Regional Municipality of Waterloo

Administration and Finance Committee

Agenda

Tuesday, June 17, 2014

1:15 p.m. (← Note Time Change)

Regional Council Chamber

150 Frederick Street, Kitchener

1. Declarations of Pecuniary Interest under “The Municipal Conflict Of Interest Act”

2. Delegations
   a) F-14-073, 2014 Development Charges Review (Staff Presentation)
      1. Bill Davidson, Executive Director, Langs

Consent Agenda Items

Items on the Consent Agenda can be approved in one motion of Committee to save time. Prior to the motion being voted on, any member of Committee may request that one or more of the items be removed from the Consent Agenda and voted on separately.

3. Request to Remove Items from Consent Agenda
4. **Motion to Approve Items or Receive for Information**

   - a) **CC-14-001**, Grants to Community Organizations – 2014 Allocations
   - b) **CR-FM-14-005**, Green Energy Act (GEA) – Corporate Energy Conservation and Demand Management Plan
   - c) **CR-CLK-14-008**, Service First Call Centre Launch Update

5. **Reports**

   - a) **F-14-074/CA-14-006**, Regional Service Review

6. **Information/Correspondence**

   - a) **Association of Municipalities Ontario (AMO)** Re: Federal Gas Tax Unused Administrative Funds
   - b) Council Enquiries and Requests for Information Tracking List

7. **Other Business**

8. **Next Meeting** – August 12, 2014

9. **Motion to Go Into Closed Session**

   That a closed meeting of the Administration and Finance Committee be held on Tuesday, June 17, 2014 immediately following Administration and Finance Committee in the Waterloo County Room in accordance with Section 239 of the “Municipal Act, 2001”, for the purposes of considering the following subject matters:

   - a) labour relations and personal matters about identifiable individuals

10. **Adjourn**
Region of Waterloo

Finance Department

Financial Services & Development Financing

To: Chair Tom Galloway and Members of the Administration and Finance Committee

Date: June 17, 2014    File Code: F27-50

Subject: 2014 Development Charges Review

Recommendation:

That the Regional Municipality of Waterloo approve the Development Charge Background Study dated March 2014 as amended, including the capital program contained in the study, for the purpose of complying with Section 10 of the Development Charges Act, 1997;

And that the 2014-2023 capital program, as approved by Council on January 15, 2014, be amended to include the development charge revenues as calculated in the capital program contained in the Background Study;

And that having considered the input provided by the public regarding the development charge rates as calculated in the Background Study, set the development charge rates in the development charge by-law at the rates described in the “2014 Recommended” column of Tables 1 and 2 in Appendix A of Report F-14-073;

And that having reviewed the development charge rates and determined the rates to be included in the development charge by-law, direct staff to monitor the development charge collections and capital program expenditures and report back annually on any shortfalls which may result to assist Council in determining the sufficiency of the rates established under the development charge by-law and the appropriateness of re-opening the by-law at that time, with the first report not later than fall 2015;

And that Council determine that no further public meeting is necessary in order to consider the changes made to the proposed development charge by-law, pursuant to Section 12 of the Development Charges Act, 1997;

And that the Administration and Finance Committee be delegated the authority of Council to conduct hearings relating to complaints made under Section 20 of the
Development Charges Act, 1997;

And further that the Regional Development Charges By-law, attached to Report F-14-073, be approved with an effective date of August 1, 2014.

Summary:

The Region is required to undertake a review of the Regional Development Charge (RDC) and the Regional Development Charge By-law (RDC By-law) every five years. The current RDC By-law expires on July 31, 2014. The required Background Study has been completed and taking into account forecasts of growth and capital requirements, the maximum permissible development charge rates have been calculated. After discussions with stakeholders, and taking into account any adjustments, the maximum permissible development charge rates are $19,856 per single detached dwelling (residential, Cities) and $10.84 per sq. ft. (non-residential, Cities).

A working group of councillors and staff have reviewed the calculated rates and implementation options and are recommending a 10% capital cost deferral in Transportation (Roads), Water and Wastewater which would set the 2014 Recommended rate at $17,936 per single detached dwelling (residential, Cities) and $9.78 per sq.ft. (non-residential, Cities).

In preparing the draft RDC By-law for review, various policy issues were reviewed by the working group. The following recommendations have been incorporated into the RDC By-law attached to this report:

- To encourage industrial development in the Region, it is recommended that the 50% expansion exemption for industrial development now be measured from August 1, 2014, thereby providing an exemption for expansion of existing industrial development;
- The RDC for new industrial development be set at 50% of the maximum permissible development charge rate;
- Brownfield remediation exemption be extended to 7 years;
- Redevelopment time limitation be extended to 7 years;
- Downtown core exemption be continued in an area which matches that provided by an area municipality under its DC by-law, and that this exemption be phased out by January 1, 2019;
- Continue to charge RDCs for educational institutions;
- Continue to charge RDCs for not-for-profit, charitable, and community/cultural organizations; and
- Definition for amenity space in multi-unit residential development be updated to clarify the non-residential space which is exempt.

A public meeting, required to be held under the Development Charges Act, was held on June 4, 2014. Consideration of the input received and any required changes to the draft RDC By-law, have been detailed in this report. The RDC By-law will be presented for approval at the Council meeting to be held on June 25, 2014 with an effective date of August 1, 2014.
Report:

1. Background

The Region is required to undertake a review of the Regional Development Charge and the Regional Development Charge By-law every five years. The current RDC By-law expires on July 31, 2014.

Before passing a new Development Charge By-law, a municipality is required to prepare a Background Study. This Background Study and the draft development charge by-law must be made available to the public at least two weeks prior to a statutory public meeting where the Council will hear representations on the proposed By-law. The draft Background Study dated March 2014 was presented to Administration and Finance Committee on April 1, 2014 (F-14-043) and posted on the Region’s website.

The draft RDC By-law was posted on the Region’s website on May 21, 2014. Minor edits have been made to the draft RDC by-law since that time including updating Schedule C “Eligibility Criteria for Remediated Brownfields” to reflect Council approved changes proposed in report P-14-009 “Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program.” The definition of “Site” was also updated to better incorporate amenity space. The amended draft by-law is attached to this report (Appendix F). A list of edits made to the by-law from the version posted on May 21, 2014 is attached to this report (Appendix D).

It is required that Council hold a public meeting to hear input on the Background Study and the draft development charge by-law before the by-law is approved. The public meeting was held on June 4, 2014. After consideration of the input received at that meeting and after any required changes are made to the draft Background Study and the draft development charge by-law, it is anticipated that the by-law will be presented for consideration and approval at the Council meeting to be held on June 25, 2014.

A working group comprised of councillors and senior staff was established to review the work of the staff committee and provide input to the development of the Background Study and draft by-law. Councillors Tom Galloway (chair of the working group), Jim Wideman, Jane Brewer, Carl Zehr, Todd Cowan, Claudette Millar and Les Armstrong represent Council on the working group.

The purpose of this report is to make final recommendations with respect to RDC rates and policies to be reflected in the RDC by-law.

2. Draft Background Study

The Development Charges Background Study, dated March 2014, was prepared by Hemson Consulting Ltd. in accordance with the provisions of the Development Charge Act (DCA) and Regulation after consultation and discussion with Region staff. The calculated maximum permissible rates are established by projecting growth, determining the increase in capital infrastructure necessary to service that growth (taking into account service standard constraints and existing capacity), estimating the costs of that infrastructure, apportioning the costs between residential development and non-residential development, and determining the unit charges which must be imposed
on development to provide the necessary revenue to finance the growth-related expenditures.

The maximum permissible residential development charge rates are shown in Appendix A Table 1 “2014 Adjusted Maximum” column and are $19,856 per single-detached unit in the Cities and $19,278 in the Townships. There are rates presented for townhouses, apartments and lodging units based on the different occupancy expected in those unit types.

The maximum permissible non-residential development charge rates are shown in Appendix A Table 2 “2014 Adjusted Maximum” column and are $10.84 per sq. ft. in the urban areas and $10.40 in the townships.

The maximum permissible residential and non-residential rates have changed slightly from the rates presented in Report F-14-065 as detailed below.

3. Input received from Stakeholders and the Public

Stakeholders to the development charge process were invited to a meeting with the working group in April 2014 where staff provided a presentation on the RDC By-law review process and the working group received input from the stakeholders. Staff responded to many of the comments at the meeting and the working group indicated that it would take all of the comments into consideration in making its recommendations on the implementation of the development charge rates.

Various stakeholders submitted written comments to the Region regarding the calculations in the Background Study. Staff have held meetings with the stakeholders group during May 2014 to review the comments and provide responses. The relevant correspondence (both comments and responses) was included in Report F-14-065 dated May 27, 2014.

A meeting to receive public input was held on June 4, 2014 and an additional stakeholder session was held subsequent to the public meeting to address the additional questions and concerns raised by stakeholders. Staff responses have been provided to the comments and questions received from the stakeholders at the public meeting and these are detailed in Appendix C to this report.

4. Adjustments to the rates calculated in the Background Study

As a result of the discussions held with stakeholders, various minor adjustments and corrections have been made to the calculations in the Background Study. The adjusted maximum permissible residential and non-residential development charge rates are shown in Appendix A Tables 1 and 2 (“Adjusted 2014 Maximum” column). Adjustments to the rates presented in Report F-14-065 include reductions to the wastewater calculated rate due to adjustments to the assumptions for Hespeler and Waterloo wastewater plant expansions to encompass capacity to 2041. The result of these adjustments is to further reduce the maximum permissible residential urban single detached unit rate by $581 from $20,437 to $19,856. The non-residential urban rate decreases $0.30 per sq.ft. from $11.14 per sq.ft. to $10.84 per sq.ft.
5. Setting the Development Charge Rate

The development charge rates calculated, as detailed in Tables 1 and 2 (Appendix A), are the maximum amount that can be included in the development charge by-law. These calculated maximum permissible development charge rates represent increases of 49% on the residential development charge rate and 13% on the non-residential development charge rate. The overall increase in the development charge rates is the result of the significant increase in both the number and cost of capital projects which are necessary to support growth.

If decisions are made to implement a phase-in of the new rates, or discounts, or not including all the services, the costs of implementing these capital projects reverts to the property tax base and user rate base. There are a number of alternatives available for Council’s consideration in setting the rate. A discussion of each of the options follows.

6. Option 1 – Set the Development Charge Rate at the Maximum Allowable Rate

A municipality is provided with the option of setting the development charge at the maximum rate permissible as determined through the requirements of the Act and included in the Background Study or charge a lesser rate, with the balance of funding to be provided by the current taxpayer. Setting the development charge rate at the maximum permissible level provides the required funding for the growth related capital projects.

The growth related capital costs for general services (all services except Transportation, Water and Wastewater) total $262.3 million. After taking deductions for historic service levels, benefits to existing taxpayers, benefits to growth beyond the ten year horizon of the study and the 10% statutory deduction, there are eligible development charge costs of $74.6 million to be recovered from the development over the ten-year period of the study. Similarly, for Transportation and Water/Wastewater, there are eligible development charge costs of $502.1 million and $389.8 million respectively to be recovered from the development over the period of the study. In total, almost $1 billion in capital costs is to be recovered from new development in the Region.

That being said, development charges only provide 25% of the $3.9 billion in funding required for the capital program. The current taxpayer, user ratepayer and other sources will still be required to invest the amounts not recoverable from development charges and the balance of the ten year capital program which includes rehabilitation projects and Regional services for which development charge funding is not permissible.

Also, debenture financing estimated at $259.0 million will be required over the next 10 years with associated debt servicing costs to be funded by the collection of development charges in the following 10 years.

Imposing the maximum permissible rate provides the maximum funding for capital projects from the development charge. It also reduces the risk of property tax and user rate impacts, especially related to the debenture financing required for growth related projects. This follows, to the extent possible, the principle of “growth pays for growth” on which the Development Charges Act is based.
The working group has given consideration to this information and recommends that the maximum permissible rate as calculated in the background study be adjusted as set out in Option 2 below.

7. Option 2 – Calculate a Reduced Development Charge Rate by Deferring Projects

A municipality may elect to reduce the development charge rate by reducing the services which are included in the development charge by-law and/or reduce the number and cost of projects expected to be completed under the by-law. The capital projects included in the Transportation, Water and Wastewater section of the Background Study are all included in the Region’s approved ten year capital program and these projects are required to be completed to meet the needs of development. The Region may consider deferring projects to reduce the development charge rate.

The working group considered a potential 10% deferral of the capital costs related to Transportation (Roads), Water and Wastewater projects; the rate impacts of which are detailed below:

<table>
<thead>
<tr>
<th>Potential Rate Reductions - 10% Capital Cost Deferral</th>
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</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Residential (Per SDU)</td>
</tr>
<tr>
<td>Non-Residential (Per Sq.Ft.)</td>
</tr>
</tbody>
</table>

The working group recommends that a 10% deferral of capital costs related to Transportation (Roads), Water and Wastewater projects be implemented. This capital deferral would result in a residential single detached unit urban rate of $17,936 which is a 35% increase over the 2014 actual rate of $13,288 and a 1% increase over the 2009 calculated rate (indexed) of $17,769. The non-residential urban rate would be $9.73 per sq.ft. which is a 1.5% increase over the 2014 actual rate of $9.59 per sq.ft and a 30% decrease from the 2009 calculated rate (indexed) of $13.82 per sq. ft. These are the amounts shown in the draft by-law and Appendix A Table 1 and 2 “2014 Recommended” column.

8. Option 3 – Phase-in – Defer the Implementation of the Rates

The new development charge rates will be implemented at the start date of the new RDC By-law, which is August 1, 2014. The Region can consider the deferral of the implementation of the rates until January 1, 2015 or some later date. This deferral has been requested in the past by the development community, so that they would have the opportunity to adjust their business plans accordingly, taking into account the new rates. This would encourage development which is “shovel ready” to be started during the 5 months from August 1 – December 31. If the conclusion is to implement a phase-in of the new rates with the maximum permissible rate being implemented on January 1,
2015, the revenue lost from the implementation reverts to the property tax base and user rate base. This amount is currently estimated at $9.3 million which would need to be funded from the property tax budget and user rate budget during 2014. As funding is not available in the current budgets, the resulting deficit would need to be funded from increased tax rates and user rates in 2015.

The working group has given consideration to this information and recommends that the new development charge rates be implemented at the start date of the new RDC By-law, which is August 1, 2014 due to the significant impacts on the tax and user rates of deferring the implementation of the new rates until January 1, 2015.

9. Industrial (non-residential) development and the 50% expansion exemption

The RDC By-law includes a statutory provision where an existing industrial building will receive an exemption for an expansion of up to 50% of the existing Gross Floor Area (GFA). This exemption is based on the existing building on the site as of April 1, 1999 together with a building or portion of building constructed on a site for which full development charges were paid.

A review of other municipal DC by-laws indicates that the Region’s and the local municipalities’ DC by-law provision is not common practice. Many municipalities provide the industrial expansion exemption with no limitation or reset the limitation at the start of each new DC by-law. The City of Kitchener has considered this matter and approved the reset of the existing industrial building exemption to June 1, 2014.

The working group reviewed this issue and to encourage the expansion of industrial development in the Region, recommends that the existing industrial exemption be based on the existing building on a site as of the date of the new DC by-law, that is, August 1, 2014.

Regional and City of Kitchener staff have also discussed possible incentives to encourage new industrial development within the City and Region. As existing industrial buildings will now be provided an exemption up to a 50% expansion, it was suggested that new industrial development be provided a 50% discount on the non-residential rate for the first development on a site. This discount would be paid from the tax rate and user rate budgets. Over the five year term of the by-law, and based on growth forecast in the Background Study, the estimated cost of providing this discount is $7 million.

The City of Kitchener passed their Development Charge by-law on May 26, 2014 along with the following motion: “That the industrial development charge rate be reduced by 50% as shown in Table 2 for the period of July 1, 2014 to March 1, 2019, provided the Region of Waterloo reduces their industrial development charge rate by 50%.”

The working group has considered this issue and recommends that a discount on new industrial development be provided in the amount of 50% of the development charge otherwise calculated. The attached by-law includes this provision.

The Region has budgeted $1.87 million for RDC exemptions in the property tax and user rate budgets for 2014. This amount is estimated to be sufficient to meet the expected cost of the discount proposed for the industrial non-residential charge in 2015, together with the current exemptions proposed.
10. Proposed Development Charge By-law

The proposed Regional Development Charge By-law has been prepared by Legal Services and Financial Services staff and is attached to this report. A number of the changes in the by-law are of a “housekeeping” nature, including updated wording to provide clarity to definitions and terms of the by-law.

Minor edits have been made to the RDC by-law since the draft version published on May 21\textsuperscript{st} including updating Schedule C “Eligibility Criteria For Remediated Brownfields” to reflect Council approved changes proposed in report P-14-009 “Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program.” The definition of “Site” was also updated to better incorporate amenity space. The amended by-law is attached to this report (Appendix F). A detailed list of edits to the by-law from the draft version published on May 21, 2014 is attached to this report (Appendix D).

The by-law includes the development charge rates adjusted for the 10% capital cost deferral related to Transportation (Roads), Water and Wastewater and the policy changes which were recommended by the working group, and which are summarized below.

11. Summary of Policy Review

11a. Brownfield Remediation Exemption

In October 2007, the Region established the Brownfields Financial Incentive Program, which includes an exemption from development charges to the extent that eligible costs were expended to rehabilitate and redevelop a brownfield. One change is recommended to the exemption and that is related to the time limit for completion of the redevelopment on the remediated brownfield. Staff have received input from developers who have completed projects in this area who advise of concerns with the ability to redevelop the remediated brownfield within the existing 5 year timeframe from the date of receiving the Record of Site Condition (RSC). The working group has given consideration to this information and recommends that the exemption time limit be extended to 7 years from RSC. This change is reflected in the proposed by-law.

11b. Redevelopment time limitation

Similar to the brownfields discussion above, the development community has advised that with many demolitions and redevelopment projects there are concerns with the ability to redevelop the property within the 5 year timeframe from the date of demolition. It is recommended, and included in the proposed by-law, that the redevelopment allowance time limit be extended to 7 years from the date of demolition.

11c. Downtown Core Exemption

The Region currently provides a downtown core exemption only in those local municipalities which have a similar exemption in the local municipal DC by-law. At the present time, only Cambridge and Kitchener include an exemption.

The City of Kitchener, in its recently approved development charge by-law, has approved two changes to the downtown core area exemption, which are, to increase the
size of the area effective January 1, 2016 to include the area shown in the map attached to the draft development charge by-law (Appendix F, Schedule D) and to give notice that the exemption will be eliminated as of January 1, 2019.

The City of Cambridge, in its current development charge by-law review has not proposed any changes to the downtown core area exemption.

The working group has considered this issue and taking into account stakeholder input recommends that the Region continue to include the downtown core areas in Cambridge and Kitchener in the Regional development charge by-law, including the additional area proposed by the City of Kitchener, until December 31, 2016. It is proposed that the exemption be provided at 75% of the current exemption for 2017, at 50% of the current exemption for 2018 and be eliminated on January 1, 2019. The implementation of this recommendation would provide a 30 month notice period before the exemption is decreased from 100% to 75%, providing opportunity for the development community to advance their business plans for this area. The proposed by-law includes these provisions.

