the purposes of ROP Chapter 3)** – the identification, protection, use and/or management of cultural heritage and archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment (PPS/ROP).

**Adjacent** – means lands that are situated in sufficiently close proximity such that development, site alteration or a public works project could reasonably be expected to produce a negative impact on an identified cultural heritage resource (revised ROP – Contiguous)

**Cultural Heritage Impact Assessment** – a study to determine if cultural heritage resources will be negatively impacted by a proposed development, site alteration or public works project. It can also demonstrate how the cultural heritage resource will be conserved in the context of redevelopment, site alteration or public works improvement. Mitigative or avoidance measures or alternative development approaches may also be recommended (revised ROP).

**Cultural heritage landscape** – a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts (PPS/ROP).

**Cultural heritage resources** – the physical remains and the intangible cultural traditions of past human activities. These include, but are not limited to:

- buildings (residential, commercial, institutional, industrial and agricultural);
- cultural heritage landscapes (designed, organic/evolved);
- structures (water tower; bridge, fence and dam);
monuments (cenotaph, statue and cairn);
archaeological resources;
cemeteries;
scenic roads;
vistas/viewsheds;
culturally significant natural features (tree and landform);
movable objects (archival records and artifacts); and

cultural traditions (language, stories, music, dance, food, celebrations, art and crafts) (ROP).

Development – the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act (ROP).

Development application – an application for approval under the Planning Act. Development applications may include applications for approval of the following: Plans of Subdivision; Plans of Condominium; Consent; Part Lot Control Exemption By–laws; Official Plan Amendments; and Zone Change Applications. Development applications do not include site plans (ROP).

Protected heritage property - means real property designated under Parts IV, V or VI of the Ontario Heritage Act; heritage conservation easement property under Parts II or IV of the Ontario Heritage Act; and property that is the subject of a covenant or agreement between the owner of a property and a conservation body or level of government, registered on title and executed with the primary purpose of preserving, conserving and maintaining a cultural heritage feature or resource, or preventing its destruction, demolition or loss (PPS).

Significant – means (g) in regard to cultural heritage and archaeology, resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people. Criteria for determining significance for the resources identified in sections (c)-(g) are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used (PPS/ROP).

Site alteration – activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site (PPS/ROP).

Site plan – a plan prepared under Section 41 of the Planning Act which details building location and design as well as other site specific considerations such as walkways, landscaping, lighting and storage areas (PPS/ROP).
F. REFERENCE LIST


Appendix A – Resource to Assist with CHL Identification

1) Develop a list of historic themes and associations important to your community and list the corresponding landscapes within the community.

The historical context of your community provides a solid foundation for identifying significant cultural heritage resources including Candidate CHLs. *Cultural Heritage Landscapes in Waterloo Region (2004)* lists Regional Themes and Associations based on the ‘Topical Organization of Ontario’s History’ developed by the Ontario Ministry of Natural Resources in 1972.

A similar listing may already exist or could be developed for your Area Municipality. The consultant’s report above contains a short history of each municipality that could be used as a starting point. The list of historic themes and associations will aide in both the identification and evaluation of Candidate CHLs.

2) Undertake a visual survey of your community and list areas that contain grouping of cultural heritage resources.

In addition to visually surveying the landscape, you can consult land records, maps, photographs, works of art, tourism information and undertake site visits to aide in the identification of areas within the community that may have the physical qualities of a candidate CHL. Landscapes may be agricultural, historic settlements, industrial, institutional, natural, residential, etc.

3) Ask the public to make suggestions of landscapes or “outdoor places” that they value. In addition, consult the listings of important landscapes that have been developed for various reasons in the past.

Sample Questions to Ask Your Community
Which landscapes or outdoor places in your community…
   … help to tell the history of your community?
   … are notable due to their design or physical form?
   … create a sense of place?
   … are continuing to shape the character and identity of your community?
   …etc.

Potential Source Documents
- local histories
- planning documents
- listings of important landscapes
Appendix B – Criteria for Heritage Value or Interest

The following chart can be used as a framework to record information about the cultural heritage value or interest of a landscape. These criteria are based on the criteria provided by the Ministry of Tourism and Culture in Regulation 9/06 under the Ontario Heritage Act. The cultural heritage value and interest of the individual cultural heritage resources within the landscape will add to the overall value and interest of the landscape as a whole.

<table>
<thead>
<tr>
<th>Cultural Heritage Value or Interest Criteria</th>
<th>✓</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The landscape has <strong>design value or physical value</strong> because it,</td>
<td></td>
<td>is rare, unique, representative or an early example of a landscape (style, trend, movement, school of theory, type, expression, material use or construction method, settlement pattern, time period or lifeway)</td>
</tr>
<tr>
<td></td>
<td>displays a high degree of design or aesthetic appeal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>demonstrates a high degree of technical or scientific achievement</td>
<td></td>
</tr>
<tr>
<td>The landscape has <strong>historical value or associative value</strong> because it,</td>
<td></td>
<td>has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community</td>
</tr>
<tr>
<td></td>
<td>yields, or has the potential to yield, information that contributes to an understanding of a community or culture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community</td>
<td></td>
</tr>
<tr>
<td>The landscape has <strong>contextual value</strong> because it,</td>
<td>is important in defining, maintaining or supporting the character of an area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>is physically, functionally, visually or historically linked to its surroundings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>is a landmark</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C – Indicators of Historical Integrity

The following chart can be used as a framework to record information that would indicate that a landscape has historical integrity. These examples are not exclusive and may not be appropriate for all CHLs.