11d. Educational institutions

In 2013, the Region considered a request for a grant in the amount of development charges payable on the non-residential development (expansion) of a private school. The Region took no action on the request. The Region has received a number of requests since 2000 to vary the amount of development charges payable for educational facilities, including both private schools, universities and other private colleges. Council did not approve any of the requests.

The working group has considered the issue and recommends that RDC’s continue to apply to such development (no change to the current Regional policy).

11e. Amenity space in multi-unit residential development

The Region currently imposes a non-residential charge for amenity space provided in residential buildings. The owners of two developments made a formal complaint under the DCA and both were rejected by Council and the development charge imposed was upheld. One of the complaints is now the subject of an appeal to the Ontario Municipal Board. The Board has not yet set a hearing date for this complaint. The development community requested that the Region review the definition in the DC By-law and provide clarity on this provision.

Staff provided information to the working group on the provision for non-residential space included in other municipal DC by-laws and the working group has considered the issue and recommend amending the definition of “Accessory building” as proposed in the By-law.

11f. Not-for-Profit/Charitable/Community Development Agencies

Historically the Region has not provided exemptions for not-for-profit, charitable, or community development agencies as virtually all developments place increased demands on Regional infrastructure. A key principle underlying the development charge concept is that growth to the extent possible should finance the infrastructure
demands it creates. If exemptions were to be provided, they would need to be funded from tax or user rates. A listing of development charges paid by various not-for-profit, charitable and community development agencies is attached to this report (Appendix E).

Council has the discretion to provide offsetting grants on a case-by-case basis. Since the first RDC by-law was passed in 1991, the Region has taken no action on virtually all grant requests to offset development charges. Grants have only been provided when there has been a direct link to core Regional programs. For example an RDC grant is provided to Habitat for Humanity for development charges applicable to its projects in continuance of Council’s policy of supporting community housing initiatives.

The working group has considered the issue and recommends that RDC’s continue to apply to such development (no change to the current Regional policy).

12. Update re Development Charge By-law Reviews of Local Municipalities

Staff have contacted the local municipalities to report on the status of the development charge by-law reviews currently being undertaken by the area municipalities in the Region. The City of Waterloo completed their development charge by-law review in 2012. The other six local municipalities are undertaking their development charge by-law review at the current time, with implementation dates for the new development charge by-laws between July and September 2014. The following table provides a summary of the status of those reviews.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Status of DC Review</th>
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</thead>
<tbody>
<tr>
<td>City of Waterloo</td>
<td>Review completed and new DC by-law approved in 2012</td>
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<tr>
<td>City of Kitchener</td>
<td>Final report and By-law approved by Council on May 26, 2014 (effective date of July 1, 2014)</td>
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<tr>
<td>City of Cambridge</td>
<td>Background Study presented to Council for consideration. Public meeting held on May 26, 2014</td>
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<td>Township of North Dumfries</td>
<td>Background study and by-law review underway. By-law expires in 2014.</td>
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<td>Township of Wellesley</td>
<td>Background study and by-law review underway. By-law expires in 2014.</td>
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<tr>
<td>Township of Wilmot</td>
<td>Background study and by-law review underway. By-law expires in 2014.</td>
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<tr>
<td>Township of Woolwich</td>
<td>Background study and by-law review underway. By-law expires in 2014.</td>
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The potential development charge rate increases are different at the local municipal level due to differences in the services provided and the growth-related capital projects resulting.
13. Comparative Municipal Development Charge Rates

Appendix B provides comparative information of development charge rates for other Regional municipalities and other single-tier and upper-and lower-tier total development charges in other municipalities.

The proposed DC rates, for both residential and non-residential development, are added to the area municipality DC rates and compared with other municipalities (shown in the first two graphs). The proposed rates are in the middle of the range when compared to other municipalities. The DC rates are generally lower west of the Region, approximately equal to Hamilton and higher to the east into the GTA.

For industrial (non-residential) DCs, the proposed DC rates are shown in comparison to other municipalities, both at the maximum permissible amount and the proposed 50% reduction. With this reduction in place, the Region’s industrial DC rate will be at the lower end of the range for municipalities which charge a DC for industrial. Some municipalities, as shown on the graph, do not impose a DC charge on industrial development.

14. Next steps

After consideration of the input received and any required changes are made to the Background Study and the draft development charge by-law, it is anticipated that the by-law will be presented for consideration and approval at the Council meeting to be held on June 25, 2014, and would come into effect on August 1, 2014.

Corporate Strategic Plan:

The RDC By-law Review supports Focus Area 1, Growth Management and Prosperity, of the Corporate Strategic Plan and specifically strategic objective 2.2 to develop, optimize and maintain infrastructure to meet current and projected needs as development charges provide an important source of funding for infrastructure needed to accommodate planned growth.

Financial Implications:

The Regional Development Charge is a significant component of the Region’s capital financing program. Over the period of the By-law from 2014-2018, it is anticipated that the Regional Development Charge will fund approximately $507.0 million of the projected capital costs for that period. While the development charge rates are significant, the taxpayer, through property taxes and user rates, contributes a significant amount of the remainder of the capital costs to be incurred during this time frame. If the maximum allowable development charge rate is not imposed and collected, the property tax and user rate budgets must absorb the foregone revenues and/or capital projects must be deferred.

The 2014 approved ten-year capital program includes development charge funding for capital projects based on the current development charge by-law. The capital program will now be updated to include the revised development charge funding as approved in the 2014 Background Study.
Other Department Consultations/Concurrence:

Staff from all departments which have growth-related projects and Police Services have participated in the Development Charge By-law Review.

Attachments:

Appendix A – Adjusted Maximum Permissible Development Charge Rates

Appendix B – Comparison of development charge rates in other municipalities

Appendix C – Correspondence received from stakeholders, together with responses from Regional staff

Appendix D – Summary of Amendments to the Draft Development Charge By-law published May 21, 2014

Appendix E – 2004- May 2014 Development Charge Collections – Not-for-profit, charitable and community/cultural organizations

Appendix F – Proposed Development Charge By-law – June 17, 2014 (distributed separately)

Prepared By: Shane Fedy, Financial Analyst
               Calvin Barrett, Director, Financial Services & Development Financing

Approved By: Craig Dyer, Chief Financial Officer
## Appendix A – Table 1

### REGION OF WATERLOO

**2014 DEVELOPMENT CHARGES BACKGROUND STUDY**

**RESIDENTIAL DEVELOPMENT CHARGES**

<table>
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<tr>
<th>Service</th>
<th>Current</th>
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<th>2014 RDC Study Maximum</th>
<th>2014 Adjusted Maximum</th>
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**SUBTOTAL GENERAL SERVICES**

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<table>
<thead>
<tr>
<th>Service</th>
<th>Current</th>
<th>2009 RDC Study Maximum</th>
<th>2014 RDC Study Maximum</th>
<th>2014 Adjusted Maximum</th>
<th>2014 Recommended</th>
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**SUBTOTAL ENGINEERING SERVICES**

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<tr>
<th></th>
<th>$11,934</th>
<th>$16,415</th>
<th>$19,553</th>
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<tr>
<th>Service</th>
<th>Current</th>
<th>2009 RDC Study Maximum</th>
<th>2014 RDC Study Maximum</th>
<th>2014 Adjusted Maximum</th>
<th>2014 Recommended</th>
</tr>
</thead>
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<tr>
<td>TOTAL DEVELOPMENT CHARGE - URBAN</td>
<td>$13,288</td>
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| Change from Current - Urban | 60%     | 49%                    | 35%                    |                      |                  |
| Change from Current - Township | 60%     | 49%                    | 34%                    |                      |                  |
| Change from 2009 Maximum - Urban | 20%     | 12%                    | 1%                     |                      |                  |
| Change from 2009 Maximum - Township | 19%     | 11%                    | 0%                     |                      |                  |
## Appendix A – Table 2

### REGION OF WATERLOO

**2014 DEVELOPMENT CHARGES BACKGROUND STUDY**

**NON-RESIDENTIAL DEVELOPMENT CHARGES PER SQUARE FOOT OF GFA**

<table>
<thead>
<tr>
<th>Service</th>
<th>Current</th>
<th>2009 RDC Study Maximum</th>
<th>2014 RDC Study Maximum</th>
<th>2014 Adjusted Maximum</th>
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| Change from Current                    | 18%     | 13%                    | 2%                     |
| Change from 2009 Maximum               | -18%    | -22%                   | -29%                   |
Appendix B

Residential DC for Singles & Semis

- Brampton
- Oakville (Greenfield)
- Mississauga
- Vaughan
- Milton (Greenfield)
- Hamilton (Greenfield)
- Burlington (Greenfield)
- Hamilton
- Cambridge - Caleda
- Kitchener - Conestoga
- Cambridge - Current
- Waterloo - Current
- Guelph
- London (Urbana)
- Cambridge - Brantford
- Woodstock

Legend:
- Upper Tier
- Lower/Single Tier
Appendix C1a

June 3, 2014

SENT BY EMAIL regionalclerk@regionofwaterloo.ca

Region of Waterloo
150 Frederick Street, 2nd Floor
Kitchener, ON N2G 4J3

Attention: Regional Clerk
Regional Chair & Members of Council

Dear Sirs and Mesdames:

Re: DEVELOPMENT CHARGES REVIEW
Mattamy Development Corporation

We represent Mattamy Development Corporation ("Mattamy") with respect to the Region's review of its development charges ("DC") by-law. We understand that Mattamy, through Brad Trussler and through Daryl Keleher of Altus Group, has participated in stakeholder consultation as facilitated by the Region. Our client is grateful for this opportunity and the responses they have received to date to various questions raised through that process.

As a result of its engagement in the review process, a number of Mattamy's concerns have been satisfied. However, there are some significant issues that remain unresolved with the current proposed by-law and Background Study, as set out in the following paragraphs.

1. Post-Period Benefit for Roads – In the same manner in which the volume and capacity of water and sewer pipes are estimated for any given year, and to the 2023 timeframe for the proposed DC by-law, so too are the volume and capacity ratios estimated for existing and proposed roads in the Region's program. As such, roads should be treated no differently than water and sewer pipes and a portion of the costs of future road projects should be allocated to the period post-2023 where capacity is not anticipated to be reached within that timeframe.

2. Benefit to Existing for Cycling Lanes and Sidewalks – The majority of the proposed cycling lanes and sidewalks in the DC program are located within the built-up areas. It is
impractical to assume that no existing residents will utilize the proposed facilities and correspondingly assign no portion of the costs to the existing community. We would urge the Region to return to the approach used in the 2009 Background Study, which assigned 83 to 85% of the costs to the existing community.

3. **Post-Period Benefit for the Waterloo Expansion (Project 8316)** – The Background Study notes that, “this plant will need to be expanded by 2024”, which is beyond the period of this DC by-law. If this expansion is not needed to service the anticipated development within the period of the by-law, the development does not benefit from the expansion and the associated costs should therefore be assigned entirely to post-period development.

The *Development Charges Act* allows a by-law to include only those costs related to projects required because of increased need for services arising from the development anticipated within the timeframe of the by-law. It is not appropriate or reasonable to include the costs in this by-law simply because they will naturally be incurred prior to the project coming online to benefit future growth anticipated after 2023. The Act allows the Region to recover interest on money borrowed to pay for the costs of future facilities. This is a more appropriate mechanism that could be applied by the Region to finance the project, which should be included in a future by-law that is based on development and the associated increased need for services for the year 2024 and beyond.

4. **Need for and Post-Period Benefit for Galt and Wellesley Expansions** – According to Table 2 in Appendix D.2 of the Background Study, Galt has sufficient capacity in the existing system to accommodate growth to 2031 and Wellesley has sufficient capacity in the existing system to accommodate growth to 2023, which is the end of the period of the proposed DC by-law. Yet 28% of the costs of the Galt Process Upgrades/Expansion project and 100% of the costs of the Wellesley Upgrade and Expansion project have been attributed to growth within the period of the DC by-law. If these projects are not needed to service the anticipated development to 2023, the associated costs should be allocated to development within the period of the by-law.

The *Development Charges Act* allows a by-law to include only those costs related to projects required because of increased need for services arising from the development anticipated within the timeframe of the by-law. It is not appropriate or reasonable to include the costs in this by-law simply because they will naturally be incurred prior to the project coming online to benefit future growth anticipated after 2023. The Act allows the Region to recover interest on money borrowed to pay for the costs of future facilities.
This is a more appropriate mechanism that could be applied by the Region to finance these projects, which should be included in a future by-law that is based on development and the associated increased need for services for the year 2024 and beyond.

5. **Deferral of Projects and Phase-In of DC** – We note that Staff Report F-14-085 sets out options for Council’s consideration for both deferring some of the projects expected to be completed within the period of the DC by-law, and for phasing in the new DC rates to allow developers to adjust their business plans accordingly. We can advise that due to the size of the proposed increase, a phase-in or deferral of projects is supported.

We thank you for allowing Mattamy the opportunity to participate in the stakeholder meetings and provide feedback. We would be happy to meet with you and staff to continue the dialogue on the above remaining issues. We otherwise look forward to receiving the Region’s responses to the comments and requests set out above.

Yours truly,

WeirFoulds LLP

[Signature]

Jennifer Meader

cc: Brad Trussler, Mattamy Development Corporation
    Daryl Keleher, Altus Group

6443122.3
June 11, 2014

Via Email to jmeader@weirfoulds.com

Jennifer Meader
WeirFoulds LLP
Suite 10 1525 Cornwall Road
Oakville, Ontario L6J 0B2

Dear Ms. Meader:

Re: Development Charges Review – Mattamy Development Corporation

Thank you for your letter dated June 3, 2014 summarizing your client’s outstanding questions/concerns related to the Waterloo Region DC review. We have reviewed your memo and offer the following in response.

1. Post-Period Benefit for Roads

We would refer to response 5 under “Roads” in our letter to IBI of May 7th, 2014, which was previously provided to your clients, and reiterate: the investment in road and related infrastructure does not result in the Transportation level of service being exceeded by 2023. Additional investment, over and above what is included in 2014-2023 development-related capital program, will be required to meet the servicing needs of development after 2023.

2. Benefit to Existing for Cycling Lanes and Sidewalks

The cycling and pedestrian facilities included in the Background Study are within the Regional road right-of-way and are required in order to achieve the higher mode share targets identified within the RTMP for active transportation. The transportation capacity assessments assumed these aggressive mode share targets would be achieved,
thereby reducing auto trips. Lower mode share targets for active transportation would have resulted in more road expansion projects being required in order to accommodate growth. The projects in the capital plan are required to provide the continuous corridors for active transportation between growth areas and major destinations within the Region.

3. Post-Period Benefit for the Waterloo and Hespeler Expansion

The Background Study determines a post-period benefit for all infrastructure projects in the Water and Wastewater development-related capital programs regardless of project timing. Thus, a project will be assigned the same post-period share whether it is planned for year 1 or year 10. It is recognized that Wastewater projects in the later years will likely provide a greater benefit beyond what is shown in the Background Study. Similarly Wastewater projects in the early years will likely provide a greater benefit between 2014 and 2023 than what is shown in the Background Study. Nevertheless, the post-period benefit of the Wastewater program as a whole remains fixed regardless of what specific projects this benefit is allocated to.

In the Background Study, allocating all of the Wastewater post-period benefit to the projects in the later years, including the Waterloo expansion, would mean a greater share of the DC-eligible costs would have to be funded in the early part of the 10 year planning horizon. While this would be more in line with how the Region actually funds projects, this would have the effect of increasing the calculated DC rates.

That said, upon review, staff have determined that for two projects in the Wastewater capital program—the Waterloo expansion (#8316) and Hespeler expansion (#8242)—capacity is being provided beyond 2031 to a time horizon extending to 2041. It is therefore appropriate to (upwardly) adjust the post-period benefit calculations for these projects. The impact on the calculated DC rates of these adjustments is:

- The residential urban single and semi-detached unit rate decreases by $581, from $20,437 per unit (as shown in Report F-14-065 dated May 27, 2014 to Administration and Finance Committee) to $19,856 per unit.
- The non-residential urban rate similarly decreases by $0.30 per sq.ft. from $11.14 per sq.ft. to $10.84 per sq.ft.

Staff will be including these adjusted rates in the Finance report to Administration and Finance Committee for its meeting on June 17.
4. Need for and Post-Period Benefit for Galt and Wellesley Expansions

The Galt project referenced in the Background Study is mis-named as the Galt Process Upgrades and Expansion. The correct title, included in the 2014 Wastewater Capital Program, is Galt Process Upgrades. There is no expansion planned for the Galt Waste Water Treatment Plant (WWTP) in the 2014 to 2031 time frame. This project will benefit the existing and future population, and is a WW2 project, as described in the Background Study.

The 2013 Water & Wastewater Monitoring Report shows that expansion of the Wellesley WWTP will be required during the time frame of the study and this expansion is required to service growth until 2031 and it is a WW1 project, as described in the Background Study. There is no post period benefit for the Wellesley expansion.

Yours truly,

[Signature]

Calvin Barrett, CPA, CA
Director of Financial Services and Development Financing
Finance Department
Region of Waterloo
CBarrett@regionofwaterloo.ca
Phone: 519-575-4478

Copy: Stakeholders, RDC Staff Committee
 Waterloo Region Home Builders' Association

WATERLOO REGION HOME BUILDERS’ ASSOCIATION

2014 DEPUTATION TO THE
REGIONAL MUNICIPALITY OF WATERLOO
ADMINISTRATION AND FINANCE COMMITTEE

REGIONAL DEVELOPMENT CHARGES

Public Input Meeting
Wednesday, June 4, 2014, 6:00 p.m.
Regional Council Chamber
150 Frederick Street, Kitchener
My name is Ian Cook and I am a member of the Board of Directors of the Waterloo Region Home Builders’ Association. I am making this deputation on behalf of the 225 member companies of our Association.

I thank you for the opportunity to address the Steering Committee today regarding the Region’s proposed residential development charge.

We extend our thanks to Calvin Barrett, Shane Fedy and Region staff along with their consultant Stefan Krzaczunowicz from the Hemson Group for their willingness to meet with us on several occasions and engage in dialogue and field our questions. We have appreciated their acknowledgement regarding those items that we had previously identified that ultimately resulted in a recalculation of the rate. However, in context of the proposed increase, this reduction is not significant. Additional questions have arisen in the last few days as a result of the short review time, and the additional back ground information requested from staff. Accordingly, I have appended our questions, per the IBI Memo, to my deputation.

Magnitude of Development Charge Increase

As Kevin Fergun articulated to this Committee on April 9, we were, and continue to remain extremely concerned with the magnitude of the increase in the charge: over 50% from the current residential DC for a low rise dwelling.

The cost of new housing, and existing housing stock for that matter, continues to rise significantly, and approximately 20% of the cost of the new home is represented by various forms of taxation, not the least of which is development charges. To illustrate, Kevin shared with you in April that development charges have been rising at around 50 times the rates of new housing production over almost a 10 year span.

In speaking with my fellow builder members of our Association, many of whom are in attendance this evening, they are very concerned with the magnitude of this increase. Low rise housing starts generally continue to trend downward and certainly off from the higher level building starts of low rise product we saw 10 years ago. The builder’s margins are decreasing and they feel that the magnitude of the charge that is currently being proposed by the Region cannot be borne by the homeowner - resulting in lower margins or unrealized sales. The larger consequence being a diminished housing economy in the Region that has a trickle-down effect to the suppliers, trades and service providers that live, work and play in our Region.

To that end, members have indicated that while no Development Charge increase at this time is desired, consideration of a 50% reduction in the proposed Development Charge increase may be an alternative in finding a middle ground that the Regional housing economy and new home buyer can bear.

Affordability, Transparency & Accountability

The industry attributes the large escalations to the costs included in development charges to many sources. It stems in part from the ever changing variety of ways in which the Development Charges Act has been interpreted. This includes, but is not limited to, mechanisms such as excessive soft costs for hard infrastructure (i.e. staff time and higher than standard contingencies), excessive historical service standards, and disproportionate shares between benefit to existing taxpayers and new growth.

In order to increase transparency and accountability, we would request that Council ensure that staff provides our industry with updates on each project on an annual basis recording all monies received and spent and any deviations including additional costs anticipated and variances in timing. Council should also ensure that staff provides regular updates to our Liaison Committee to review the development charge reserves and project lists in the development charges background study. It is appropriate to receive a direct accounting from the reserve funds as to what infrastructure the Development Charge payments contributed to, and the anticipated timing of the infrastructure. I know that transparency is very
important to this Council and I think it is extremely valuable to ensure that the citizens of the Region interests are well served.

**Development Charges Review Timelines**

An observation offered is that many other jurisdictions have involved stakeholder consultation much earlier compared to our Region. Our review of the Region’s Draft Background Study commenced in early April upon receipt of the Study from the Region, and our engagement in professional assistance to aid our members in the review and corresponding comments commenced in mid-April with consultation staring in early May, thereby allowing for only about 5 weeks of analysis/consultation.

Given the complexity of Development Charges and that our Association’s review is largely a volunteer based effort; this is not nearly enough time to complete a fullsome and meaningful review. It raises the question about how genuine the Region is in the stakeholder outreach. Many (but not all) municipalities typically engage stakeholders anywhere from 6 to 12 months in advance of the Background Study being released. This allows for more in depth analysis and dialogue between the municipality and the various stakeholders and in the end a more collaborative outcome. It generally results in fewer appeals to the OMB as discrepancies or errors are mitigated through this extended consultation period.

In the future, it would be our Association’s recommendation that the consultation process begin much sooner.

**Summation**

Finally, in recognition of the limited time we are allotted before Committee this evening, I have appended a letter from Kevin Fergin to the Chair and Members of Regional Council that provides a general commentary on Development Charges and how they and other government imposed costs, impact housing affordability in our Region.

In summary, our Association has a few requests of the Region:

1. Provide longer lead time and opportunity for stakeholder consultation in future Development Charge reviews.
2. Provide regular updates of the Development Charge reserve account and associated Development Charge eligible projects, to our industry via our Regional Liaison Committee.
3. Consider a reduced residential development charge increase by 50% from the amount calculated in the Background Study.

We look forward to further discussion and consideration by the Committee regarding our requests.

Thank you.
APPENDIX 1

Dear Chair and Members of Council,

On behalf of the WRHBA, I would like to submit some general commentary on how Development Charges and other government imposed costs, impact housing affordability in the Region of Waterloo. Although we have submitted comments and concerns directly related to the current draft DC Background Study and By-law to Regional staff, we would also like these general comments included for your consideration and edification during the public review phase of the Development Charge Study process.

New Neighbours Tax – How Much Do They Pay?
Across Ontario, new neighbours are paying more than their fair share in government-imposed costs. As taxes and other government charges increase, these are not absorbed by the industry but are added to the cost of a new home and new employers. These new neighbours ultimately carry the cost of all government imposed fees and charges.

New neighbours - both new homeowners and new employers - do their fair share to contribute to municipal, provincial and federal growth related costs.

For example, the typical new neighbour will pay the following:

1. Local municipality development charges
2. Regional development charges
3. Education development charges
4. Planning review fees
5. Building permit fees
6. Engineering and servicing review fees
7. Conservation Authority review fees
8. Peer review costs
9. Hydro/utility fees
10. Property taxes
11. TARION enrolment fee
12. CMHC mortgage insurance
13. HST
14. Land Transfer Tax
15. Park Cash-in-Lieu Fees

Additionally, new neighbours will not only pay for existing municipal services through their residential property taxes and user fees, but, by virtue of the manner in which the financial tools currently operate, they will also pay the greatest proportion for all new services that are implemented and for upgraded services that can be enjoyed by all residents.

To qualify these remarks, the industry commissioned and released a report looking at the impact of a variety of government charges and fees on the affordability of a new home in the GTA. The study looked at six municipalities and found that on average, more than one-fifth (over 20%) of the cost of a new home goes to government through a variety of fees and charges such as development charges, parkland fees and taxes.

Development Charges
When the Development Charges Act (DCA) was passed in 1997, it attempted to strike a balance between stakeholders. At the time, the DCA attempted to fine-tune the overall principle that growth pays for growth as there were issues arising particularly with respect to service level standards and contributions from the tax base. However, since the passage of the DCA, municipalities have interpreted
the DCA in ways unanticipated with the earlier amendments and they have found alternative ways to raise revenue for infrastructure that go beyond the scope of the legislated requirements in the Act. Charges have increased significantly over the last generations of development charge by-laws and these increases do not match either tax increases or cost of living increases. The rise in development charge revenue is often met with barely any upward movement in property taxes by municipalities. In fact, in many cases, property taxes have been declining in certain municipalities when adjusted for inflation. We recognize that municipalities have increasing pressures to provide for the costs of infrastructure that were not considered ten or more years ago, such as enhanced provincial environmental standards as well as changing transit and mobility needs and increasing consumer expectations and other funding constraints.

Affordability, Transparency & Accountability
We believe that a better balance needs to be struck between the costs assigned to new neighbours and existing home and businesses. Failing to address this imbalance now will be an impact on current and future affordability of homes and businesses and on economic growth. It will also exacerbate current frustrations with a decline in transparency and accountability in some areas of the province.

The industry attributes the large escalations to the costs included in development charges to many sources. It stems in part from the ever changing variety of ways in which the DCA has been interpreted. This includes, but is not limited to mechanisms such as excessive soft costs for hard infrastructure (i.e. staff time and higher than standard contingencies), excessive historical service standards, and disproportionate shares between benefit to existing taxpayers and new growth.

In order to increase transparency and accountability, we would request that Council ensure that staff provides our industry with updates on each project on an annual basis recording all monies received and spent and any deviations including additional costs anticipated and variances in timing. Council should also ensure that staff provides regular updates to our Liaison Committee to review the development charge reserves and project lists in the development charges background study. We would like to receive a direct accounting from the reserve funds as to what infrastructure the DC payments contributed to, and the anticipated timing of the infrastructure.

Public Infrastructure – Private Debt
New neighbours making mortgage payments on a new home are borrowing to help finance the infrastructure owned by the municipality in which they live. Financing public infrastructure through household mortgage debt is not only dangerous, it is also inefficient.

New and upgraded municipal infrastructure benefits the entire community and delivers those benefits over a long period of time. The costs associated with this basic infrastructure should be borne by the entire community and should be spread out over time to match the productive lifespan of that infrastructure through municipal debt, since municipalities have relatively strong credit profiles, and not over the life of someone’s personal mortgage.

Development Charges Review Timelines
Currently, the preparation of a development charges background study can take several months and from the date of the release of the Background Study and draft Bylaw, the industry has had very little time to review this information. Although we were provided with some information in advance of the completed background study, it was piecemeal and not ideal for providing a fulsome review on behalf of the industry and the new neighbours who will be bearing the costs of the Development Charges.

There are other municipal partners that understand this pitfall and they bring industry representatives to the table well in advance of the release of the development charges background study. This results in a better understanding of the assumptions included in the background study and supplementary reports,
and generally this also results in less appeals to the OMB as discrepancies or errors are mitigated through this extended consultation period.

**The benefits of Growth to existing residents in the Region of Waterloo**

When calculating the quantum of the Development charge rate, the Region and its consultant have proceeded to itemize and quantify the "cost" of growth.

For many years now the mantra during the preparation of Development Background Studies has been "Growth should pay for itself." While the Home Building Industry does not necessarily disagree with this approach, over the years it appears that the "benefits" of growth have largely been ignored and not taken into account during this process.

Growth brings more jobs and a larger tax base to pay for a wider variety of services, better roads and public transportation, more libraries and community centres, better schools, more recreational activities, improved cultural opportunities and all those other things that provide us with a higher quality of life.

In a growing community such as the Region of Waterloo, real estate values continue to increase at a pace that often exceeds inflation. In stagnant or declining communities, these real estate valuation increases do not materialize.

Therefore, one of the huge benefits of growth, that is often overlooked, is the incredible accumulation of personal net worth (through home equity) that every homeowner enjoys when living in a growing community.

This creation of wealth has been phenomenal in the Region of Waterloo over the past decade. With house prices having increased 50% over this timeframe, the average home (average of single, semi, row and apartments) price has gone from around $200,000 to over $300,000. Multiplied by the number of households in the Region, this translates into a benefit to the net worth of existing residents in the BILLIONS of dollars!!

The only thing that residents in the Region have had to do to earn this substantial windfall was to have been fortunate enough to live in this growing community and to have made a wise investment in homeownership. Add to this the fact that these capital gains are tax free and it is clear that homeownership in a growing community has a tremendously positive impact on wealth creation. And this wealth is widely dispersed throughout the community as all forms of housing increase in value.

Therefore, to ensure that growth continues in the Region for the benefit of existing residents, lowering the DC rate and transferring some of the cost of new infrastructure to the existing tax base would be appropriate to consider. Not only would this be a fair and equitable balance for funding new infrastructure, it would also be a financial benefit to both existing and future residents.

All of which is respectfully submitted on behalf of the Waterloo Region Home Builders' Association,

Kevin Fergin  
2nd Vice President – WRHBA
APPENDIX 2

IBI GROUP
5th Floor – 230 Richmond Street West
Toronto ON M5V 1V6 Canada
tel 416 596 1980 fax 416 596 0644

Memorandum

To/Attention: Kevin Fergin, Ian Rawlings
From: Audrey Jacob
cc: Heather Bird, Andrea Renney
Project No: 36363
Steno: ahj

Date: June 3, 2014

Subject: 2014 Region of Waterloo DC Review – O/S Questions/Concerns

This memo summarizes the outstanding questions / concerns related to the Waterloo Region DC review.

Process

Given IBI Group’s participation in a number of DC Bylaw reviews over the past 2 years, an observation offered is that many other jurisdictions have involved stakeholder consultation much earlier compared to Waterloo Region. IBI Group’s involvement with the Waterloo file commenced in mid April with consultation occurring through May, allowing for about 6 weeks of analysis/consultation.

Given the complexity of DCs and conflicting commitments, this is not nearly enough time to complete a fulsome and meaningful review. It raises the question about how genuine the Region is in the stakeholder outreach. Many (but not all) municipalities typically engage stakeholders anywhere from 6 to 12 months in advance. This allows for more in depth analysis and dialogue between the municipality and the various stakeholders and in the end a more collaborative outcome.

On a go forward basis it would be IBI Group’s recommendation that the consultation process begin much sooner.

Housing / Population Forecast

1. Given that a DC reflects growth related costs of development, the forecast which underpins the analysis is critical. At the May 15th meeting with the Region there was a discussion around the basis for average household size; subsequently the Region provided the background information.

   • However, as part of this point of discussion, IBI Group requested the source/basis of the housing forecast used in the DC. To date nothing has been provided.

At the meeting Hemson Consulting advised that the forecast was consistent with the Regional Official Plan/Land Budget. I have not found any supporting material in either document to support the housing forecast. It is well known that the issue of the housing forecast by type is a contentious issue in Waterloo Region, as evidenced by the still outstanding matter before the OMB/Courts regarding the Region’s Land Budget. The lack of resolution on that front makes it quite challenging to determine the longer term growth in housing in terms of mix of housing and the infrastructure costs...
associated with that growth in housing. There are many assumptions in a housing forecast and there is no transparency in the Region's housing forecast used in the DC.

2. Having reviewed the average household size (i.e., persons per household or PPU) information provided by the Region, IBI Group continues to have concerns regarding the assumptions.

IBI Group is aware of the Hemson approach to the anticipated shift in housing preference implied/mandated by the Growth Plan. In Vaughan, Hemson advised their own approach assumed that a household that previously would have selected a single/semi unit would now simply choose a row or apartment unit. Thus in Hemson's approach the implied household size for row and apartment units would have to increase in order to achieve the desired outcome.

The May 7th letter from the Region to IBI Group notes: the ppu estimates were based upon the occupancy patterns of similar unit types constructed in the Region over a 20 year period, and have been adjusted slightly downward to reflect the continuing trend to lower PPUs, consistent with the preparation of the Regional Land Budget. This is entirely inconsistent with Hemson’s approach in other jurisdictions.

3. Having reviewed the housing forecast in the 2014 DC further, IBI Group has significant concerns about the implied absorption or take up of units, particularly in the near term (next 5 years). The forecast assumes that apartment units will be delivered at a rate that is unprecedented in the Region's history.

- In the 2009 to 2013 timeframe a total of 3,032 apt units were actually delivered or about 606 annually; 2012 was a peak year of 1,160 apt units however most years were significantly less 1.

- In the next five years (2014 to 2018) the 2014 DCBS assumes a total of 9,444 apartment units (excluding off-campus student housing) will be delivered – more than triple the number of units in the previous 5 year timeframe. Over the next 5 years, it is anticipated that the market will deliver just under 1,900 units annually – apartment completions never achieved across the Region and certainly not on a sustained basis.

In my view, the significant housing preference shift assumed in the next 5 years in the 2014 DCBS may jeopardize the Region's ability to realize the population forecast because the necessary units may not be delivered.

Land Values

4. A request was made for the basis of the land values associated with municipal facilities. Altus Group forwarded a document used in the City of Kitchener DC review prepared by Coldwell Banker (Peter Berringer). While this is appreciated, it would be appropriate for the Region to provide the basis of the land values used in the 2014 DC level of service and development related capital.

Transit

5. The transit development related capital program totals $23.8 million of which $11.1 million relates to Future Garage Expansion land acquisition. Please provide details of location, acreage and size of building.

6. The Region provided a high level response to inquiries around the Transit Garages – Strasberg and Expansion. There are still concerns around the transit capital costs associated with growth. The approach used to apportion benefit of the capital program between ‘benefit to existing’, growth through the period 2014 – 2023 and post 2023 is not understood. Some basic analysis reveals further questions.

---

1 Significant apartment development occurred in Waterloo Region in the 1960s and 1970s equivalent to about 1,000 units annually – likely due to tax programs such as MURBS. Multiple-unit residential building (MURBS) investment was a popular Canadian tax shelter in the 1970s as it was a low-risk investment providing huge tax write-offs.
• The Region currently has 281 buses in service according to the level of service summary in the 2014 DCBS. These buses are housed in 364,131 sq ft, or just under 1,300 sq ft per bus. The administration/maintenance/bus storage of 364,131 sq ft is accommodated on 7.71 ha or 19.05 ac or about 43% coverage.

• Using information provided in the 2014 DCBS, the development related capital program can be examined further utilizing information provided in the historic level of service.
  o The capital program (and the City’s capital budget) identifies $18 million in additional vehicles; based on the level of service (i.e., about $500k/bus) this translates into about 36 buses.
  o At 1,300 sq ft per bus, the new garage facilities should be sized at about 46,800 sq ft.
  o At $285/sq ft (based on level of service information), the garage required to accommodate the new buses would be about $12.4 million.
  o At 43% coverage, a site of just over 1 ha is required. At $740k/ha, it is estimated that the land required would be about $750k.
  o Based on available information, IBI estimates that the costs associated with the garage required to accommodate the additional conventional vehicles (buses) should be around $13.2 million in land and buildings.
  o However, the capital program reflects costs of $64.8 million, excluding design and engineering ($6.4 million). The costs breakdown includes land acquisition costs of $12.4 million; the future garage expansion construction costs are identified as $27.9 million and $24.5 million for 2018 and 2019 respectively. This is vastly different from a ‘calculated’ requirement as outlined above.
  o The Region noted in their May 7th response: based on current growth projections and planned GRT transit fleet expansion, it is estimated that the existing bus storage and maintenance capacity of the existing GRT facilities (Strasburg/Chandler and Conestoga) will effectively be maximized by 2015-2016. Accordingly the approved GRT Facilities Strategy plans for the construction of a new bus storage and maintenance facility in Waterloo in the 2017-2019 timeframe. The 2014 GRT Capital Budget and 10 year forecast includes funding in 2014 for land acquisition with subsequent construction planned from 2017 – 2019.
  o If the new facilities are to accommodate existing buses, the capital costs should reflect a benefit to existing.
  o Similarly, given that the GRT capital forecast does not include the purchase of additional vehicles post 2021, the facilities costs identified as development related post 2023 seem excessive.

7. The 2014 capital budget for Grand River Transit identifies RDC reserves of $6.188 million; please advise how these have been taken into account in the 2014 DC analysis.

Roads

8. The Region of Waterloo approach to the roads program and benefit attribution between benefit to existing (BTE), 2014 – 2023 growth and post 2023 growth (PPB) is not understood.

Generally, the Region’s approach assumes very limited BTE and zero PPB. Where there is an assignment of BTE, it is not clear as to the rationale used for the quantum identified.

In the case of PPB, even if a road project is delivered late in the period i.e., 2022, the Region claims there is no PPB. Their position is that a fraction of a lane or intersection improvement cannot be delivered; it must be the entire land or intersection improvement. The position taken on roads
contrasts sharply against the approach taken to water/wastewater infrastructure where in the Region’s May 7th letter they state: for some municipal servicing, such as water and sewer pipes, it is prudent to oversize infrastructure to allow capacity for future development beyond the DC period and hence a deduction may be appropriate. The Region also notes: road projects are not typically allocated post-period benefit in Development Charge calculations. This claim by the Region is entirely false. IBI Group has worked with many municipalities where PPB is routinely identified. Recent examples include the Cities of Ottawa and Toronto as well as York Region.

This requires serious re-consideration by the Region.

9. The Region provided IBI Group with volume to capacity data for the Region’s screenlines for 2011 and 2031. However, the time horizon considered in the 2014 DCBS is 2014 to 2023. Volume to capacity data provides insights into areas of congestion and the need for improvements. The Region advised that they had interim information available for 2021 but would not release this information as it holds no official status. Based on our review of the volume to capacity ratio information provided, we have significant concerns that road related works included in the DC may be inappropriate based on information IBI was provided. We would appreciate receiving the 2021 interim volume to capacity estimates if only to simply provide an ‘informed’ position on this matter.

10. The Region’s May 7th letter provides some explanation for the increased number of projects. The letter notes: Intersection improvements, development related left and right turn lanes and new traffic signals are identified through Transportation Impact Studies (TIS) or as other localized intersection capacity improvement studies. These improvements are evaluated based on development impacting the volume/capacity ratio to a point to trigger the addition of turning lanes and/or traffic signals or the need for a roundabout. This response generates additional questions:

- Are the referenced projects identified through TIS studies not more appropriately funded by the development generating the traffic? Should this not be a developer responsibility?
- The Region uses volume/capacity ratio data as a ‘trigger’ in the context of the need for additional turning lanes or traffic signals. Why is this not similarly used for other road related works?
- The Region advised that they use a volume/capacity ratio of 1.05 as the basis for identifying a ‘trigger’; many other jurisdictions use 0.9. Based on our analysis of the volume/capacity ratio data provided, a good many roads in the Region are well beyond the 1.05 ‘trigger’ point; projects on these roads should consider BTE. A review of the roads program included in the 2014 DC did not provide any rationale for the estimates of BTE.