<table>
<thead>
<tr>
<th>Historical Integrity Criteria</th>
<th>√</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land use</strong></td>
<td></td>
<td>The landscape has had continuity in use and or in a compatible use (agricultural, commercial, residential or institutional).</td>
</tr>
<tr>
<td><strong>Ownership</strong></td>
<td></td>
<td>There has been a continuity of ownership or occupation of the site, dating to an historic period.</td>
</tr>
<tr>
<td><strong>Built Elements</strong></td>
<td></td>
<td>The buildings and other built elements (fences, walls, paths, bridges, corrals, pens, garden features, lighting, sidewalks, fountains, piers, etc.) have survived in their historic form and in relatively sound condition.</td>
</tr>
<tr>
<td><strong>Vegetative Elements</strong></td>
<td></td>
<td>“Designed” plantings (hedgerows, windrows, gardens, shade trees, etc.) are still evident and their traditional relationship to buildings, lanes, roadways, walks and fields are still discernible.</td>
</tr>
<tr>
<td><strong>Cultural Relationships</strong></td>
<td></td>
<td>The relationships between historic buildings and other built and designed elements (yards, fields, paths, parks, gardens, etc.) are intact.</td>
</tr>
<tr>
<td><strong>Natural Features</strong></td>
<td></td>
<td>Prominent natural features (cliff, stream, etc.) remain intact.</td>
</tr>
<tr>
<td><strong>Natural Relationships</strong></td>
<td></td>
<td>The historical relationships to prominent natural features still exist both for the site as a whole and within the site.</td>
</tr>
<tr>
<td><strong>Views</strong></td>
<td></td>
<td>The existing views of and within the site can be closely compared to the same view captured in a historic photo.</td>
</tr>
<tr>
<td><strong>Ruins</strong></td>
<td></td>
<td>Ruins and overgrown elements still convey a clear ‘message’ about the site’s history.</td>
</tr>
<tr>
<td><strong>Designed Landscapes</strong></td>
<td></td>
<td>Changes to a designed landscape can be corrected so that the property retains integrity versus being irrevocable.</td>
</tr>
</tbody>
</table>
Appendix D – Indicators of Community Value

The following chart can be used as a starting point to record information that may indicate that a landscape is valued by the community. These examples are not exclusive and/or may not be appropriate for all CHLs.

<table>
<thead>
<tr>
<th>Indicators that a CHL is valued by the community</th>
<th>√</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community Identity</strong></td>
<td></td>
<td>The landscape contributes to the community’s identity and is used to tell the story of the community</td>
</tr>
<tr>
<td><strong>Landmark</strong></td>
<td></td>
<td>The area is widely recognized as a landmark</td>
</tr>
<tr>
<td><strong>Pride and Stewardship</strong></td>
<td></td>
<td>The community demonstrates a high degree of pride and stewardship in the area (heritage designations, plaques, voluntary upkeep)</td>
</tr>
<tr>
<td><strong>Commemoration</strong></td>
<td></td>
<td>The area or elements within the area are named to celebrate or commemorate someone or something</td>
</tr>
<tr>
<td><strong>Public Space</strong></td>
<td></td>
<td>The area is a site of frequent or longstanding public gatherings or events</td>
</tr>
<tr>
<td><strong>Cultural Traditions</strong></td>
<td></td>
<td>People use the area to express their cultural traditions</td>
</tr>
<tr>
<td><strong>Quality of Life</strong></td>
<td></td>
<td>Aspects of the landscape are valued for their impact on day to day living</td>
</tr>
<tr>
<td><strong>Local History</strong></td>
<td></td>
<td>The place is written about in local histories or spoken about through local stories or lore</td>
</tr>
<tr>
<td><strong>Visual Depiction</strong></td>
<td></td>
<td>The location is widely photographed or depicted in works of art (visual, literary, etc.)</td>
</tr>
<tr>
<td><strong>Genius loci</strong></td>
<td></td>
<td>People refer to the area as having a distinctive atmosphere or pervading ‘sense of place’</td>
</tr>
<tr>
<td><strong>Community Image</strong></td>
<td></td>
<td>The area is identified with the community image (e.g. appearing in promotions or marketing material)</td>
</tr>
<tr>
<td><strong>Tourism</strong></td>
<td></td>
<td>The area is promoted as a tourist destination</td>
</tr>
<tr>
<td><strong>Planning</strong></td>
<td></td>
<td>The area has been identified through another planning process as being unique</td>
</tr>
</tbody>
</table>
## Appendix E – Criteria for Regional Significance