11. Cycling and pedestrian modal share are forecast to increase. Modal share should be used as a basis for determining benefit attribution. For example, cycling modal share is forecast to increase from 0.7% to 3.0%. This shift is not attributed solely to new growth but rather across the existing and future population. So the need for bicycle lanes should relate not simply to the future population but also reflect the increased users due to the shift in modal share. This should similarly be reflected in transit estimates of BTE.

Water/Wastewater

12. The Region uses flow rates based on a running 5 year average of actual flow rates. Given that the Region is assuming a significant shift to higher density units and given that apartment dwellers typically do not utilize nearly as much water as those residing in single family housing, it would be entirely appropriate for the Region to consider using lower flow rates in their analyses of water and wastewater infrastructure. Lower flow rates will likely reduce infrastructure requirements, particularly supply and plant requirements. This warrants further review.
June 11, 2014

Via Email to ajacob@ibigroup.com:

Audrey Jacob
IBI Group
5th Floor, 230 Richmond Street West
Toronto, Ontario M5V 1V6

Dear Ms. Jacob:

Re: 2014 Region of Waterloo DC Review – O/S Questions/Concerns

Thank you for your memo dated June 3, 2014 summarizing your outstanding questions/concerns related to the Waterloo Region DC review. We have reviewed your memo and offer the following in response.

Process

The Region is committed to stakeholder engagement through the Development Charge By-law Review process:

- Region staff has met with representatives of the homebuilders association, other developers and their consultants on four separate occasions. It has addressed all issues raised by stakeholders – verbally and in writing.
- The Region has adjusted the rate calculations in the background study where warranted and as a result of stakeholder feedback.
- In addition to the statutory public meeting on June 4th, stakeholders and their representatives have had a chance to voice their concerns to a working group of Council and senior staff.
Housing/Population Forecast

1. At the May 15th meeting with stakeholders, the Homebuilders’ representative from IBI expressed dissatisfaction with the level of disclosure on the development forecast contained in Appendix A of the Background Study. When asked for specific information about additional information that could be provided the IBI representative requested that a 2011 Census special run of data on Regional population by dwelling unit type by period of construction be provided. This information was provided to IBI and other stakeholder representatives on May 21, 2014. No other specific information about the forecast has been requested.

In our view, the level of disclosure provided in Appendix A of the background study both meets the requirements of s.10 (2) (a) and s.5. (1) 1. of the Development Charges Act and provides sufficient information for analysis and review.

2. The ppu assumptions applied in the development charge forecast are consistent with the Regional Official Plan and associated Regional Land Budget. The ppu assumptions employed in other municipalities were not drawn upon to develop the Region of Waterloo forecasts.

3. We agree that the development forecasts set out in the Background Study represent a shift in housing patterns across the Region. The Regional Official Plan and Regional Land Budget anticipate and plan for such a shift occurring. The shift is not, in our view, as unprecedented as claimed by IBI. Indeed evidence suggests that it is already underway as indicated in the historical series shown in Table A.2 of the Background Study, and as reported semi-annually by the Region in Building Permit Activity and Growth Monitoring reports to Council. It is the Region’s intention to closely monitor and report on growth and development over the term of the DC by-law.

Land Values

4. As noted in our letter to IBI of May 7, 2014, Regional staff reviewed and updated land values of municipal facilities included in the capital asset inventories. Land values were prepared with reference to the Region’s recent experience with land purchases and sales as well as, where applicable, external real estate appraisals. Information about specific land values used in the Background Study may be provided should the Homebuilders or other stakeholders request them.

Transit

5. The Region has considered a number of sites for the Future Garage Expansion and is in the process of concluding a purchase of a site. The details of the land acquisition will be made public shortly and the costs, together with anticipated site
development costs, are consistent with the estimate provided in the capital program and the Background Study.

6. IBI states that the garage space required to accommodate new conventional buses over the period 2014-2023 should be no more than $13.2 million (land acquisition and construction). We would offer the following comments on the IBI analysis:

   - Although the capital program includes garage costs of $64.8 million only $19.5 million of this cost is included as eligible for DC funding within the 2014-2023 period (see p.95 of the Background Study). The remainder is shown as a post-period benefit that may or may not be eligible for DC funding after 2023 (subject to service level restrictions). IBI’s statement that the $64.8 million is “vastly different” from the $13.2 million it claims is DC-eligible does not acknowledge that only $19.5 million is being funded from the calculated DC rates.
   - Only the costs of garage expansions are included in the Background Study. The cost of replacing existing GRT facilities is considered a benefit to existing share and will be funded from non-DC sources.
   - Post-2023 (and possibly before) the Region will require additional conventional buses over and above those identified in the Background Study in order to achieve its long-term transit objectives.

7. The $6.188 million identified in the 2014 GRT Capital Program represents 2014 project financing expected from the DC Reserve Fund based on the current DC By-law and is not representative of the current reserve fund balances. The current transit DC reserve fund balances are reflected in the cash flow analysis in Appendix B.5, Table 3, pages 1 and 2 of the Background Study.

Finally, and importantly, it is noted that of the significant investment in Transit (both GRT and rapid transit) being undertaken by the Region over the next 10 years only about 8% is being funded by development charges. This 8% share, in our view, substantially under-represents the benefits of this investment received by development.

Roads

8. The analysis supporting the calculation of the Transportation development charges is set out in Appendices C and G of the Background Study. The approach to determining the benefit to existing for all Transportation projects is described on pp.119-21.

With respect to Transportation post-period benefit, we would refer to response 5 under “Roads” in our letter to IBI of May 7th, 2014, and reiterate: the investment in road and related infrastructure does not result in the Transportation level of service being exceeded by 2023. Additional investment, over and above what is included in 2014-2023 development-related capital program, will be required to meet the servicing needs of development after 2023.
We note that although other municipalities have identified a post-period benefit for roads and related works, Transportation projects are not typically allocated post-period benefit in development charge calculations in the Region of Waterloo.

9. The Region of Waterloo prepared the Regional Transportation Master Plan (2010 RTMP) using appropriate planning principles and techniques. The 2010 RTMP was prepared with a 2011 base year and a 2031 future horizon. Screenline analysis was used to identify capacity deficiencies for the existing and future networks. The recommended 2010 RTMP capital improvements were developed to address capacity deficiencies and support transit and active transportation strategies. These improvements were categorized into three groups based on required timing: 0-5 year, 5-10 year, and 10-20 year. As part of the Regional Development Charge Background Study, the 2014 Capital Program was prepared based on the RTMP projects for 2014 to 2023. Only certain projects of the twenty year 2010 RTMP projects were eligible for inclusion in the 10 year 2014 Capital Program (remaining 0-5 year projects, all of the 5-10 year projects and the first three years of the 10-20 year projects).

In order to confirm this approach for the timing of projects, an interim model run for the year 2021 was undertaken by Region of Waterloo staff. The interim model run provided further guidance because the RTMP only provides the 2006 base year and 2031 horizon year transportation mode shares and screenline transit mode share targets. The interim model run was developed in the following way:

1. The 2021 road network was updated to reflect the newest available road improvement schedule in the 2014 Transportation Capital Program.
2. Overall person trip demand was estimated based on trip rates in the Regional transportation demand forecasting model and forecast population and employment for 2021.
3. The RTMP provided estimates of annual 2021 transit ridership for the “Modified C” scenario that was adopted. Annual ridership was converted to PM peak hour ridership based on the trend between the 2006 and 2031 data.
4. Walk and bike trip demand for 2021 were estimated by taking the trend between 2006 and 2031 data.
5. The auto passenger trip demand was determined by the trend between 2006 and 2031 data.
6. The 2021 auto driver demand was determined by subtracting the transit, walk, cycle and auto passenger trip demands from the overall person trip demand.
7. Final 2021 auto driver trip demand was assigned to the 2021 road network.

The results from the approach used above confirmed the timing of projects and were included appropriately in the 2014 Capital Program as described in the Background Study. Also, as noted in our response for #10b below, V/C is not the only determinant for Regional road improvements.

10. Response to the inquiries:
a) Transportation Impact Studies (TISs) are used to identify capacity, level of service, queuing, safety and other transportation issues at the local level and are often conducted as part of a development approval process. Once a TIS is complete, the Region considers the transportation improvements identified within the study. If the Region supports the identified transportation improvements, the Region proceeds to include Regional-funded projects in the Transportation Capital Program and undertake the design and construction of these transportation improvements.

b) Implementation may include both development-funded improvements (where Regional roads intersect private roads/entrances) or Regional-funded improvements (i.e. intersection improvements on Regional roads at municipal or Regional roads, Regional road new construction or widenings). The only transportation improvements included in the 2014 Transportation Capital Program are those improvements related to the Regional-funded improvements.

As described above, the Region uses several metrics and consideration of the specific context to determine the need for local improvements. These may include turning lanes or new traffic control signals. V/C alone is not a "trigger" point in this or any other analysis, it is simply one of many considerations.

While the scale and metrics are different the same fundamental approach is used for all other road related works. The volume/capacity (v/c) ratio is used as a guide for determining system level capacity improvements. Other metrics, such as road condition, underground services, structure condition, development patterns, transit, active transportation, and local context also contribute to the planning and scheduling of road related works.

c) Your memo recognizes that traditionally a lower v/c ratio of 0.9 is used by other jurisdictions to identify capacity issues that need to be addressed by road lane expansions. The Region of Waterloo, through its RTMP, is implementing an approach that aggressively promotes transit and active transportation.

The v/c guideline of 1.05 recognizes how far the Region is willing to go to promote transit and active transportation, before resorting to lane expansions on Regional road network. As indicated in the RTMP, if a lower v/c ratio were used, more road expansion projects would be required to be implemented and therefore would be included within the Transportation Capital Plan.

The v/c screenline assessment is not the only method to identify the need for a road-related expansion project. The projects included within the Capital Program also address capacity issues identified in completed Environmental Assessments, known
development occurring and requiring additional capacity and improvements to address localized operational issues.

The nature of screenline analysis means that individual facilities exhibiting a high v/c (either in the base case, or the future case, do not necessarily "trigger" a roadway expansion. This information is used in context with the overall screenline v/c and a variety of other factors mentioned under response to question 10b.

Concerning the approach taken to BTE relating to the existing road network capacity, please refer to the response to question 8. The Development Charge Act specifies that the development charge must not result in the level of service exceeding the average level of service for the previous 10 year period. Level of service is calculated on the road system network level.

11. The cycling and pedestrian facilities included in the Transportation Capital Program and Background Study are within the Regional road right-of-way and are required in order to achieve the higher mode share targets identified within the RTMP for active transportation. The transportation capacity assessments assumed these aggressive mode share targets would be achieved, thereby reducing auto trips. Lower mode share targets for active transportation would have resulted in more road expansion projects being required in order to accommodate growth. The projects in the capital plan are required to provide the continuous corridors for active transportation between growth areas and major destinations within the Region.

Water and Wastewater

12. The Region uses two tools for planning its infrastructure requirements: Master Plans and the annual Water & Wastewater Monitoring Reports (WWWMR). Master Plans look at long term population growth and flow/demand trends in the Region. The WWWMRs use five year flow/demand averages as prescribed by the Ontario Ministry of the Environment. The Region has completed, in 2013 and 2014, updates of the Water Distribution Master Plan and Supply Master Plan, respectively. These updates were required due to declining water demands in the Region. Recommendations of these Master Plans have already been considered in the Background Study. Wastewater flows have not shown the same declining trends as water demands, as they are generally more impacted by weather than water demands. Recommendations from the 2007 Wastewater Treatment Master Plan and annual confirmation of implementation schedules based on WWWMRs show that the current Wastewater Capital Program used in the Background Study is relevant. The Region is planning to initiate an update of the Wastewater Treatment Master Plan in 2015 and the recommendations from this Master Plan Update will be considered in the development of the next Background Study.
Yours truly,

Calvin Barrett, CPA, CA  
Director of Financial Services and Development Financing  
Finance Department  
Region of Waterloo  
CBarrett@regionofwaterloo.ca  
Phone: 519-575-4478  

Copy: Stakeholders, RDC Staff Committee
**Appendix D – Summary of Amendments to the Draft Development Charge By-law**

Published May 21, 2014

<table>
<thead>
<tr>
<th>y-law Clause</th>
<th>1(a) “Accessory Building”</th>
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<tbody>
<tr>
<td>Change Summary</td>
<td>Amend definition of “Accessory Building”</td>
</tr>
<tr>
<td><strong>Original Wording</strong></td>
<td>(a) &quot;Accessory Building&quot; means a building or structure, or part of a building or structure, that is:</td>
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<tr>
<td></td>
<td><em>(i)</em> a parking garage that is exclusively devoted to providing vehicle parking to the main use situated on the same Site;</td>
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<tr>
<td></td>
<td><em>(ii)</em> a mechanical room that is exclusively devoted to providing heating, cooling, ventilating, electrical, mechanical or telecommunications equipment for a building situated on the same Site;</td>
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<td></td>
<td><em>(iii)</em> an entrance way, elevator, stairwell or hallway that provides access to a Dwelling Unit or Lodging Unit on the same Site;</td>
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<td></td>
<td><em>(iv)</em> a pool area, change room, restroom, fitness facility, kitchen, laundry room, lounge or meeting room that is for the exclusive use of the residents of a Dwelling Unit or Lodging Unit on the same Site;</td>
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<tr>
<td></td>
<td><em>(v)</em> a storage room that provides storage exclusively to a resident or residents of a Dwelling Unit or Lodging Unit on the same Site; or</td>
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<td></td>
<td><em>(vi)</em> an exterior deck, porch, canopy, gazebo, storage shed or stairway that is exclusively devoted to the use of a resident or residents of a Dwelling Unit or Lodging Unit on the same Site;</td>
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</table>

| **Proposed Wording** | (a) "Accessory Building" means a building or structure, or part of a building or structure, that is: |
| | *(i)* a parking garage that is exclusively devoted to providing vehicle parking to the main use situated on the same Site; |
| | *(ii)* a mechanical room that is exclusively devoted to providing heating, cooling, ventilating, electrical, mechanical or telecommunications equipment for a building or **buildings** situated on the same Site; |
Site

(iii) an entrance way, elevator, stairwell or hallway that provides access to a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

(iv) a pool area, change room, restroom, fitness facility, kitchen, laundry room, lounge or meeting room that is for the exclusive use of the residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

(v) a storage room that provides storage exclusively to a resident or residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site; or

(vi) an exterior deck, porch, canopy, gazebo, storage shed or stairway that is exclusively devoted to the use of the residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

and for the purposes of this definition, “Site” shall include common elements of the same condominium as the applicable main use, buildings, Dwelling Units or Lodging Units.

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<tr>
<th>By-law Clause</th>
<th>1(d) “Applicant”</th>
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<tr>
<td>Change Summary</td>
<td>Amend definition</td>
</tr>
<tr>
<td>Original Wording</td>
<td>&quot;Applicant&quot; means the owner of a Site applying for a Development Charge exemption for Eligible Costs for a Brownfield</td>
</tr>
<tr>
<td>Proposed Wording</td>
<td>&quot;Applicant&quot; means the registered owner of a Site applying for a Development Charge exemption for Eligible Costs for a Brownfield</td>
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<th>By-law Clause</th>
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<tr>
<td>Change Summary</td>
<td>Amend definition</td>
</tr>
<tr>
<td>Original Wording</td>
<td>&quot;Brownfield&quot; means a property which contained environmental contamination either in the ground or buildings</td>
</tr>
</tbody>
</table>

Proposed Wording | "Applicant" means the registered owner of a Site applying for a Development Charge exemption for Eligible Costs for a Brownfield |

Proposed Wording | "Applicant" means the registered owner of a Site applying for a Development Charge exemption for Eligible Costs for a Brownfield |
due to the operational activities of a previous land use, where the extent of the contamination rendered the property vacant, under-utilized, unsafe, unproductive or abandoned, and for which a Record of Site Condition was filed on or after January 1, 2006

**Proposed Wording**

"Brownfield" means a Site which contained environmental contamination either in the ground or buildings due to the operational activities of a previous land use, where the extent of the contamination rendered the property vacant, under-utilized, unsafe, unproductive or abandoned, and for which a Record of Site Condition was filed on or after January 1, 2006