<table>
<thead>
<tr>
<th>Recognized/Protected</th>
<th>CRITERIA FOR IDENTIFYING A REGIONALLY SIGNIFICANT HERITAGE RESOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old/Rare</td>
<td>The Region will identify cultural heritage resources of Regional interest.</td>
</tr>
<tr>
<td>Outstanding Design</td>
<td>To be identified as being of Regional interest a cultural heritage resource must meet four (4) or more of the following criteria:</td>
</tr>
<tr>
<td>Associated with a Key Person</td>
<td>1. It is, or it contains element(s) that are, recognized on a municipal, regional, provincial or national heritage list;</td>
</tr>
<tr>
<td>Associated with a Key Event</td>
<td>2. It dates from a prehistoric or early historical period in the development of the region, province or nation;</td>
</tr>
<tr>
<td>Illustrates Community’s Development</td>
<td>3. It is, or contains element(s) that are, a representative example of the work of an outstanding regional, national or international architect, engineer, builder, designer, landscape architect, interior designer or sculptor;</td>
</tr>
<tr>
<td>Provides Context</td>
<td>4. It is associated with a person(s) who is recognized as having made a significant contribution to the social, cultural, political, economic, technological or physical development or as having materially influenced the course of regional, provincial, national or international events;</td>
</tr>
<tr>
<td>Economic Resource</td>
<td>5. It is directly associated with an historic event which is recognized as having regional, provincial, national or international importance;</td>
</tr>
<tr>
<td>Regional Character</td>
<td>6. It is a significant example and illustration of the region’s prehistoric or historic social, cultural, political, economic or technological development;</td>
</tr>
<tr>
<td>Part of a Collection</td>
<td>7. It contributes to the effectiveness of the urban and rural composition, streetscape, viewshed, or landscape of which it may form a part;</td>
</tr>
<tr>
<td></td>
<td>8. It has the potential for contributing to commercial tourist or other development that is based on heritage and/or culture;</td>
</tr>
<tr>
<td></td>
<td>9. It is, or contains elements that are, a good example of vernacular architecture or part of a group of similar bridges/ structures/ landscapes which contribute to the particular “look” of the area or region;</td>
</tr>
<tr>
<td></td>
<td>10. It is part of a group of historically associated structures which may be totally within the region or which may be part of a larger area within the context of the Grand River (a nationally designated Heritage River).</td>
</tr>
</tbody>
</table>
## Appendix F – CHL Conservation Tools Comparison

<table>
<thead>
<tr>
<th></th>
<th>Designating in an Official Plan</th>
<th>OHA Municipal Register Listing</th>
<th>OHA Part IV Designation</th>
<th>OHA Part V Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifies the area as a <em>cultural heritage resource</em></td>
<td>Yes, in Official Plan</td>
<td>Yes, on the MHR</td>
<td>Yes, on title and on the MHR</td>
<td>Yes, on title (post-2005) and on the MHR</td>
</tr>
<tr>
<td>Requires the documentation of the landscape</td>
<td>Yes, through a CHL Technical Study, to include: (a) a statement of significance; (b) a listing (and map) of the <em>cultural heritage resources</em> and <em>attributes</em> being conserved within the <em>Cultural Heritage Landscape</em> through the use of existing planning tools; and (c) recommendations for additional conservation measures.</td>
<td>Yes, evaluation form and Statement of Significance including location</td>
<td>Yes, evaluation form, Statement of Significance and Designating By-law, including location</td>
<td>Yes, through an HCD Study and then an HCD Conservation Plan, to include: (a) objectives to be achieved through the designation; (b) a statement of significance for the district; (c) an inventory of heritage <em>attributes</em>; (d) policies for enhancing the district; (e) guidelines which describe the type of work or development that council would find acceptable; and (f) a description of external alterations that would not require a heritage permit.</td>
</tr>
<tr>
<td>Plan takes precedence in the event of a conflict with existing municipal zoning and other bylaws that were in place prior to the designation.</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Enables the municipality to require a Cultural Heritage Impact Assessment (CHIA) on proposed development and</td>
<td>Yes</td>
<td>Within – Yes Adjacent – No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>site alteration within or adjacent to the CHL</td>
<td>Allows the municipality to make financial grants or incentives available to heritage property owners.</td>
<td>Only for OHA protected properties or if the CHL is part of an approved Community Improvement Plan.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Provides the municipality with the power to decide whether alterations, new construction or demolition can take place within the CHL.</td>
<td>No</td>
<td>Alterations and new construction – yes if associated with a development application Demolition – yes through delay of demolition and opportunity to designate under the OHA</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Allows the municipality to develop and enforce heritage property standards.</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Designation process is appealable to the Ontario Municipal Board</td>
<td>Yes</td>
<td>No</td>
<td>No – But can be objected to, and referred to the Conservation Review Board for a non-binding recommendation</td>
<td>Yes</td>
</tr>
</tbody>
</table>
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: D09-30/GTAWC

SUBJECT: GREATER TORONTO AREA WEST CORRIDOR – UPDATE

RECOMMENDATIONS:

THAT the Regional Municipality of Waterloo advise the Ontario Ministry of Transportation (MTO) that the Draft Transportation Development Strategy for the Greater Toronto Area (GTA) West Corridor will not provide sufficient infrastructure for the long term to connect Waterloo Region, Wellington County and the City of Guelph to the Greater Toronto Area, as described in Report No. P-12-089, dated August 14, 2012;

THAT the Regional Municipality of Waterloo support the Group 1 (Optimize Existing Networks) and Group 2 (New/Expanded Non-Road Infrastructure) elements of the Draft Transportation Development Strategy for the GTA West Corridor;

THAT the Regional Municipality of Waterloo formally request MTO to confirm the Region of Waterloo’s participation in the forthcoming Provincial Active Traffic Management Study;

THAT the Regional Municipality of Waterloo request MTO to defer its decision on the western portion of the final transportation network until the completion of the Waterloo-Wellington-Brant inter-regional transportation planning initiative;

THAT the Regional Municipality of Waterloo request MTO to prioritise enhancement of the GO Rail service to Kitchener-Waterloo, and the extension of service to Cambridge, to reduce travel demand on Highway 401;

THAT MTO be requested to provide a formal response to the concerns expressed by Region of Waterloo Council, as described in this report;

AND THAT this report be circulated to the Minister of Transportation, all area Members of Provincial Parliament, and to the City of Guelph and the County of Wellington.

SUMMARY:

The Ontario Ministry of Transportation (MTO) has been undertaking an Environmental Assessment for the Greater Toronto Area (GTA) West Corridor to accommodate increased transportation demand because of projected population and employment growth in Southern Ontario. A Public Information Centre in June 2012 described the results of a route planning study that identified the preferred alignment of the new highway corridor. The alignment would connect with the Highway 401/407 interchange east of Milton, and would also require widening of Highway 401 to 12 lanes west to Halton Regional Road 25.

The GTA West Corridor is anticipated to be constructed by 2027 or later. Highway 401 west of the GTA Corridor is expected to reach capacity shortly after 2031. A longer term analysis beyond 2031 should be undertaken to identify sufficient transportation infrastructure to connect Waterloo Region,
Wellington County and the City of Guelph to the GTA. The Region is working with MTO on an inter-regional transportation planning initiative. It would be premature to make a final decision on the GTA West Corridor terminus until the inter-regional transportation planning initiative is complete.

**REPORT:**

**Background**

Since 2007, the Ministry of Transportation (MTO) has undertaken an Environmental Assessment to study the Greater Toronto Area (GTA) West Corridor. Attachment 1 shows the project in context with other MTO initiatives. In March 2011, MTO released the Draft Transportation Development Strategy that describes short term (0-5 years), medium term (5-15 years) and long term (15-25 years) elements, as follows:

- **Short Term:** Transportation system efficiency improvements, Transportation Demand Management programs, and public transit improvements
- **Medium Term:** Detailed studies of highway widening and new corridors
- **Long Term:** Construction of widened highways/new corridors identified in the medium term

The strategy determined that existing highways, including Highway 401, need to be widened, and a new corridor north of Highway 401 needs to be built. This new corridor would connect Highway 400 in the north of Vaughan to Highway 401 in the Milton area. However, MTO was unable to determine the best connection location to Highway 401 at that time. MTO recommended a route planning study to evaluate the implications of the new corridor connection locations.

In Report P-11-054 (May 24, 2011), Regional Council endorsed the Transportation Development Strategy and requested participation in an upcoming Provincial Active Traffic Management Study that will examine some of the short term elements noted above. Regional staff also recommended that MTO consider a planning horizon for the new corridor alternatives beyond 2031.

MTO presented the results of the route planning study at a Public Information Centre in June 2012. The study recommended that the western limit of the GTA West Corridor should end at the Highway 401/407 interchange, to the east of Milton. To accommodate east-west traffic across Milton, Highway 401 would need to be widened to 12 lanes, including two high occupancy vehicle lanes (Attachment 2). The project team found that this alternative would provide the best combination of benefits and impacts to transportation, community, agriculture, the natural environment, the cultural environments, the economy and road constructability/cost.

Separately, the Region has also been working with MTO, the Cities of Brantford and Guelph, and Brant and Wellington Counties on an inter-regional transportation planning initiative. This study will be a comprehensive review of all proposed transportation initiatives in the study area, including but not limited to the Niagara – GTA Corridor, the GTA West Corridor, the Brantford to Cambridge Transportation Corridor, improvements to Highway 6 and GO Transit expansions. Determining the network benefits and impacts of these facilities on an individual basis is a challenge. The data collection phase of the initiative is almost complete and the study itself should be complete by spring 2015.