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<th>By-law Clause</th>
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<td><strong>Change Summary</strong></td>
<td>Amend Definition</td>
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<td><strong>Original Wording</strong></td>
<td>&quot;Eligible Costs&quot; means the sum of the direct costs of remediating the Brownfield plus an allowance for indirect remediation costs less the value of any other financial assistance provided for the Brownfield by the Region of Waterloo all as set out in Schedule C of the By-law;</td>
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<tr>
<td><strong>Proposed Wording</strong></td>
<td>&quot;Eligible Costs&quot; means the sum of the direct costs of remediating the Brownfield plus an allowance for indirect remediation costs less the value of any other financial assistance provided for the Brownfield by the Region of Waterloo and/or a lower-tier municipality, all as set out in Schedule C of the By-law;</td>
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<th>By-law Clause</th>
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<td><strong>Change Summary</strong></td>
<td>Amend clause for size of “Accessory Building”</td>
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<td><strong>Original Wording</strong></td>
<td>an Accessory Building, provided that the total Gross Floor Area of the Accessory Building or Buildings on the Site does not exceed the total Gross Floor Area of the main use, Dwelling Units and Lodging Units on the site</td>
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<td><strong>Proposed Wording</strong></td>
<td>an Accessory Building, provided that the total Gross Floor Area of the Accessory Building or Buildings on the Site does not exceed the total Gross Floor Area of the applicable main</td>
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<tr>
<td>By-law Clause</td>
<td>use, buildings, Dwelling Units or Lodging Units</td>
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<td>Change Summary</td>
<td>Amend Brownfield wording</td>
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<td>Development of a remediated Brownfield to the maximum of the Eligible Costs on that Site as set out in Schedule C of this By-law, provided that such Development occurs no later than seven years from the date of issuance of the required Record of Site Condition</td>
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<td>Proposed Wording</td>
<td>Development of a remediated Brownfield to the maximum of the Eligible Costs on that Site as set out in Schedule C of this By-law, provided that the criteria as set out in Schedule C of this By-law is satisfied and such Development occurs no later than seven years from the date of issuance of the required Record of Site Condition</td>
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<th>By-law Clause</th>
<th>Schedule A - Rates</th>
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<td>Change Summary</td>
<td>Rates updated &amp; additional “industrial” rate category added</td>
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<tr>
<td>Original Wording</td>
<td>Single rate for all non-residential development</td>
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<tr>
<td>Proposed Wording</td>
<td>Non-residential rates table now has separate categories for “Non-Residential (Excluding Industrial)” and “Non-Residential (Industrial)”</td>
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<th>Schedule C 1(a)</th>
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<tr>
<td>Change Summary</td>
<td>Amend per Report P-14-009 Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program</td>
</tr>
<tr>
<td>Original Wording</td>
<td>An Applicant must not have been the owner of the Brownfield during the operational activities of the land use which created the Brownfield, nor have been found to be responsible for the subject contamination of the Brownfield</td>
</tr>
<tr>
<td>Proposed Wording</td>
<td>An Applicant must not have been the registered owner of the Brownfield during the operational activities of the land use which created the Brownfield, nor have been found by any court, tribunal or other body with lawful jurisdiction to be responsible for the subject contamination of the Brownfield</td>
</tr>
<tr>
<td>By-law Clause</td>
<td>Schedule C 2(a)</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Change Summary</td>
<td>Amend per Report P-14-009 Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program</td>
</tr>
<tr>
<td>Original Wording</td>
<td>Remediating a Brownfield plus an allowance for indirect remediation costs. The calculated development charge exemption is then reduced by the value of any financial assistance provided by the Region of Waterloo under its Brownfields Financial Incentive Pilot Program or any successor thereto.</td>
</tr>
<tr>
<td>Proposed Wording</td>
<td>The Development Charge exemption shall consist of the direct costs of remediating the Brownfield, plus an allowance for indirect remediation costs, as determined herein. The calculated Development Charge exemption is then reduced by the value of any financial assistance provided by the Region and/or a lower-tier municipality under its Brownfields Financial Incentive Program or any successor thereto.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By-law Clause</th>
<th>Schedule C 2(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Summary</td>
<td>Amend per Report P-14-009 Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program</td>
</tr>
<tr>
<td>Original Wording</td>
<td>Direct remediation costs include the cost of:</td>
</tr>
<tr>
<td></td>
<td>(i) Phase I Environmental Site Assessments;</td>
</tr>
<tr>
<td></td>
<td>(ii) Phase II Environmental Site Assessments (only for the portion not already funded by the Region of Waterloo under its Brownfields Financial Incentive Pilot Program or any successor thereto);</td>
</tr>
<tr>
<td></td>
<td>(iii) Remedial work plans;</td>
</tr>
<tr>
<td></td>
<td>(iv) Site specific risk assessments;</td>
</tr>
<tr>
<td></td>
<td>(v) Environmental rehabilitation;</td>
</tr>
<tr>
<td></td>
<td>(vi) Disposal of contaminated soil;</td>
</tr>
<tr>
<td></td>
<td>(vii) Placing of clean fill and grading;</td>
</tr>
<tr>
<td>Proposed Wording</td>
<td>Direct remediation costs include the cost of:</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>(i)</td>
<td>Phase I Environmental Site Assessments;</td>
</tr>
<tr>
<td>(ii)</td>
<td>Phase II Environmental Site Assessments (only for the portion not already funded by the Region of Waterloo under its Brownfields Financial Incentive Program or any successor thereto);</td>
</tr>
<tr>
<td>(iii)</td>
<td>Remedial Action Plan/ Remedial Work Plan;</td>
</tr>
<tr>
<td>(iv)</td>
<td>Risk Assessment;</td>
</tr>
<tr>
<td>(v)</td>
<td>Environmental Rehabilitation;</td>
</tr>
<tr>
<td>(vi)</td>
<td>Risk Mitigation Measures;</td>
</tr>
<tr>
<td>(vii)</td>
<td>Disposal of contaminated soil;</td>
</tr>
<tr>
<td>(viii)</td>
<td>Placing of clean fill and grading;</td>
</tr>
<tr>
<td>(ix)</td>
<td>Building demolition costs related to remediation; and</td>
</tr>
<tr>
<td>(x)</td>
<td>Filing of a Record of Site Condition (provided that at least one other cost item has been incurred).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By-law Clause</th>
<th>Schedule C 3(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Summary</td>
<td>Amend per Report P-14-009 Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program</td>
</tr>
<tr>
<td>Original Wording</td>
<td>The audit will be carried out in accordance with the standards set out in Section 5815 of the Canadian Institute of Chartered Accountants Handbook – Special Reports – Audit Reports on Compliance with Agreements, Statutes and Regulations</td>
</tr>
<tr>
<td>Proposed Wording</td>
<td>The audit will be carried out in accordance with the standards set out in Section 5815 of the Canadian Institute of Chartered Accountants Handbook – Special Reports – Audit Reports on Compliance with Agreements, Statutes and Regulations, or</td>
</tr>
</tbody>
</table>
any successor thereto.

<table>
<thead>
<tr>
<th>By-law Clause</th>
<th>Schedule C 5(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Summary</td>
<td>Amend per Report P-14-009 Recommended Refinements to the Region of Waterloo Brownfields Financial Incentive Program</td>
</tr>
</tbody>
</table>
| Original Wording | An Applicant for the Development Charge exemption should submit the following materials as evidence of work undertaken, compliance with standards and costs incurred:  
(i) A copy of the Record of Site Condition;  
(ii) Acknowledgement letter from the Ministry of the Environment indicating receipt of the Record of Site Condition;  
(iii) Remedial work plan used to achieve filing of the Record of Site Condition;  
(iv) Paid invoices from a Qualified Person as defined in Regulation 153/04 of the *Environmental Protection Act*, as amended;  
(v) Paid invoices from contractors in respect of remediation work;  
(vi) Signed declaration that the subject property is not property tax arrears; and  
(vii) The audit report as required by Section 3. |
| Proposed Wording | An Applicant for the Development Charge exemption shall submit the following materials as evidence of work undertaken, compliance with standards and costs incurred:  
(i) A copy of the Record of Site Condition;  
(ii) Acknowledgement letter from the Ministry of the Environment indicating receipt of the Record of Site Condition;  
(iii) Remedial work plan *or action plan* used to achieve filing of the Record of Site Condition *and all other associated documents*;  
(iv) *Certificate of property use, if applicable*; |
(v) **Original cost estimates for remediation prepared by a Qualified Person as defined in Regulation 153/04 of the Environmental Protection Act, as amended:**

(vi) Paid invoices from a Qualified Person as defined in Regulation 153/04 of the Environmental Protection Act, as amended;

(vii) Paid invoices from contractors in respect of remediation work;

(viii) **Summary of all Eligible Costs:**

(ix) Signed declaration that the subject property is not property tax arrears; and

(x) The audit report as required by Section 3
## Appendix E

### 2004- May 2014 Development Charge Collections – Not-for-Profit, Charitable and Community/Cultural Organizations

<table>
<thead>
<tr>
<th>Organization</th>
<th>Gross RDC</th>
<th>*Exemptions/ Allowances</th>
<th>Net RDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenian Community Centre</td>
<td>54,795</td>
<td>0</td>
<td>54,795</td>
</tr>
<tr>
<td>Children’s Aid Society of the Regional Municipality of Waterloo</td>
<td>9,872</td>
<td>0</td>
<td>9,872</td>
</tr>
<tr>
<td>Christian Horizons</td>
<td>25,419</td>
<td>25,419</td>
<td>0</td>
</tr>
<tr>
<td>Christian Labour Association of Canada</td>
<td>4,851</td>
<td>0</td>
<td>4,851</td>
</tr>
<tr>
<td>House of Friendship of Kitchener</td>
<td>26,895</td>
<td>0</td>
<td>26,895</td>
</tr>
<tr>
<td>Kitchener Waterloo YMCA-Camp Ki-Wa-Y</td>
<td>7,710</td>
<td>0</td>
<td>7,710</td>
</tr>
<tr>
<td>K-W Habilitation Services</td>
<td>195,406</td>
<td>164,350</td>
<td>31,056</td>
</tr>
<tr>
<td>Lutherwood (children’s mental health centre)</td>
<td>220,326</td>
<td>0</td>
<td>220,326</td>
</tr>
<tr>
<td>Parents for Community Living</td>
<td>76,097</td>
<td>76,097</td>
<td>0</td>
</tr>
<tr>
<td>Pensouth Corporation, The Children's Aid Society</td>
<td>19,673</td>
<td>4,265</td>
<td>15,408</td>
</tr>
<tr>
<td>Perimeter Institute</td>
<td>291,199</td>
<td>291,199</td>
<td>0</td>
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<tr>
<td>Portuguese Club of Cambridge</td>
<td>13,613</td>
<td>13,123</td>
<td>491</td>
</tr>
<tr>
<td>Ray of Hope</td>
<td>4,219</td>
<td>0</td>
<td>4,219</td>
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<tr>
<td>Ray of Hope</td>
<td>14,551</td>
<td>7,249</td>
<td>7,302</td>
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<tr>
<td>The Centre for International Governance Innovation Ltd</td>
<td>620,092</td>
<td>620,092</td>
<td>0</td>
</tr>
<tr>
<td>Women's Crisis Services of Waterloo Region</td>
<td>284,291</td>
<td>0</td>
<td>284,291</td>
</tr>
<tr>
<td>Canadian Red Cross Society</td>
<td>1,434</td>
<td>1,434</td>
<td>0</td>
</tr>
<tr>
<td>Catholic Family Counselling Centre</td>
<td>23,244</td>
<td>0</td>
<td>23,244</td>
</tr>
<tr>
<td>KW and North Waterloo Humane society</td>
<td>1,283</td>
<td>0</td>
<td>1,283</td>
</tr>
<tr>
<td>K-W Counselling Services Inc.</td>
<td>35,463</td>
<td>0</td>
<td>35,463</td>
</tr>
<tr>
<td>KW Islamic Association</td>
<td>96,998</td>
<td>0</td>
<td>96,998</td>
</tr>
<tr>
<td>Lutherwood Child &amp; Family Foundation</td>
<td>3,151</td>
<td>3,151</td>
<td>0</td>
</tr>
<tr>
<td>Parents for Community Living K-W Inc.</td>
<td>7,757</td>
<td>6,132</td>
<td>1,625</td>
</tr>
<tr>
<td>Reaching Our Outdoor Friends (Kitchener)</td>
<td>23,056</td>
<td>23,056</td>
<td>0</td>
</tr>
<tr>
<td>Saint Lukes Place</td>
<td>983</td>
<td>0</td>
<td>983</td>
</tr>
<tr>
<td>Islamic Centre of Cambridge</td>
<td>147,341</td>
<td>0</td>
<td>147,341</td>
</tr>
<tr>
<td>Deafblind Ontario Services</td>
<td>12,820</td>
<td>0</td>
<td>12,820</td>
</tr>
<tr>
<td>Morningstar Family Ministries</td>
<td>8,757</td>
<td>8,757</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,231,294</strong></td>
<td><strong>1,244,323</strong></td>
<td><strong>986,971</strong></td>
</tr>
</tbody>
</table>

*Exemptions and allowances are predominantly downtowncore and to a much lesser extent, redevelopment
BY-LAW NUMBER
OF
THE REGIONAL MUNICIPALITY OF WATERLOO

A By-law to Establish Development Charges for
The Regional Municipality of Waterloo

Whereas The Regional Municipality of Waterloo (hereinafter referred to as the "Region") has and will continue to experience growth through development of land which will increase the need for services provided by the Region;

And Whereas Section 2(1) of the Development Charges Act, 1997 (hereinafter referred to as the "Act") empowers the Council of the Region to pass by-laws for the imposition of Development Charges against land located in the municipality because the development of land would increase the need for services;

And Whereas the Region has undertaken a background study dated March, 2014, to examine the anticipated development for the municipality and the capital costs necessary to provide the increased service associated with projected development within a maximum time frame of ten (10) years and to determine the uses and areas within the municipality in which development will increase the need for services, which study and the report resulting therefrom have been completed and considered by the Council of the Region in accordance with Section 10(1) of the Act;

And Whereas the Council of the Region has held a public meeting on June 4, 2014 in accordance with Section 12 of the Act, notice of which was given on or prior to May 15, 2014, the Council of the Region made available the draft background study and information sufficient for the public to understand the proposed Development Charges By-law on May 20, 2014 and at the public meeting, Council heard all persons who applied to be heard whether in objection to or support of the said proposed by-law;

And Whereas the Region received submissions from members of the public before, at and following the aforesaid public meeting;

And Whereas Council, at its meeting on June 25, 2014 has considered all submissions made by the public and the recommendations and proposals made by Regional staff, and the aforesaid background study;

Now Therefore the Council of The Regional Municipality of Waterloo hereby enacts as follows:

Definitions:
1. In this By-law:

(a) "Accessory Building" means a building or structure, or part of a building or structure, that is:
(i) a parking garage that is exclusively devoted to providing vehicle parking to the main use situated on the same Site;

(ii) a mechanical room that is exclusively devoted to providing heating, cooling, ventilating, electrical, mechanical or telecommunications equipment for a building or buildings situated on the same Site;

(iii) an entrance way, elevator, stairwell or hallway that provides access to a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

(iv) a pool area, change room, restroom, fitness facility, kitchen, laundry room, lounge or meeting room that is for the exclusive use of the residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

(v) a storage room that provides storage exclusively to a resident or residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site; or

(vi) an exterior deck, porch, canopy, gazebo, storage shed or stairway that is exclusively devoted to the use of the residents of a Dwelling Unit or Lodging Unit, or Dwelling Units or Lodging Units, on the same Site;

and for the purposes of this definition, “Site” shall include common elements of the same condominium as the applicable main use, buildings, Dwelling Units or Lodging Units;

(b) "Accessory Use" means a use that is normally subordinate or incidental to and exclusively devoted to a principal use, building or structure on a Site that does not through any manner or design share the same gross floor area of the principal use or occupy more than the percentage of gross floor area of the Site permitted as an accessory use by the applicable zoning by-laws;

(c) "Apartment" means a Dwelling Unit located in a Residential Building which is not a Single Detached Dwelling, a Semi-Detached Dwelling, or a Townhouse Dwelling within the respective meanings ascribed thereto under this By-law;

(d) "Applicant" means the registered owner of a Site applying for a Development Charge exemption for Eligible Costs for a Brownfield;

(e) "Brownfield" means a Site which contained environmental contamination either in the ground or buildings due to the operational activities of a previous land use, where the extent of the contamination rendered the property vacant, under-utilized, unsafe, unproductive or abandoned, and for which a Record of Site Condition was filed on or after January 1, 2006;

(f) “Building Code Act” means S.O. 1992, c. 23, as amended;

(g) “Core Area” means an area designated as a downtown core area in Schedule D to this By-law, provided that a similar exemption for the downtown core area is included in the current development charge by-law of the applicable lower-tier municipality;
"Development" means any activity or proposed activity in respect of one or more of the actions referred to in Subsection 2(2) of the Act and includes redevelopment;

"Development Charges Act, 1997" means S.O. 1997, c.27, as amended;

"Development Charge" means a charge imposed pursuant to this By-law;

" Dwelling Unit" means one or more rooms occupied or designed for human habitation which include a separate, private entrance together with cooking and sanitary facilities for the exclusive use of the occupants thereof. A unit or room in a hotel, motel, nursing or retirement home, group home or hostel designed for human habitation shall not constitute a Dwelling Unit;

"Eligible Costs" means the sum of the direct costs of remediating the Brownfield plus an allowance for indirect remediation costs less the value of any other financial assistance provided for the Brownfield by the Region and/or a lower-tier municipality, all as set out in Schedule C of the By-law;

"Existing Industrial Building" means a building or buildings existing on a Site on August 1, 2014, or a building or portion of a building constructed on a Site for which full Development Charges were paid, that is currently used for or in connection with:

(i) the production, compounding, processing, packaging, crating, bottling, packing or assembly of raw or semi-processed goods or materials ("manufacturing") or Warehousing;

(ii) research or development activities in connection with the manufacturing;

(iii) retail sales by a manufacturer, if retail sales are an Accessory Use at the Site where manufacturing is carried out; or,

(iv) office or administrative purposes if they are:

1. carried out as an Accessory Use to the manufacturing or Warehousing; and

2. in or attached to the building or structure used for such manufacturing or Warehousing;

"Factor" means the Factor applicable to the type of Dwelling Unit contained in a residential component or the gross floor area of a Non-Residential component, in each service category in respect of a pre-existing development as set out in Tables 1 and 2 of Part III of Schedule A to this By-law;

"Farm" means a parcel of land on which the predominant activity is Farming. A Farm shall not include a greenhouse;

"Farm Occupation" means a vocational use permitted by the applicable zoning by-law and carried on in a building or as an
Accessory Use in a portion of a building on a Farm where Farming also occurs;

(q) “Farming” means the production of crops or the breeding, raising or maintaining of livestock, or both, and includes but is not limited to:

(i) fur farming;
(ii) fruit and vegetable growing;
(iii) the keeping of bees;
(iv) fish farming; and
(v) sod farming,

and includes such buildings and structures located on a Farm that are designed and intended to be used solely for or in connection with:

(i) storage or repair of farm equipment;
(ii) storage or processing of materials used in the production or maintenance of crops or livestock; or
(iii) storage or processing of the products derived from the Farm’s production of crops or livestock.

Farm and farming shall not include a Dwelling Unit located on a Farm;

(r) “Grade” with respect to a Dwelling Unit or Single Detached Dwelling means the average level of finished ground adjoining same at all exterior walls;

(s) “Greenhouse” means any nursery building where any form or quantity of flowers, household plants, landscaping plants, horticultural products or manufactured household or gardening products not produced on the Site is offered for sale;

(t) “Gross Floor Area” means the total floor area of a building or structure or part thereof measured from the outside faces of exterior walls or between the outside faces of exterior walls and the centre line of any partition walls and, in the case of a Dwelling Unit, includes only those areas above grade. The gross floor area shall include any area which is being used for the repair or for the public sale of vehicles but shall exclude any area which is specifically designed for the parking of passenger motor vehicles;

(u) “Home Occupation” means a vocational use, which is not a Farm occupation, carried on in conjunction with a Dwelling Unit on the same property as permitted by the applicable municipal zoning by-law;

(v) “Industrial” means a building or buildings or portion of a building that are to be used for or in connection with:

(i) the production, compounding, processing, packaging, crating, bottling, packing or assembly of raw or semi-
processed goods or materials ("manufacturing") or Warehousing;

(ii) research or development activities in connection with the manufacturing;

(iii) retail sales by a manufacturer, if retail sales are an Accessory Use at the Site where manufacturing is carried out; or,

(iv) office or administrative purposes if they are:

1. carried out as an Accessory Use to the manufacturing or Warehousing; and

2. in or attached to the building or structure used for such manufacturing or Warehousing;

(w) "Local Board" has the same meaning as in Section 1 of the Act;

(x) "Lodging House" means a building designed or intended to contain, or containing Lodging Units where the residents share access to common areas of the building, other than the Lodging Units;

(y) "Lodging Unit" means a room located within a Lodging House which:

(i) is designed to be occupied for human habitation by one resident;

(ii) is not normally accessible to persons other than the resident without the permission of the resident; and

(iii) may contain either cooking or sanitary facilities, but not both, for the exclusive use of the resident of the unit. A unit or room in a hotel, motel, nursing or retirement home, group home, or hostel designed for human habitation shall not constitute a Lodging Unit;

(z) "Mixed Use Development" means Development containing both Residential and Non-Residential uses;

(aa) "Net Assessable Development" means the number of Dwelling Units, Lodging Units or the Non-Residential gross floor area, or any combination thereof, comprising a Development after the subtraction of any applicable Redevelopment Allowance in accordance with subsections 4(3) to (6) inclusive of this By-law and Schedule A, Part IV, Section 4 of this By-law;

(bb) "Non-Residential Development" means the Development of land for Non-Residential Use;

(cc) "Non-Residential Use" means any commercial, industrial, institutional or other use, except Farming, not included in the definition of Residential Use;

(dd) "Planning Act" means R.S.O. 1990, c. P.13, as amended;

(ee) "Pre-Existing Development" means a building or structure or
lawful use thereof existing on the land at the time a Development Charge is payable in respect of the Development of the land or at any time in the seven years prior thereto but does not include a building or structure or lawful use thereof that was previously exempted from a Development Charge pursuant to this By-law or any predecessor development charge by-law of the Region;

(ff) "Redevelopment Allowance" means an adjustment made to the number of Residential units or Non-Residential gross floor area of Development, or both, in the calculation of net assessable Development in respect of the Regional services already available to the Pre-Existing Development;

(gg) "Region" means The Regional Municipality of Waterloo;

(hh) "Regulation" means Ontario Regulation 82/98, as amended;

(ii) "Residential Building" means a building containing one or more Dwelling Units with or without any Non-Residential component and in the case of a single or semi-detached dwelling or townhouse dwelling means the individual Dwelling Unit;

(jj) "Residential Development" means the Development of land in whole or in part for any Residential Use;

(kk) "Residential Use" means the use of land, buildings or structures as one or more Dwelling Units or Lodging Units, including a Farm dwelling;

(ll) "Semi-Detached Dwelling" means one Dwelling Unit within a building containing only two Dwelling Units, which is divided from the other Dwelling Unit by a vertical solid wall or partition extending from foundation to roof;

(mm) "Service Group" means a group of services provided for in Schedule B to this By-law;

(nn) "Services" means the services listed in Schedule B to this By-law;

(oo) "Servicing Agreement" means any agreement entered into in connection with the Development of land including an agreement under Section 51 or Section 53 of the Planning Act but not including an agreement under Section 41 of the Planning Act;

(pp) "Single Detached Dwelling" means a building containing only one Dwelling Unit and shall include a modular or mobile home connected to any of water, sanitary or electrical utility service;

(qq) "Site" means a parcel of land situated in the Region which can be legally conveyed pursuant to Section 50 of the Planning Act and includes a Development having two or more lots consolidated under identical ownership;

(rr) "Townhouse Dwelling" means one Dwelling Unit within a building containing three or more Dwelling Units which is divided from the other Dwelling Units by one or more vertical solid walls or partitions extending from foundation to roof; and

(ss) "Warehousing" means a building in which the main use is bulk
storage and/or wholesale distribution of manufactured goods or materials.