**Analysis**

The transportation development strategy sets the earliest possible completion of the new highway corridor at 2027 (i.e. 15 years from now). It would therefore be prudent to examine the implications of growth beyond the 2031 planning horizon. During the route planning study, the residual capacity of the proposed 12-lane Highway 401 was assessed against a range of demand scenarios beyond
2031. A “Volume/Capacity ratio” of 1.0 indicates operation at capacity, and the 12-lane Highway 401 alternative west of the GTA West Corridor would be operating at ratios of 0.88 – 1.11 by 2031 (Attachment 3). The Region would still be dependent on a congested single 400-series highway to connect to the GTA. Longer term analysis beyond 2031 should be undertaken to identify sufficient transportation infrastructure to connect Waterloo Region, Wellington County and the City of Guelph to the GTA.

**GO Rail Service Expansion**

MTO’s analysis included transit expansions that were recommended by Metrolinx in The Big Move. The Big Move includes enhanced service to Kitchener-Waterloo along the Georgetown Line to eight trains per day, but does not include extended service to Cambridge along the Milton Line in the short term. These service expansions should be prioritised to help to reduce travel demand along Highway 401.

**GTA West Corridor Alignment to Guelph**

The study previously examined a highway alignment alternative that would end near the City of Guelph, which could provide the following benefits to the Region:

- Improved connection to/from the GTA via the new Highway 7
- Improved access to highways that would support the creation of industrial employment
- Transportation system redundancy that would improve emergency management.

The inter-regional transportation planning initiative, which will be complete before detailed planning of highway widening and new corridors is to start in the medium term, can provide additional information to help select and protect the optimal corridor for the western portion of the study area. It would be premature to decide the western terminus of the GTA West Corridor until the inter-regional study is complete. This need not delay planning of the eastern portion of the corridor between Brampton and Vaughan, since this is common across all alternatives.

**Next Steps**

MTO will review public comments and identify a Recommended Transportation Development Strategy. A report on the strategy is scheduled to be released in the Fall 2012.

**Area Municipal Consultation/Coordination**

All Area Municipalities in the Region of Waterloo have received a copy of this report.

**CORPORATE STRATEGIC PLAN:**

This report advances Strategic Objectives 2.2 (Develop, optimize and maintain infrastructure to meet current and projected needs) and 3.4 (Encourage improvements to intercity transportation services to and from Waterloo Region).

**FINANCIAL IMPLICATIONS:**

NIL
OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

Attachment 1 – GTA West Corridor in Growth Plan for the Greater Golden Horseshoe
Attachment 2 – GTA West Corridor Preliminary Route Planning Study Area
Attachment 3 – Highway 401 Residual Capacity in Milton Area

PREPARED BY: Geoffrey Keyworth, Senior Transportation Planning Engineer

APPROVED BY: Rob Horne, Commissioner of Planning, Housing and Community Services
ATTACHMENT 1 – GTA WEST CORRIDOR AND GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE
ATTACHMENT 3 – HIGHWAY 401 RESIDUAL CAPACITY IN MILTON AREA
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: August 14, 2012

FILE CODE: D10-70/CC

SUBJECT: COMMUTER CHALLENGE 2012 RESULTS

RECOMMENDATION:

For information.

SUMMARY:

The annual Commuter Challenge is the Region’s most intensive outreach event for sustainable transportation. “It’s your move” was our 2012 Commuter Challenge call to action for residents to commute for a week on foot, by bike, by bus, or in a carpool. Taking place between June 3 and 9, the 13th annual event attracted a total of 1,991 participants. This year’s challenge saw an increase in participating organizations with 72 taking part compared to 68 in 2011. The continued dedication of these organizations, their workplace coordinators and local media coverage, helped contribute to the success of this year’s Commuter Challenge. Together we reduced our community’s CO2 emissions by 29,904 kilograms.

The Challenge is sponsored and organized by the Region’s Transportation Demand Management (TravelWise) and Grand River Transit (GRT) staff teams. In 2012, the Commuter Challenge involved promotional events at five TravelWise workplaces, a launch event held in partnership with the City of Kitchener, radio ads, Twitter, media interviews and newspaper articles. Grand River Transit’s 2-for-1 Transit Tuesday discount enabled 856 people to take transit that day, a 285% increase over the 300 participants in 2011. In partnership with the City of Waterloo and Miovision Technologies, we also counted over 600 cyclists and 265 pedestrians along the Laurel Trail in our #BCounted Twitter campaign.

Company participants winning first place in their employee categories included the City of Waterloo, the Ontario Teachers Insurance Plan, The Working Centre, KW YMCA Immigration & Employment Services, Grand River Carshare, Sustainable Waterloo Region, Whiting Design and REEP Green Solutions.

Area municipal participants achieved excellent results with the Township of Wellesley and City of Kitchener achieving third place and second place in their respective employee categories.

For the third year in a row, Waterloo Region placed first in Ontario and second in Canada in our population category.