Rules for the Application and Imposition of Development Charges:

2. It is hereby declared by the Council of the Region that all Development of land within the Region, unless otherwise specified in this By-law, will increase the need for services.

3. (1) Subject to subsection (4), this By-law applies to all lands in the Region whether or not the land or the use thereof is exempt from taxation under Section 3 of the Assessment Act, R.S.O. 1990, c. A.31, as amended;

(2) Council hereby imposes the Development Charges shown in Schedule A of this By-law upon the Development of land to which this By-law applies calculated in the manner set out in Section 4 and said Schedule A;

(3) The services to which the Development Charges imposed by subsection (2) relate are those listed in Schedule B to this By-law;

(4) This By-law does not apply to:

(a) (i) Development of land owned and for any municipal use by the:

Region
City of Kitchener
City of Waterloo
City of Cambridge
Township of North Dumfries
Township of Wilmot
Township of Woolwich
Township of Wellesley

Or any Local Board of such municipality or their successors, being institutions within the category of institution hereby defined as "Municipalities within the geographical limits of the Regional Municipality of Waterloo";

(ii) Development of land owned and for any conservation authority use by the Grand River Conservation Authority;

(iii) Development of land owned and for any education use by a Board as defined in Subsection 1(1) of the Education Act, R.S.O. 1990, c. E.2, as amended;

(iv) the Crown in right of Ontario or the Crown in right of Canada;

(b) the Development of land that constitutes, in accordance with the Regulation only:
(i) the enlargement of an existing Dwelling Unit;
(ii) the creation of the first two additional Dwelling Units in a Single Detached Dwelling Unit;
(iii) the creation of the first additional Dwelling Unit in a Semi-Detached, Townhouse (row) or Apartment building;

(c) Development for any one or more of the following uses of land:
   (i) a temporary use permitted under an area municipal zoning by-law enacted in accordance with Section 39 of the Planning Act;
   (ii) a Home Occupation;
   (iii) Farming, excluding a Farm Occupation;
   (iv) temporary erection of a building without a foundation defined in the Building Code Act for a period not exceeding six (6) consecutive months and not more than six (6) months in any one calendar year on a Site for which Development Charges have previously been paid;
   (v) an Accessory Building, provided that the total Gross Floor Area of the Accessory Building or Buildings on the Site does not exceed the total Gross Floor Area of the applicable main use, buildings, Dwelling Units or Lodging Units;
   (d) one or more enlargements of an Existing Industrial Building on the same Site up to a maximum of fifty percent (50%) of the existing gross floor area, as defined in the Regulation, on that Site before the first enlargement;
   (e) Hospitals within the meaning of the Public Hospitals Act, R.S.O. 1990, c. P.40, as amended; and
   (f) Development of a remediated Brownfield to the maximum of the Eligible Costs on that Site as set out in Schedule C of this By-law, provided that the criteria as set out in Schedule C of this By-law is satisfied and such Development occurs no later than seven years from the date of issuance of the required Record of Site Condition.

Calculation of Development Charges:

4. (1) Subject to subsections (2) to (9) inclusive, in calculating the Development Charge applicable in respect of any Development including Mixed Use Development, the total charge payable shall be the aggregate of:

   (a) the charges applicable to any Residential Use component of the Development; plus
   (b) the charges applicable to any Non-Residential Use component of the Development.
(2) (a) A Development Charge shall be imposed in accordance with Schedule A with respect to the Gross Floor Area of an Industrial building being increased by more than fifty percent (50%) of the gross floor area of an Existing Industrial Building on the Site.

(b) A building on a Site used for research purposes in connection with manufacturing shall be under the same ownership as a building on a Site used for manufacturing purposes.

(c) Despite one or more new Sites being divided from the original Site which result in an Existing Industrial Building being separated on a Site from its previous enlargement or enlargements for which an exemption was granted under Section 3(4)(d) of this By-law, further exemptions, if any, pertaining to the Existing Industrial Building shall be calculated on the basis of the gross floor area of the Existing Industrial Building prior to the first enlargement and the Site prior to its division.

(3) Subject to subsections (4), (5) and (6) below, where the Development of land to which this By-law applies entails a material alteration to or replacement of the buildings or structures or the use thereof that constitute a Pre-Existing Development, the Development Charge payable shall be calculated on the net assessable Development.

(4) The net assessable Development shall be determined in the manner set out in Schedule A, Part IV, Section 4.

(5) (a) No Redevelopment Allowance shall be made in excess of the actual Development of the Site.

(b) Any Redevelopment Allowance allowed under this By-law shall be applied to the first building permit issued in respect of the Site within seven years from the date of alteration, demolition or destruction due to natural or criminal acts beyond the control of the owner of the buildings or structures that gave rise to the redevelopment allowance. The balance of the Redevelopment Allowance remaining after issuance of the first building permit, if any, shall be applied to any subsequent building permits issued within the same aforementioned time limit.

(6) In determining whether above subsections (3) to (5) inclusive apply, demolition or alteration shall be deemed to have occurred as of the date of the permit issued therefore and destruction due to natural or criminal acts shall be deemed to have occurred on the date such acts first occurred.

(7) Subject to subsection (8) below, only one Development Charge shall be payable hereunder in respect of a Development of land even though two or more actions described in Subsections 2 (2) (a) to (g) inclusive of the Act may occur in order for the land to be developed.
(8) If two or more of the actions described in Subsections 2(2)(a) to (g) inclusive of the Act occur, or if the same action occurs more than once at different times in respect of the Development of land then an additional Development Charge shall apply in respect of the subsequent action where the Development which is the subject of the subsequent action would have attracted a greater Development Charge than was paid or payable in respect of the earlier action, but in no case shall a refund be made of any Development Charge paid and in no case shall the total Development Charge payable in respect of the Development exceed the highest charge applicable to the Development as a whole.

(9) Development occurring within a Core Area shall be calculated as follows:

(a) Where a building permit is issued during the years of 2014, 2015 or 2016, no Development Charge shall be payable;

(b) Where a building permit is issued during the year of 2017, any Development Charge payable shall be reduced by 75%;

(c) Where a building permit is issued during the year of 2018, any Development Charge payable shall be reduced by 50%;

(d) Where a building permit is issued during the year of 2019, the full amount of any Development Charge shall be payable.

5. Subject to any agreement made pursuant to Section 27(1) of the Act, the whole of the Development Charge imposed under this By-law shall be calculated at the rate in effect at the time of the issuance of the building permit and paid in full to the Treasurer of the lower-tier municipality in which the land is located prior to the issuance of a building permit under the Building Code Act for any building or structure in connection with the Development in respect of which the Development Charge hereunder is payable.

6. The charges set out in Schedule A of this By-law on which a Development Charge is based shall be adjusted without amendment to this By-law on January 1 of each year, commencing on January 1, 2015, in accordance with section 7 of the Regulation.

Prior Agreements and Payments:

7. Any Servicing Agreements made under the Planning Act, prior to the coming into force of By-law No. 91-91 of the Region shall remain in full force and effect and, to the extent of conflict with this By-law, shall prevail.

Credits:

8. Credits may be given as required under Sections 38 to 41 inclusive of the Act, and shall be applied against the Development Charge payable under this By-law on a Site to a maximum of the Development Charge otherwise payable for the services to which the work relates and in a manner set forth in an agreement authorized by Council. When such an agreement is entered into, the credit assigned to a Site shall not exceed
the Development Charge payable calculated on the maximum density of Development permitted by a draft plan of subdivision condition or the municipal zoning by-law which pertains to the Site on that date, whichever is greater.

Reserve Funds:
9. The Regional Treasurer shall establish and retain reserve funds in accordance with the provisions of the Act and shall, on or before June 1 of each year, prepare and provide to Council a financial statement with respect to each Reserve Fund or Funds so established.

General Provisions:
10. Subject to Section 59 of the Act, nothing in this By-law limits the right of Council to require or request an owner to install such services as Council requires at the owner's expense. Nothing in this By-law relieves an owner of any obligation to install, at the owner's expense, such services as are requested or required by Council as a condition of any approval under the Planning Act.

11. Prior to the time a Development Charge is payable, the Regional Treasurer, upon request, shall certify to the Treasurer of the area municipality in which such Site is located the amount of the Development Charge applicable to the proposed Development of such Site, the date upon which it is payable or whether it has been paid or otherwise satisfied, pursuant to section 5 of this By-law or any applicable agreement and, where it has not yet been paid, the manner in which the Development Charge is to be paid. Such certificate shall be sufficient evidence of the Development Charge payable under this By-law for the purposes of the issuance of a building permit by the Chief Building Official of the area municipality in which the Site is located. Such certificate may, prior to the issuance of the building permit, be amended by the Regional Treasurer in which case this provision shall apply to such amended certificate. Unless such a certificate is obtained and the amount provided for therein paid at the time and in the manner provided, the owner of land to which a Development Charge applies remains fully liable for the amount of the Development Charge payable, determined in accordance with this By-law.

12. The Regional Treasurer shall refund, without interest, any Development Charge that has been paid if the Chief Building Official of the area municipality in which the Site is located cancels the building permit under the Building Code Act for the building or structure within seven years of the issuance of the building permit.

13. Where a Development Charge is payable hereunder, but any matter as to calculation, manner or timing for payment thereof is not expressly provided for herein, such matters shall be determined in accordance with the Act and Regulations, where applicable by analogy to similar provisions hereof and in accordance with the general principles underlying the Act and this By-law.

14. Nothing in this By-law shall be construed so as to commit or require the Region or its Council to authorize or proceed with any specific capital project or to enter into any Servicing Agreement or provide any credit for the construction of Regional works at any time and Council shall retain
discretion not to proceed with any of the capital projects forecasted if it
dees appropriate or advisable for any reason including, but not limited
to, the lack of funding from Development Charges or otherwise.

15. The interest rate for the purposes of Sections 18(3), 25(2) and Section
36 of the Act is what the Bank of Canada rate is on August 1, 2014,
updated on the first business day of every January, April, July and
October thereafter for the life of this By-law.

16. By-law No. 09-024 is hereby repealed effective at midnight on July 31,
2014.

17. This By-law shall come into force and effect on August 1, 2014.

By-law read a first, second and third time and finally passed in the Council
Chamber in The Regional Municipality of Waterloo this 25th day of June, A.D.,
2014.

________________________________  ___________________________________
Regional Clerk                      Regional Chair
Schedule A

PART I - Residential Development Charges ($ Per Unit) (effective August 1, 2014, subject to adjustment pursuant to section 6 of this By-law)

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Single/Semi Detached Dwelling</th>
<th>Townhouse Dwelling</th>
<th>Apartment Dwelling</th>
<th>Lodging Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City</td>
<td>Township</td>
<td>City</td>
<td>Township</td>
</tr>
<tr>
<td>General Government</td>
<td>$109</td>
<td>$109</td>
<td>$81</td>
<td>$81</td>
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<tr>
<td>Police Service</td>
<td>$257</td>
<td>$257</td>
<td>$193</td>
<td>$193</td>
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<tr>
<td>Emergency Medical Services</td>
<td>$93</td>
<td>$93</td>
<td>$70</td>
<td>$70</td>
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<tr>
<td>Airport</td>
<td>$223</td>
<td>$223</td>
<td>$167</td>
<td>$167</td>
</tr>
<tr>
<td>Operations</td>
<td>$118</td>
<td>$118</td>
<td>$89</td>
<td>$89</td>
</tr>
<tr>
<td>Transit Services</td>
<td>$788</td>
<td>$0</td>
<td>$592</td>
<td>$0</td>
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<tr>
<td>Library Service</td>
<td>$0</td>
<td>$210</td>
<td>$0</td>
<td>$158</td>
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<tr>
<td>Transportation</td>
<td>$9,164</td>
<td>$9,164</td>
<td>$6,880</td>
<td>$6,880</td>
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<tr>
<td>Water Supply</td>
<td>$2,067</td>
<td>$2,067</td>
<td>$1,552</td>
<td>$1,552</td>
</tr>
<tr>
<td>Wastewater</td>
<td>$5,117</td>
<td>$5,117</td>
<td>$3,842</td>
<td>$3,842</td>
</tr>
</tbody>
</table>

| Total                     |                               |                   |                   |              |
| Hard Services *           | $16,348                       | $16,348           | $12,274           | $12,274      | $8,904       | $8,904       | $5,031       | $5,031       |
| Total                     |                               |                   |                   |              |
| General Services**        | $10,752                       | $10,174           | $8,072            | $7,638       | $5,854       | $5,539       | $3,309       | $3,131       |
| Total                     |                               |                   |                   |              |
| Full Service              | $17,936                       | $17,358           | $13,466           | $13,032      | $9,767       | $9,452       | $5,520       | $5,342       |

* - Hard Services includes Transportation, Water Supply, Wastewater

** - General Services includes General Government, Police Service, Emergency Medical Service, Airport, Operations, Transportation, Transit Services, (Cities only), and Library Services (Townships only)
Schedule A Continued

PART II - Non-Residential Development Charges ($ Per Square Foot of GFA*)
(effective August 1, 2014, subject to adjustment pursuant to section 6 of this By-law)

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Non-Residential (Excluding Industrial)</th>
<th>Non-Residential (Industrial)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City</td>
<td>Township</td>
</tr>
<tr>
<td>General Government</td>
<td>$0.06</td>
<td>$0.06</td>
</tr>
<tr>
<td>Police Service</td>
<td>$0.14</td>
<td>$0.14</td>
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<tr>
<td>Emergency Medical Services</td>
<td>$0.05</td>
<td>$0.05</td>
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<tr>
<td>Airport</td>
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<td>$0.28</td>
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<tr>
<td>Operations</td>
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<tr>
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<td>Library Service</td>
<td>$0.00</td>
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<tr>
<td>Transportation</td>
<td>$5.09</td>
<td>$5.09</td>
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<td>Water Supply</td>
<td>$1.06</td>
<td>$1.06</td>
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<td>Wastewater</td>
<td>$2.58</td>
<td>$2.58</td>
</tr>
<tr>
<td>Total</td>
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<td></td>
</tr>
<tr>
<td>Hard Services **</td>
<td>$8.73</td>
<td>$8.73</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>General Services***</td>
<td>$6.13</td>
<td>$5.69</td>
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<tr>
<td>Total</td>
<td></td>
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<tr>
<td>Full Service</td>
<td>$9.77</td>
<td>$9.33</td>
</tr>
</tbody>
</table>

*  - Gross Floor Area
** - Hard Services includes Transportation, Water Supply Wastewater
*** - General Services includes General Government, Police Service, Emergency Medical Services, Airport, Operations, Transportation, Transit Services (Cities only), and Library Services (Townships only)
### PART III - Residential Redevelopment Factors (effective August 1, 2014)

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Single/Semi Detached Dwelling</th>
<th>Townhouse Dwelling</th>
<th>Apartment Dwelling</th>
<th>Lodging Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City</td>
<td>Township</td>
<td>City</td>
<td>Township</td>
</tr>
<tr>
<td>General Government</td>
<td>0.006</td>
<td>0.006</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Police Service</td>
<td>0.014</td>
<td>0.015</td>
<td>0.011</td>
<td>0.011</td>
</tr>
<tr>
<td>Emergency Medical Services</td>
<td>0.005</td>
<td>0.005</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>Airport</td>
<td>0.012</td>
<td>0.013</td>
<td>0.009</td>
<td>0.010</td>
</tr>
<tr>
<td>Operations</td>
<td>0.007</td>
<td>0.007</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Transit Services</td>
<td>0.044</td>
<td>0.000</td>
<td>0.033</td>
<td>0.000</td>
</tr>
<tr>
<td>Library Service</td>
<td>0.000</td>
<td>0.012</td>
<td>0.000</td>
<td>0.009</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.511</td>
<td>0.528</td>
<td>0.384</td>
<td>0.396</td>
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<tr>
<td>Water Supply</td>
<td>0.115</td>
<td>0.119</td>
<td>0.087</td>
<td>0.089</td>
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<tr>
<td>Wastewater</td>
<td>0.285</td>
<td>0.295</td>
<td>0.214</td>
<td>0.221</td>
</tr>
</tbody>
</table>

**Total**

| Hard Services *                  | 0.911                         | 0.942             | 0.684             | 0.707        | 0.496         | 0.513        | 0.280         | 0.290        |
| General Services**               | 0.599                         | 0.586             | 0.450             | 0.440        | 0.326         | 0.319        | 0.184         | 0.180        |
| Full Service                     | 1.000                         | 1.000             | 0.751             | 0.751        | 0.545         | 0.545        | 0.308         | 0.308        |

* - Hard Services includes Transportation, Water Supply, Wastewater

** - General Services includes General Government, Police Service, Emergency Medical Services, Airport, Operations, Transportation, Transit Services (Cities only), and Library Services (Townships only)
### Non-Residential Redevelopment Factors (effective August 1, 2014)

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Non-Residential</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City</td>
<td>Township</td>
<td></td>
</tr>
<tr>
<td>General Government</td>
<td>0.006</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>Police Service</td>
<td>0.014</td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>Emergency Medical Services</td>
<td>0.005</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Airport</td>
<td>0.029</td>
<td>0.030</td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td>0.007</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td>Transit Services</td>
<td>0.045</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Library Service</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>0.521</td>
<td>0.546</td>
<td></td>
</tr>
<tr>
<td>Water Supply</td>
<td>0.108</td>
<td>0.114</td>
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</tr>
<tr>
<td>Wastewater</td>
<td>0.264</td>
<td>0.277</td>
<td></td>
</tr>
</tbody>
</table>

| Total                      | 0.894           | 0.936    |

| Total                      | 0.627           | 0.610    |

| Total Full Service         | 1.000           | 1.000    |

** - Hard Services includes Transportation, Water Supply, Wastewater

** - General Services includes General Government, Police Service, Emergency Medical Services, Airport, Operations, Transportation, Transit Services (Cities only), and Library Services (Townships only)

Redevelopment Conversion Factors:

1 sq. ft. of Full Service Non-Residential GFA = 0.0008196 Full Service Single Detached Dwelling Units

1 Full Service Single Detached Dwelling Unit = 1220.0980 sq. ft. on Non-Residential GFA

Note: 1 square foot = .09290 square metres

1 hectare = 107,642.6265 square feet

1 acre = 0.4047 hectares
Schedule A (Continued)

PART IV - Calculation Provisions:

1. Charges shall include components for only those Service Groups available or to be made available to a Site in connection with the Development in accordance with the terms or conditions associated with its approval or any area municipal or Regional capital forecast in effect at the time the Development Charge is imposed whether or not such services will be used by the Development.

2. Subject to Part IV, Section 1 of this Schedule, the charges applicable to residential Development shall be the sum of the amounts calculated by multiplying the number of units of each type referred to in Part I of this Schedule forming part of the Development by the rates listed thereunder in the relevant Service Groups.

3. Subject to Part IV, Section 1 of this Schedule, the charge applicable to Non-Residential Development shall be the sum of the amounts calculated by multiplying the Gross Floor Area of all buildings and structures forming part of the Development by the rates listed in the relevant Service Groups in Part II of this Schedule.

4. (1) The net assessable Development of a proposed Development for the purpose of calculating the applicable Development Charge, is the number of Dwelling Units and the gross floor area of all Non-Residential components less the total redevelopment allowance applicable to the Site which is the subject of the Development, to a maximum of the total of the number of Dwelling Units and the Non-Residential Gross Floor Area of the proposed Development, calculated as follows:

(a) for residential Development, the number and types of units in the Pre-Existing Development times the Factor applicable to each type of unit for each service provided to such Pre-existing Development under the Table 1 of Part III of this Schedule; plus

(b) for non-residential Development, the gross floor area of the Pre-Existing Development times the Factor applicable to each Service Group provided to such Pre-Existing Development under Table 2 of Part III of this Schedule.

(2) Prior to subtraction of the Redevelopment Allowance from the Development, the number of residential Dwelling Units of each type, if any, in the Development shall be multiplied by the Factors set out in Table 1 of Part III of this Schedule for each type of Dwelling Unit and, after subtraction, the balance in each category shall be divided by the same Factor. The sum of the products of this division shall be the net assessable Development.

(3) For the purpose of applying a Redevelopment Allowance in respect of residential Dwelling Units to Non-Residential Gross Floor Area, or vice versa;

(a) a Single Detached Dwelling Unit to which a Factor of 1 applies corresponds to 1,220.0980 square feet of Non-Residential Gross Floor Area;

(b) one square foot of Gross Floor Area corresponds to .0008196 Single Detached Dwelling Units to which a Factor of 1
applies.

(4) (a) The Redevelopment Allowance quantified in accordance with subsection 4(2) of this By-law and this section shall apply to the whole parcel of land on which the Pre-Existing Development exists or existed;

(b) in the event of a division of a Site into two or more parcels, any remaining applicable Redevelopment Allowance shall be apportioned equally between or amongst the resultant parcels of land on a per unit area basis unless otherwise apportioned pursuant to an agreement in force and registered on title to the Site comprising all of the parcels related to a consent application under Section 53 of the Planning Act in which case such agreement shall prevail; and

(c) the Redevelopment Allowance applicable to a Site on which a Pre-Existing Development existed or to any part thereof after any land division, shall be reduced for each subsequent Development by the Redevelopment Allowance applicable to such subsequent Development.

5. In determining the net assessable Development for the purposes of calculating the Development Charge payable, the total Redevelopment Allowance applicable to the Site shall be calculated only with respect to the services that were provided to the Pre-Existing Development relative to the services required by the Development based on the growth related costs of services established in the Regional Municipality of Waterloo Development Charge background study dated March, 2014 and approved by Council on June 25, 2014.
<table>
<thead>
<tr>
<th>Service Group</th>
<th>Services Included</th>
<th>Service Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Services:</td>
<td>2. Police</td>
<td>Police</td>
</tr>
<tr>
<td></td>
<td>3. EMS</td>
<td>EMS</td>
</tr>
<tr>
<td></td>
<td>4. Airport</td>
<td>Airport</td>
</tr>
<tr>
<td></td>
<td>5. Operations</td>
<td>Operations</td>
</tr>
<tr>
<td>Transportation Services:</td>
<td>6. Transportation</td>
<td>Transportation</td>
</tr>
<tr>
<td>Transit Services:*</td>
<td>7. Transit Operations</td>
<td>Transit</td>
</tr>
<tr>
<td>Library Services:**</td>
<td>8. Library</td>
<td>Library</td>
</tr>
<tr>
<td>Water Supply:</td>
<td>9. Water Works</td>
<td>Water Services</td>
</tr>
<tr>
<td>Wastewater:</td>
<td>10. Wastewater Works</td>
<td>Water Services</td>
</tr>
</tbody>
</table>

*applicable only to Development in the Cities of Cambridge, Kitchener and Waterloo

**applicable only to Development in the Townships of North Dumfries, Wellesley, Wilmot and Woolwich.
Schedule C

Eligible Costs and Eligibility Criteria for an Exemption for a Development Charge on a Remediated Brownfield

1. Eligibility Criteria
   (a) An Applicant must not have been the registered owner of the Brownfield during the operational activities of the land use which created the Brownfield, nor have been found by any court, tribunal or other body with lawful jurisdiction to be responsible for the subject contamination of the Brownfield;
   (b) Sites must meet the definition of a Brownfield as set out in this By-law; and
   (c) Sites in property tax arrears are not eligible to receive an exemption.

2. Terms of Financial Assistance
   (a) The Development Charge exemption shall consist of the direct costs of remediating the Brownfield, plus an allowance for indirect remediation costs, as determined herein. The calculated Development Charge exemption is then reduced by the value of any financial assistance provided by the Region and/or a lower-tier municipality under its Brownfields Financial Incentive Program or any successor thereto.
   (b) Direct remediation costs include the cost of:
      (i) Phase I Environmental Site Assessments;
      (ii) Phase II Environmental Site Assessments (only for the portion not already funded by the Region under its Brownfields Financial Incentive Program or any successor thereto);
      (iii) Remedial Action Plan/ Remedial Work Plan;
      (iv) Risk Assessment;
      (v) Environmental Rehabilitation;
      (vi) Risk Mitigation Measures;
      (vii) Disposal of contaminated soil;
      (viii) Placing of clean fill and grading;
      (ix) Building demolition costs related to remediation; and
      (x) Filing of a Record of Site Condition (provided that at least one other cost item above has been incurred).
   (c) The allowance for indirect remediation costs is 20 per cent of direct remediation costs to account for indirect costs related to remediation, which includes the cost of an audit under Section 3.

3. Review of Eligible Costs
   (a) Direct remediation costs submitted by the Applicant will be subject to an audit that confirms the link between direct remediation costs submitted by the Applicant and the work plan followed to achieve
filing of the Record of Site Condition.

(b) The audit will be carried out in accordance with the standards set out in Section 5815 of the Canadian Institute of Chartered Accountants Handbook – Special Reports – Audit Reports on Compliance with Agreements, Statutes and Regulations, or any successor thereto.

(c) The audit report should clearly indicate that the direct remediation costs submitted by the Applicant relate to the rehabilitation of the Brownfield and the work plan followed to achieve filing of the Record of Site Condition.

(d) The cost of the audit is the responsibility of the Applicant, and is included in the indirect remediation cost.

4. Work and Quality Requirements

(a) An Applicant for an exemption must provide a copy of the Record of Site Condition and the associated acknowledgment from the Ministry of the Environment to verify that environmental remediation has been completed in accordance with Regulation 153/04 of the Environmental Protection Act, as well as standards set by the Canadian Standards Association, and all other applicable standards, all as may be amended or superseded from time to time.

5. Conditions for Receiving Exemption

(a) Eligibility for this exemption commences thirty (30) calendar days after a Record of Site Condition has been filed for the subject property to allow the Ministry of the Environment to complete its audit process and terminates on the date that is seven years from the date of commencement of eligibility. If a Record of Site Condition does not pass the Ministry audit, the redevelopment shall be ineligible for the development charge exemption.

(b) Approval of the exemption will only be granted after the Eligible Costs have been determined and verified in accordance with this Schedule.

(c) If a building permit is issued for the subject Brownfield prior to the determination of the Eligible Costs then the applicable Development Charge without regard to the applicability of this exemption to the Development on the Site must be paid in full. In such cases, the Development Charge shall be held by the Region and any calculated Development Charge exemption shall be refunded to the Applicant if and when approval of the exemption is granted.

(d) An Applicant for the Development Charge exemption shall submit the following materials as evidence of work undertaken, compliance with standards and costs incurred:

(i) A copy of the Record of Site Condition;

(ii) Acknowledgement letter from the Ministry of the Environment indicating receipt of the Record of Site Condition;

(iii) Remedial work plan or action plan used to achieve filing of the Record of Site Condition and all other associated documents;

(iv) Certificate of property use, if applicable;
(v) Original cost estimates for remediation prepared by a Qualified Person as defined in Regulation 153/04 of the Environmental Protection Act, as amended;

(vi) Paid invoices from a Qualified Person as defined in Regulation 153/04 of the Environmental Protection Act, as amended;

(vii) Paid invoices from contractors in respect of remediation work;

(viii) Summary of all Eligible Costs;

(ix) Signed declaration that the subject property is not property tax arrears; and

(x) The audit report as required by Section 3.
Schedule D (Page 4)

Downtown Exemption Area boundary map for the City of Kitchener

City of Kitchener

Existing Downtown Core Boundary

Expanded Downtown Core Boundary (July 1, 2016)
Region of Waterloo
Grants Committee

To: Chair Tom Galloway and Members of the Administration and Finance Committee

Date: June 17, 2014 File Code: F-25-20

Subject: Grants to Community Organizations – 2014 Allocations

Recommendation:
That the Regional Municipality of Waterloo take the following action regarding the 2014 Grants to Community Organization as outlined in Report CC-14-001 dated June 17, 2014:

a) Approve the 2014 grants to Community Organizations as recommended by the Grants Committee and shown on the attached Appendix 1;

b) Direct staff to issue a Request for Proposal in late 2014 or early 2015 for the provision of a community information database.

Summary:
This report addresses the recommended 2014 grants for Community Organizations. Grants for Arts and Culture organizations for 2014 were paid following 2014 budget approval in accordance with report P-12-105/F-12-075 dated September 25, 2012.

Report:
The Grants Committee has reviewed the 2014 grant applications for Community Organizations. The 2014 budget for grants to Community Organizations is $311,000, the same as the 2013 budget. The 2014 Community Organizations requests total $403,661 and include a new application from the Social Planning Council – Cambridge & North Dumfries (SPCCND).

The SPCCND provides an information and referral service, Information Cambridge and North Dumfries, to the local community as well as to a local data partner 211. The grants budget does not have any funds to support new grant requests.

The Region has been providing a grant for the collection and maintenance of a community database for over 25 years. Regional staff have identified the need to
consider the Region’s database/information requirements and how those requirements can best be met, particularly in view of evolving technology. Consequently, it is recommended that effective for 2015, funding for a community database be moved from the grants budget to an operating department and that a Request for Proposal (RFP) for the required database information be issued in late 2014 or early 2015. The transfer of the funding from the grants budget to a program area, which is yet to be determined, could be handled as part of the 2015 budget development.

2014 Recommendations

The Grants Committee recommendations for 2014 grants to Community Organizations are listed in Appendix 1 attached to this report. The recommended grants are at the same level as approved for 2013 with the grant to Kaljas homes to be the amount of 2014 property taxes. The Community Organizations have been informed of the Grants Committee recommendations.

The Grants Committee also recommends that beginning in 2015, the provision of community database information be determined through a RFP which could be issued in late 2014 or early 2015.

Corporate Strategic Plan:

Grants to Community Organizations do not fall directly under the objectives of the Corporate Strategic Plan; however the provision of these grants enhances the social well being of the Region.

Financial Implications:

The recommended allocations for Community Organizations, as shown in Appendix 1, total the 2014 budget of $311,000. The transfer of the budget amount for the Information Centre grant to another program area will be reflected in the 2015 base budget.

Other Department Consultations/Concurrence:

Finance Department staff coordinates the annual Grants to Community Organizations process.

Attachments:

Appendix 1 – Community Organizations - 2014 Recommended Allocations

Respectfully submitted,

The Grants Committee

Jane Brewer
Jane Mitchell
Ken Seiling
<table>
<thead>
<tr>
<th>2014 Approval</th>
<th>2014 Requests</th>
<th>2014 Recommended</th>
<th>Organization Mandate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo Region 4-H Association</td>
<td>2,500</td>
<td>3,500</td>
<td>2,500</td>
</tr>
<tr>
<td>Kitchener-Waterloo Multicultural Centre</td>
<td>16,396</td>
<td>16,500</td>
<td>16,396</td>
</tr>
<tr>
<td>Leadership Waterloo Region</td>
<td>40,000</td>
<td>42,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Canadian Mental Health Association</td>
<td>23,717</td>
<td>24,000</td>
<td>23,717</td>
</tr>
<tr>
<td>Central Ontario Developmental Riding Program</td>
<td>2,733</td>
<td>3,000</td>
<td>2,733</td>
</tr>
<tr>
<td>Child Witness Centre of Waterloo Region</td>
<td>9,156</td>
<td>10,000</td>
<td>9,156</td>
</tr>
<tr>
<td>Community Justice Initiatives</td>
<td>20,046</td>
<td>20,856</td>
<td>20,046</td>
</tr>
<tr>
<td>Food Bank of Waterloo Region</td>
<td>24,047</td>
<td>25,500</td>
<td>24,047</td>
</tr>
<tr>
<td>Independent Living Centre</td>
<td>10,959</td>
<td>11,306</td>
<td>11,306</td>
</tr>
<tr>
<td>Program: Community Support Services</td>
<td>4,162</td>
<td>4,800</td>
<td>4,162</td>
</tr>
<tr>
<td>Program: Kids on the Block</td>
<td>9,291</td>
<td>9,500</td>
<td>9,291</td>
</tr>
<tr>
<td>Social Planning Council - Community Information Centre</td>
<td>80,119</td>
<td>81,700</td>
<td>80,119</td>
</tr>
<tr>
<td>Telecare Cambridge</td>
<td>4,692</td>
<td>6,500</td>
<td>4,692</td>
</tr>
<tr>
<td>Volunteer Action Centre of K-W &amp; Area Inc.</td>
<td>27,591</td>
<td>28,500</td>
<td>27,591</td>
</tr>
<tr>
<td>Waterloo Regional Block Parent Program Inc.</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Wilmot Family Resources Centre, Inc.</td>
<td>15,122</td>
<td>15,575</td>
<td>15,122</td>
</tr>
<tr>
<td>Woolwich Community Services</td>
<td>15,122</td>
<td>15,424</td>
<td>15,122</td>
</tr>
<tr>
<td>COMMUNITY GRANTS (PRIOR RECIPIENTS)</td>
<td>310,653</td>
<td>323,661</td>
<td>311,000</td>
</tr>
<tr>
<td>NEW REQUEST (CAPITAL GRANT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Planning Council - Cambridge &amp; North Dumfries</td>
<td>0</td>
<td>80,000</td>
<td>0</td>
</tr>
<tr>
<td>Total New Request</td>
<td>0</td>
<td>80,000</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL COMMUNITY GRANTS</td>
<td>310,653</td>
<td>403,661</td>
<td>311,000</td>
</tr>
<tr>
<td>BUDGET</td>
<td>311,000</td>
<td>311,000</td>
<td>311,000</td>
</tr>
<tr>
<td>FUNDS REMAINING/(IN EXCESS OF BUDGET)</td>
<td>347</td>
<td>(92,661)</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes:
(1) Kalajas Homes grant is generally the actual amount of property taxes for the year.
Region of Waterloo

Corporate Resources

Facilities Management & Fleet Services

To: Chair Galloway and Members of the Administration and Finance Committee

Date: June 17, 2014

Subject: Green Energy Act (GEA) – Corporate Energy Conservation and Demand Management Plan

Recommendation:

That the Regional Municipality of Waterloo approve the draft Corporate Energy Conservation and Demand Management Plan (“the Corporate Energy Plan”), as appended to report CR-FM-14-005;

And That the Plan be published on the Region’s website and made available to the public as required by Ontario Regulation 397/11 made under the “Green Energy Act”.

Summary: Nil

Report:

Legislation Background: Green Energy Act (GEA)

On January 1, 2012 Ontario Regulation 397/11, Energy Conservation and Demand Management Plans, was enacted under the authority of Ontario’s Green Energy Act, 2009 requiring public agencies (municipalities, municipal service boards, universities, colleges, schools and hospitals) to report on energy consumption and publish a Corporate Energy Plan.

As outlined in CR-FM-13-009 dated June 18, 2013, the requirement under the Legislation has 2 components:

1) 2011 energy consumption and GHG emissions data for Regional operations as set out under the regulation must be reported to the Ministry of Energy by July 1, 2013 and annually thereafter; and
2) An Energy Conservation and Demand Management Plan approved by the public agency, must be published and made available to the public by July 1, 2014 and updated every 5 years thereafter.

Meeting Legislative Requirements

The first component of the legislation, a summary of annual energy consumption and greenhouse gas emissions for the Region’s operations, was submitted to the Ministry by the deadline of July 1, 2013 and has been updated with 2012 data for resubmission by July 1, 2014. This component of the legislation will be updated and submitted annually by July 1 of each year as approved by Council regarding report CR-FM-13-009 dated June 18, 2013.

The second component, Corporate Energy Conservation and Demand Management Plan, (the “Corporate Energy Plan” attached to this report), will be made available publicly on the Region’s website and intranet site by July 1, 2014. It will also be made available in printed form upon request. This 10-year plan, aligned with the capital budget forecast will be updated for publication at least every five years. Although currently there are no penalties in this legislation for not meeting the energy savings goals identified in the Plan, all savings targets listed are achievable from projects that are identified in the current capital forecast.

Background

Energy costs represent 11% to 25% of each division’s operating budget for the Region. In 2012, the Region spent approximately $16.0 million on 133 million kWh of electricity and $2.35 million on 6.6 million m$^3$ of natural gas. The largest users of electricity were non-process facilities, which comprised 38% of total consumption, followed closely by water treatment facilities at 36% and wastewater facilities at 23%. While water and wastewater treatment facilities also used a significant amount of natural gas, non-process facilities (such as office buildings, operations centres and housing buildings) were the largest user by a substantial margin, and accounted for 86% of natural gas consumption.