REPORT:

The Region evaluates its Commuter Challenge success by the total number of participants, Region’s participation rate, total number of organizations represented and by the event’s total reduction in carbon dioxide (CO2) emissions.
Table 1
Population 500,000 – 1,000,000

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Rank</th>
<th>City</th>
<th>Rank</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Winnipeg</td>
<td>1</td>
<td>Winnipeg</td>
<td>1</td>
<td>Winnipeg</td>
</tr>
<tr>
<td>2</td>
<td>Waterloo Region</td>
<td>2</td>
<td>Waterloo Region</td>
<td>2</td>
<td>Waterloo Region</td>
</tr>
<tr>
<td>3</td>
<td>Ottawa</td>
<td>3</td>
<td>Edmonton</td>
<td>3</td>
<td>Ottawa</td>
</tr>
<tr>
<td>4</td>
<td>Edmonton</td>
<td>4</td>
<td>Ottawa</td>
<td>4</td>
<td>Edmonton</td>
</tr>
<tr>
<td>5</td>
<td>Hamilton</td>
<td>5</td>
<td>Mississauga</td>
<td>5</td>
<td>Quebec</td>
</tr>
</tbody>
</table>

Tracking the Commuter Challenge

The environmental impact of Commuter Challenge is measured through trip tracking. In 2012, trips were tracked in three ways:

i. The Region’s trip tracking tool, www.TravelWiseCommute.ca was available to all employees at participating TravelWise employers. Using our own software allows TravelWise staff to continue encouraging active and sustainable transportation after the Commuter Challenge is over. TravelWise offers events, quarterly prizes and regular updates on sustainable travel options throughout the year.

ii. The National Commuter Challenge website was the primary site for trip tracking for non-TravelWise organizations.

iii. For employees without work email, organizations could use “Bulk Entry Forms” provided by the Region to track trips manually.

This year, TravelWise staff began measuring the long-term impact of the Commuter Challenge by encouraging more people to join the Challenge through www.TravelWiseCommute.ca. The TravelWise website enables staff to monitor sustainable travel trends over time. By encouraging the use of the TravelWise Commute website, Regional staff saw significant increases in sustainable commuting leading up to and during the Challenge.

Promoting the Commuter Challenge

In March, TravelWise staff gathered inspiring commuter stories from the community to highlight the commitment residents are making to sustainable transportation. To recognize these local champions, stories were available on the Region’s Commuter Challenge website and the top stories were used in Commuter Challenge radio ads. Region of Waterloo staff also promoted these stories to the community by sharing them with participating Commuter Challenge organizations and through social media pieces posted on the Region’s Twitter and Facebook pages, leveraging our extensive social media following.

Commuter Challenge Events

Kick-Off Keynote Speaker

On June 4, 2012, the Region partnered with the City of Kitchener and Sustainable Waterloo Region to host keynote guest speaker Hans Moor, President of the Citizens for Safe Cycling in Ottawa and advisor to the Canadian Automobile Association. Over 130 people attended the event to listen to Hans Moor’s lecture on how the Netherlands developed their cycling culture, and what lessons we can learn.
2-for-1 Transit Tuesday

June 5, 2012 was Grand River Transit’s 2-for-1 Transit Tuesday. This event rewards existing customers and helps to attract new riders by allowing two people to ride for the price of one. GRT estimates that 856 people took part in the discount, a 285% increase over the estimated 300 participants in 2011.

Hawk Walk

On June 6, 2012, the Wilfrid Laurier University Hawk Walk event was hosted in partnership with the University’s Sustainability Department. To encourage faculty and staff to celebrate walking and the Commuter Challenge, TravelWise staff was available with information on sustainable transportation options and ice cream.

Region of Waterloo Corridor Chase

Rob Horne, Commissioner of Planning, Housing and Community Services held a Twitter event on June 6, 2012 called “The Corridor Chase.” The event celebrated key destinations along the Central Transit Corridor (CTC), which were shared live on Twitter throughout the chase. Rob and James LaPointe travelled along the entire length of the CTC (from Ainslie Street Terminal in downtown Cambridge to Conestoga Mall in Waterloo) by GRT transit, cycling, jogging and carsharing.

#BCounted Twitter Campaign

The Region of Waterloo, the City of Waterloo, Kitchener-based Miovision Technologies Inc., and local artist Jamie Quinn worked together on a project called #BCounted this year. Miovision used its innovative video data collection technology to count the number of cyclists and pedestrians using the Iron Horse Trail next to the Clay and Glass Gallery in Waterloo from 7:30 to 9:30 a.m., June 4 to 8. Ms. Quinn tracked the results and displayed them directly on the trail with a large chalk graph at the corner of Erb and Caroline Streets. In total, over 600 cyclists and 265 pedestrians were counted.

Great Commuter Race

The City of Kitchener held its third annual Great Commuter Race on June 7, 2012. The City of Kitchener challenged members of Kitchener City Council, local celebrities, City staff, as well members of Kitchener’s Cycling Advisory Committee to a 6 kilometre race from Fairview Park Mall to Kitchener City Hall. Duncan Class, a member of the Kitchener Cycling Advisory Committee, won the race on an electric-assist bicycle in a time of 18 minutes. A staff carpool in a Toyota Prius came in second in a time of 19 minutes. Councillors Yvonne Fernandes and John Gazzola tied for third by cycling in a time of 21 minutes. CTV meteorologist Ross Hull arrived fourth on the 200 iXpress in 22 minutes. Finally, Waterloo Region Record reporter Jeff Outhit arrived by bike in 23 minutes. The event demonstrated that transit and cycling is a convenient mode of transportation for commute trips and errands. Using trails is also a comfortable option for those still gaining confidence for on-road cycling.

Walk to Worship

The Region partnered with Greening Sacred Spaces for a second year to run “Walk to Worship”. The event invites faith communities to log their sustainable trips to and from their places of worship. Eleven faith communities participated this year with over 500 participants.
Local Winners – Participation Rates

The Commuter Challenge would not succeed without the dedication of its workplace coordinators and participating organizations. The following organizations achieved winning participation rates in their size categories.

1-24 Employees
1. Grand River CarShare, Sustainable Waterloo Region, Whiting Design and REEP Green Solutions – 100%
2. Athena Software – 92%
3. Township of Wellesley – 64%

25 - 50 Employees
1. KW YMCA Immigration & Employment Services – 60%
2. The Museum – 57%

51 - 100 Employees
1. The Working Centre – 76%
2. Enermodal Engineering – 41%
3. ANSYS Canada, CH2M Hill, and Communitech – 12%

101 – 500 Employees
1. Ontario Teachers Insurance Plan – 55%
2. WalterFedy – 33%
3. Grand River Conservation Authority – 28%

501+ Employees
1. City of Waterloo – 18%
2. City of Kitchener – 15%
3. Wilfrid Laurier University – 14%

Internally, the Region of Waterloo had 150 participants tracking trips. Although the Region had fewer participants tracking trips than in 2011, when 260 took part, the CO2 emissions, fuel saved and burned calories were higher. In 2012 staff collectively avoided 2,475 kilograms of CO2 emissions (2,318 kilograms of CO2 in 2011), saved 1,042 litres of fuel (963 litres of fuel in 2011), and burned 198,938 calories (191,000 in 2011). This increase represents higher participation rates in cycling and walking in 2012. The Region of Waterloo placed 9th in its category of 500+ employees with 4.7 percent of total employees participating.

Lessons Learned

Work with the national office to improve technical capacity: On Monday, June 4, 2012 the national Commuter Challenge website shut down for approximately 6 hours immediately following a mass promotional email by TravelWise. New and existing challenge participants were unable to register or log their sustainable trips during that time period. Regional staff received dozens of emails and phone calls about website problems throughout the week. TravelWise staff believe these technical challenges resulted in lower participation rates overall. Staff has consolidated the issues and concerns experienced with the national site and will be requesting changes to improve the website’s capacity for 2013.

Leveraging Other Planned Events: TravelWise staff were able to use events held with TravelWise employers to promote participation in the Commuter Challenge. The Commuter Challenge launch event was also held as part of a coordinated outreach with public
consultations for the Active Transportation Master Plan and Transit Hub Access Plan. These events helped provide venues to further increase participation and awareness.

*Improve tracking standards and outreach for Walk to Worship trips.* Although faith communities participated in Walk to Worship activities for the Challenge, not all places tracked trips in the same way. TravelWise staff found that this was also a challenge for 2011. For 2013, staff will continue to meet in person with the Walk to Worship coordinator to ensure consistent tracking definitions are in place amongst all participating faith communities.

**Area Municipal Consultation/Coordination:**

The Cities of Waterloo, Kitchener, Cambridge, and the Township of Wellesley were active participants in the 2012 Commuter Challenge. Regional staff presented highlights of the Commuter Challenge, the Commuter Challenge trophy, and a certificate of achievement to the City of Waterloo at their July 23, 2012 Council meeting. The City of Kitchener hosted the second annual “Great Commuter Race” and the City of Cambridge hosted a commuter breakfast. The City of Kitchener, the City of Cambridge and the Region coordinated their media releases and TravelWise promotions of the event. The successes of each event relied on the cooperation of each host City and on City services.

**CORPORATE STRATEGIC PLAN:**

By encouraging and promoting the use of sustainable transportation through friendly competition, the Commuter Challenge decreased CO2 emissions over the week of June 3 to 9, 2012 by 29,904 kilograms. This supports the Region’s improved air quality objective (Focus Area 1), the promotion of active forms of transportation (Focus Area 2) and the optimal use of existing investments in transit and cycling lanes (Focus Area 5).

**FINANCIAL IMPLICATIONS:**

NIL

**OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:**

Transportation Planning consulted with Transit Services in the organization for this report and they are in concurrence with its review of the 2012 Commuter Challenge.

**ATTACHMENTS:**

NIL

**PREPARED BY:**  *James LaPointe*, Principal Planner, Transportation Demand Management  
**APPROVED BY:**  *Rob Horne*, Commissioner of Planning, Housing and Community Services
The Regional Municipality of Waterloo is currently completing a Class Environmental Study for Victoria Street from Edna Street to Bruce Street, in the City of Kitchener. As part of this study, workshops with local business owners were held on December 14, 2010 and April 19, 2012 in which the need, alternative solutions, alternative design concepts, evaluation of alternatives and Preferred Design Concept were presented and discussed with the participants.

The Project Team is nearing completion of the study to recommend a Preferred Design Concept. Staff are considering scheduling an evening Public Input Meeting (PIM) of the Planning and Works Committee to present the Preferred Design Concept and receive additional public input. The PIM of Planning and Works Committee will be held in Regional Council Chambers. It is proposed that this meeting occur at 7:00 p.m. to provide a convenient time for interested members of the public to attend.

It is requested that members of Committee advise of their availability on the dates below and select the most appropriate date such that arrangements can be made as necessary. Possible dates include:

Sept. 26, 2012
Sept. 27, 2012
Oct. 2, 2012
Oct. 4, 2012

An additional staff report with further project details will be submitted for Committee’s information as part of the agenda package for the PIM of Planning and Works Committee. For further information regarding this project, please contact Frank Kosa, Senior Project Manager at 519-575-4757, Ext. 3185.
<table>
<thead>
<tr>
<th>Meeting date</th>
<th>Requestor</th>
<th>Request</th>
<th>Assigned Department</th>
<th>Anticipated Response Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-Aug-11</td>
<td>P&amp;W</td>
<td>One year review of Report E-11-085 re: Parking on Bleams Road</td>
<td>Transportation and Environmental Services</td>
<td>16-Oct-2012</td>
</tr>
<tr>
<td>18-Oct-11</td>
<td>C. Millar</td>
<td>Staff review the aesthetics of the bridge repairs to the Main Street, Cambridge</td>
<td>Transportation and Environmental Services</td>
<td>E-12-080 14-Aug-2012</td>
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<tr>
<td>10-Jan-12</td>
<td>P&amp;W</td>
<td>Update report on proposed Source Protection Policies after GRCA Source Protection Committee public consultation is completed</td>
<td>Transportation and Environmental Services</td>
<td>E-12-075 14-Aug-2012</td>
</tr>
<tr>
<td>31-Jan-12</td>
<td>P&amp;W</td>
<td>That staff meet with representatives of the Canadian National Institute for the Blind and the Grand River Accessibility Advisory Committee to develop solutions for the visually- and hearing-impaired at all roundabouts and intersections in the Region of Waterloo.</td>
<td>Transportation and Environmental Services</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>28-Feb-12</td>
<td>G. Lorentz</td>
<td>Staff review the safety of the intersection of Yellow Birch Drive and Ira Needles Boulevard</td>
<td>Transportation and Environmental Services</td>
<td>September 2012</td>
</tr>
<tr>
<td>28-Feb-12</td>
<td>P&amp;W</td>
<td>Report outlining consultant contracts, identifying the tender cost with upset limits and the final cost of the contract.</td>
<td>Transportation and Environmental Services</td>
<td>11-Sep-2012</td>
</tr>
<tr>
<td>28-Feb-12</td>
<td>J. Brewer</td>
<td>Report regarding reducing the speed limit from 70 kilometers per hour (70 kms) on Can-Amera Parkway approaching the Roundabout at Conestoga Boulevard.</td>
<td>Transportation and Environmental Services</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>28-Mar-12</td>
<td>D. Craig</td>
<td>Report on possible enhancements similar to what is proposed for Weber Street in Kitchener at the railway overpass for the Delta construction in Cambridge.</td>
<td>Transportation and Environmental Services</td>
<td>25-Sep-2012</td>
</tr>
<tr>
<td>28-Mar-12</td>
<td>Council</td>
<td>Staff to review the operation of the Homer Watson Boulevard/Block Line Road roundabout and report back to Council in 2013.</td>
<td>Transportation and Environmental Services</td>
<td>2013</td>
</tr>
<tr>
<td>Meeting date</td>
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<td>08-May-12</td>
<td>P&amp;W</td>
<td>Report detailing the rationale for the Injury Crash Cost calculation used by staff in reports for roadway improvements. (E-12-045 page 48 authored by Frank Kosa)</td>
<td>Transportation and Environmental Services</td>
<td>27-Nov-2012</td>
</tr>
<tr>
<td>08-May-12</td>
<td>P&amp;W</td>
<td>Staff to review options for signalized vehicle lights and signalized pedestrian crosswalks in Roundabouts in the detailed design report prepared later in 2012 for Franklin Boulevard Improvements.</td>
<td>Transportation and Environmental Services</td>
<td>27-Nov-2012</td>
</tr>
<tr>
<td>16-May-12</td>
<td>G. Lorentz</td>
<td>Through the Transportation Master Plan exercise, that staff review the feasibility of providing Grand River Transit for community events and festivals.</td>
<td>Planning, Housing &amp; Community Services</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>29-May-12</td>
<td>P&amp;W</td>
<td>That the Sawmill Road and Northfield Drive Improvements project be referred back to staff to look at alternatives which include the following: relocating parking off of Sawmill Road; alternative multi-use trails or alternate cycling infrastructure on Flaxmill Drive; traffic calming and truck diversion for Sawmill Road; minimizing property impacts; and preserving the history and culture of the village.</td>
<td>Transportation and Environmental Services</td>
<td>11-Dec-2012</td>
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