As volatile electricity and natural gas prices rise, energy management is increasingly important to mitigate costs to the organization. Since 2005, the Region has already saved an estimated $6.5 million in energy costs by implementing energy management projects. Had these not been implemented, the Region would be paying about $1.1 million more in energy costs annually.

Building on this success, Regional Council established energy management as a strategic priority for the Region and directed staff to develop a Corporate Energy Plan in the 2011-2014 Corporate Strategic Plan. The establishment of a plan and an energy management framework is intended to formalize a more rigorous approach to delivering service excellence and support the Region’s environmental and financial objectives.

To respond to the requirements of the new Regulation and the Corporate Strategic Plan, staff formed an Energy Planning Working Group (EPWG) facilitated by the Facilities Management Energy Conservation Office with representatives from Water Services (Water and Wastewater) and Waste Management to coordinate the gathering
and submitting of required information by the legislated deadlines and to oversee the development of the Corporate Energy Plan.

**Corporate Energy Plan**

The Corporate Energy Plan, attached as Appendix A, documents past achievements as well as current and planned energy conservation and demand management initiatives across the organization. The objectives of the Plan are to reduce energy consumption and further explore alternative energy supply initiatives with the intention of mitigating the Region’s energy costs. The specific projects identified are currently included in the 2014-2023 ten-year capital forecast. It also sets out the strategy and actions planned to build on those past successes and improve energy performance further, through a structured approach.

The guiding principles of the Corporate Energy Plan include:
- Financial, Environmental and Social Responsibility
- Inter-Departmental and Stakeholder Engagement
- Accountability and Continuous Improvement

The plan forecasts energy savings from a number of energy conservation and demand management projects or operational initiatives involving several departments throughout the Region that are already planned for implementation over the next ten years. Several key actions are highlighted below along with preliminary estimates of energy savings where available.

<table>
<thead>
<tr>
<th>Action Description</th>
<th>Total Cost ($)</th>
<th>Forecasted Savings</th>
<th>Lifetime of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Meter Installations</td>
<td>198,000</td>
<td>Facilitates savings in building management</td>
<td>10 – 15 years (for permanent meters)</td>
</tr>
<tr>
<td>Lighting Retrofits</td>
<td>970,000</td>
<td>180,000</td>
<td>1,500,000</td>
</tr>
<tr>
<td>HVAC Upgrades</td>
<td>2,876,000</td>
<td>481,000</td>
<td>4,810,000</td>
</tr>
<tr>
<td>Building Automation/Controls</td>
<td>1,368,000</td>
<td>255,000</td>
<td>2,550,000</td>
</tr>
<tr>
<td>Building Envelope Improvements</td>
<td>1,089,000</td>
<td>203,000</td>
<td>2,030,000</td>
</tr>
<tr>
<td>Wastewater Process Optimization &amp; Equipment Upgrades</td>
<td>1,417,000</td>
<td>262,000</td>
<td>2,626,000</td>
</tr>
<tr>
<td>Water Process Optimization Projects*</td>
<td>In Development</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Solid Waste Process Optimization Projects</td>
<td>In Development</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>
New Construction Projects | In Development | TBD | TBD | 20 – 50 years
---|---|---|---|---
Sustainable Energy Generation | 549,000 | 89,000 | 890,000 | 20 – 50 years

*Studies to optimize water distribution are being implemented based on specific pressure zones (distribution area).

The plan includes $7.05 million of energy efficiency work which has been identified within the ten year capital forecast for non-process related projects such as lighting retrofits, insulation, window and mechanical system upgrades. This will result in an estimated 20-year forecasted savings of over $20 million based on an energy consumption reduction of 7,320,000 ekWh/year and $1.2 million in annual energy cost savings once all projects are complete.

Several new construction and process optimization projects have also been identified in the ten year capital forecast, but the associated energy savings will not be known until detailed design is completed.

In addition to reducing energy consumption, the Region will continue to manage energy costs by optimizing its procurement strategy. The last comprehensive review of the procurement strategy was completed in 2008. Since that time, working with an external specialist consultant and Finance, the Facilities Energy Conservation Office has continuously analysed current market conditions and made electricity and natural gas procurement recommendations. Given the number of changes in the market, the comprehensive update to the energy procurement strategy included in the plan will provide a better understanding of current market dynamics, costs, risks and benefits in the ongoing development of options.

The plan also includes further investigation into possible future on-site or distributed energy generation opportunities, listing a number of different technologies such as geothermal exchange systems, solar energy and combined heat and power (CHP) that will be considered. This would add to the generation capacity created by the current solar photovoltaic project, which will provide a net revenue to the Region of $2.9 million over the 20-year project life in addition to reducing greenhouse gas emissions and utility transmission requirements.

While identifying all of the energy savings initiatives discussed above and calculating the associated savings, staff reviewed the impacts of adjustments to the project schedules. Preliminary studies indicate that there could be up to $7.8 million in further savings by accelerating the implementation schedule of these measures to achieve the savings earlier. Subject to further research, a business case for accelerated implementation with funding recommendations will be provided for Council approval as part of the 2015 budget process if viable.

The initiatives identified in the Corporate Energy Plan will be carefully assessed, prioritized, implemented and measured by Regional staff within the appropriate program areas. The Facilities Management Energy Conservation Office will provide support through business case development, feasibility analyses, measurement & verification.
and will report on the progress of the plan to Council. Facilities will also stay current with external funding programs, partnership opportunities and legislative requirements regarding reporting deadlines and the frequency and processes for plan updates.

**Corporate Strategic Plan**

The development of a Corporate Energy Plan will assist with further development and implementation of an energy conservation culture in the Region. Specifically, the plan will support the following focus areas and objectives:

- **Focus Area 1** - Environmental Sustainability, to reduce green gas emissions and work to improve the air quality; to implement the Action Plan to reduce greenhouse gas emissions from Regional operations; and, to develop an Energy Reduction Plan for Water and Wastewater facilities.

- **Focus Area 2** – Growth Management and Prosperity, to develop, optimize and maintain infrastructure to meet current and projected needs; to continue to prioritize and implement capital program projects required to meet community needs and ensure sustainability.

- **Focus Area 5** - Service Excellence, to ensure Regional programs and services are efficient and effective and demonstrate accountability to the public; and further integrate Performance Measurement into Regional programs.

**Financial Implications**

The Corporate Energy Plan outlines the Region’s commitment to projects identified in the current 2013-2023 10-year capital forecast. Any new initiatives that result from further research and investigation will be submitted to Council for consideration as required.

**Other Department Consultations/Concurrence:**

The Facilities Management Energy Conservation Office facilitated the development of the Corporate Energy Plan with representatives from Water Services (Water and Wastewater) and Waste Management. Finance staff have also reviewed this report and their comments have been incorporated as appropriate.

**Attachments**

Appendix A: Draft Region of Waterloo Corporate Energy Plan (Distributed separately)

**Prepared By:** Brian Bechtel, Program Manager, Corporate Energy

**Approved By:** Gary Sosnoski, Commissioner, Corporate Resources
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The plan was developed over approximately one year involving EPWG workshops, site visits at Region facilities and additional consultation with EPWG members and operational staff. The engineering consulting firm Golder Associates assisted with the development of the plan and Golder team members Klas Bockasten and Catherine Thorn worked closely with Region staff during the planning process.

In addition to EPWG members, many other individuals contributed to this plan; in particular, operations staff were consulted during a planning meeting and the staff from three site visits: Galt Wastewater Treatment Plant, Mannheim Water Treatment Plant and the Regional Operations Centre and Lab corporate facility at 100 Maple Grove Road, Cambridge.

• Khalid Mehmood, Manager, Engineering and Wastewater Programs, Transportation and Environmental Services
• Tammy Bellamy, Project Engineer, Engineering and Wastewater Programs, Transportation and Environmental Services
• Naz Ritchie, Environmental Engineer, Waste Management, Transportation and Environmental Services

The Region of Waterloo’s Energy Planning Working Group (EPWG), which is comprised from the following Regional Departments and Divisions, developed this Corporate Energy Plan:

• Brian Bechtel, Program Manager, Corporate Energy, Facilities Management, Corporate Resources
• Charles Allen, Project Management Manager, Facilities Management, Corporate Resources
• Richard Schafer, Program Manager, Corporate Energy, Facilities Management, Corporate Resources
• José Rocha, Corporate Energy Analyst, Facilities Management, Corporate Resources
• David Roewade, Environmental Sustainability Planner, Facilities Management, Corporate Resources
• Alan Couch, Supervisor Water Supply Systems, Transportation and Environmental Services
• Tim Cloutier, Supervisor Water Electrical Systems, Transportation and Environmental Services
• Danielle Bruyere, Manager, Finance and Administration, Water Services, Transportation and Environmental Services
• Olga Vrentzos, Manager, Water Operations & Maintenance, Transportation and Environmental Services

Region of Waterloo
Executive Summary

The Regional Municipality of Waterloo ("the Region") services one of the largest and fastest growing urban areas in Ontario. With population growth, comes an increased need for services. Improving energy performance will enable the Region to continue to provide excellent service by managing energy costs and supporting the Region’s commitment to environmental sustainability.

In the Environmental Sustainability Strategy, the Region established the following objectives for its corporate facilities: manage energy use; reduce greenhouse gas emissions; and increase production/use of alternative and renewable energy sources. In addition to these general objectives, in 2011, the Region set a reduction target to stabilize greenhouse gas (GHG) emissions from Regional Operations at 2009 levels out through the year 2019. The Region has since outperformed expectations due to the many measures implemented, including energy efficiency and generation projects, and in 2013, revised the target to be more aggressive: achieve an absolute level of 10% below 2009 levels by the year 2019. This new target is equivalent to a 25% reduction per capita!

The Region has a long history of success in energy management: since 2005, the Region has saved an estimated total of $6.514 million in energy costs by implementing energy management projects. Had these projects not been implemented, the Region would be paying about $1.1 million more in energy costs this year alone. Even with these improvements, the Region consumes a significant amount of energy for its facilities: in 2012, the Region spent approximately $13.8 million on 125 million kWh of electricity and $2.12 million on 7.08 million m3 of natural gas.

Through this Corporate Energy Plan (CEP) and future energy planning, the Region will drive further improvements in energy performance and strive to develop a more integrated approach to energy management. The Region will work toward a future in which energy management is incorporated into everyday decision-making and the design of energy supply and distribution within Region facilities will be considered together with energy use to develop optimal energy systems.

Energy Vision: The Region of Waterloo will be an energy-conscious organization that continually seeks to conserve energy; and encourages the development and implementation of renewable and other sustainable energy infrastructure.

Energy Mission Statement: The Region of Waterloo aims to develop and implement energy plans that deliver service excellence and support current and future energy needs of the Region in a financially, socially and environmentally responsible manner.

The CEP sets out the strategy and actions planned to build on past successes and improve energy performance further, through a structured approach. It has been developed to meet the requirements of Ontario Regulation 397/11, as well as to enable the Region to meet the following corporate goals:

- Effectively manage energy use to deliver service excellence to Region of Waterloo facility users, resulting in avoided costs and cost savings.
- Sustainably manage Region of Waterloo corporate energy use to minimize environmental impacts of energy use.

The CEP identifies $7.5 million worth of energy projects to be implemented over the next ten years that are projected to avoid an additional 7,320,000 ekWh/year of energy consumption and $1,208,000/year of energy costs.
Although this is the Region’s first published energy plan, the Region has been actively engaged in energy management for the past nine years. Since 2005, the Region has recorded millions of dollars in energy savings, cost avoidance and revenue achieved by implementing energy projects.

Since 2005, the Region of Waterloo has realized an estimated total savings, cost avoidance and revenues associated with energy management projects of $6.514 million. Going forward about $1.1 million per year has been freed up and this amount continues to grow.

In 2013, energy savings, cost avoidance and revenues made up almost 6% of the annual energy cost.
In 2007, the Region of Waterloo demonstrated its commitment to improving energy performance by officially establishing the Energy Conservation Office (ECO). Over 130 projects have been implemented by the ECO, resulting in savings of more than 7,600,000 kWh of electricity and 350,000 m³ of natural gas annually. Projects have covered a variety of areas including the following examples:

### FACILITIES

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of Representative Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater, boiler and furnace upgrades</td>
<td>Electrical heating, boilers and furnaces were upgraded in Regional buildings, saving over 10,000 kWh of electricity and approximately 7,400 m³ of natural gas each year.</td>
</tr>
<tr>
<td>Lighting upgrades</td>
<td>Interior and exterior lighting upgrades have been completed at various Region buildings to improve energy efficiency, saving over 2,700,000 kWh of electricity.</td>
</tr>
<tr>
<td>Improved controls</td>
<td>Better controls, including VFD’s, occupancy sensors, HVAC setbacks, thermostats and stove top temperature controllers were installed in Regional buildings, saving over 200,000 kWh of electricity.</td>
</tr>
<tr>
<td>Fridge upgrades</td>
<td>Fridges in hundreds of Waterloo Region Housing units were replaced, saving over 360,000 kWh of electricity.</td>
</tr>
<tr>
<td>Geothermal Energy</td>
<td>Geothermal systems have been installed at Sunnyside Home Supportive Housing and Regional Library Headquarters.</td>
</tr>
<tr>
<td>Solar Heating</td>
<td>Solar domestic hot water systems were installed at Christopher Children’s Centre and Cambridge Children’s Centre in Cambridge. Both systems were part of major renovations in each facility.</td>
</tr>
<tr>
<td>Heat Recovery</td>
<td>Heat recovery has been implemented in multiple processes at Sunnyside Home, saving over 340,000 m³ of natural gas each year.</td>
</tr>
</tbody>
</table>
| LEED® Certified Buildings                   | Emergency Medical Services Fleet Centre Gold  
Waterloo Regional Police Service Investigative Services Building Gold  
Waterloo Landfill South Workshop Silver  
Waterloo Region Museum Silver  
Christopher Children’s Centre Gold  
Region of Waterloo International Airport Operations Centre Silver  
Sunnyside Supportive Housing Silver  
Admin Building, Waterloo Waste Water Treatment Plant pending  
Grand River Transit — Strasburg Road Facility Expansion pending  
Region of Waterloo Police Services North Division pending |
| Solar PV                                     | Solar PV systems have been installed at various Region buildings, with a total installed capacity of approximately 997 kWp.                                                                 |
### WATER

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of Representative Projects</th>
</tr>
</thead>
</table>
| LEED® Certified Buildings   | Mannheim Water Treatment Plant Expansion Silver  
Greenbrook Water Supply System pending  
Middleton Water Treatment Plant pending  
Biosolids Dewatering Facility - Regional Municipality of Waterloo pending |
| Manheim Lighting Upgrades   | Lighting in the ammonia building has been upgraded to Fluorescent T5 lighting.                        |
| Manheim HVAC Upgrades       | An HVAC system upgrade was completed at Manheim water treatment plant. The new system is a variable air volume system, which can more closely match different demands in different areas, improving efficiency. |
| VFD’s                       | As motor starters require replacement, VFD’s have been installed.                                       |
| Middleton Upgrade           | Heat recovery off the raw water was implemented.                                                        |
| Demand Shifting             | At Ayr and Greenbrook water treatment plants, energy is stored: water is pumped during the night when energy demand is lower and is fed by gravity through the plant during the day. |

### WASTEWATER

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of Representative Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting Upgrades</td>
<td>Exterior and interior lighting has been upgraded to LED lights at the New Hamburg and Galt Wastewater Treatment Plants (WWTP).</td>
</tr>
<tr>
<td>Biogas Utilization</td>
<td>Biogas produced by the digesters in the treatment process is used for the hot water boiler fuel.</td>
</tr>
<tr>
<td>Galt Influent Pumping Station VFD’s</td>
<td>VFD’s have been installed on the six pumps in the Galt influent pumping station.</td>
</tr>
<tr>
<td>Effluent Pumping Station VFDs</td>
<td>VFDs have been installed on five pumps at the Kitchener effluent pumping station and on four at the Waterloo effluent pumping station.</td>
</tr>
<tr>
<td>Building Design</td>
<td>The design of the Manitou Biosolids Dewatering Building and the Waterloo Wastewater Treatment Plant Administration Building incorporated LEED Silver energy efficient components, including building system controls and lighting.</td>
</tr>
</tbody>
</table>
### WASTE MANAGEMENT

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of Representative Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Gas Utilization</td>
<td>The Region of Waterloo was an early adopter of using the methane in landfill gas to produce electricity, decreasing GHG emissions and decreasing demand on the grid.</td>
</tr>
<tr>
<td>Waterloo Landfill Baler Upgrade</td>
<td>When replacing the baler at Waterloo Landfill Materials Recycling Centre (MRC), a lifecycle analysis was completed on energy use to identify the most efficient option.</td>
</tr>
<tr>
<td>Wind Turbine</td>
<td>A wind turbine was installed at 1001 Erb St.</td>
</tr>
</tbody>
</table>

### TRANSPORTATION

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of Representative Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED Traffic Signals</td>
<td>400+ intersections converted from incandescent to LED, producing annual savings of 4,800,000 kWh</td>
</tr>
<tr>
<td>Lighting Upgrades</td>
<td>Lighting in the lobby of the airport was upgraded, producing annual savings of over 110,000 kWh of electricity.</td>
</tr>
<tr>
<td>Energy Audit</td>
<td>A comprehensive energy audit was completed on airport facilities and identified opportunities are planned for implementation within the timeframe of this Corporate Energy Plan (CEP).</td>
</tr>
</tbody>
</table>
2. Strategic Alignment: The Way Forward

This Corporate Energy Plan (CEP) will help formalize an energy management framework to provide the basis for delivering service excellence and support the Region’s environmental and financial objectives. An implementation program plan will be developed and executed by the Energy Conservation Office (ECO), under the guidance of the Senior Management Team. The work of prioritizing projects will be the responsibility of the individual program area and establishing measurement and verification protocol will fall to the ECO.

Energy costs represent a sizeable portion of operating costs for the Region, ranging from approximately 11% to 25% of each division’s operating budget. As electricity and natural gas prices rise, managing energy use and supply may enable the Region to forego otherwise necessary budget/service cuts in other areas. The Region’s Asset Management strategy recognizes the need to actively manage the lifecycle costs of corporate assets and calls for energy to be responsibly managed.

The Region is committed to environmental sustainability; it is identified as a goal in the Corporate Strategic Plan, reflected by livability objectives in the Region’s Official Plan (ROP) and planned for through both the Environmental Sustainability Strategy and the supporting Corporate GHG Emission Reduction Plan. Sustainably managing energy use is a key part of environmental sustainability. 2012 energy use in the Region’s corporate facilities resulted in approximately 23,000 tonnes of greenhouse gas (GHG) emissions. Implementing energy conservation and demand management measures in Region facilities is essential to achieving the Region’s emission reduction target of a 10% absolute reduction in GHG emissions from 2009 levels by 2019. This energy plan directly supports the Region’s Service First Strategy, Asset Management Plan and Corporate GHG Action Plan which in turn, further the Region’s Infrastructure Master Plans, Environmental Sustainability Strategy and Corporate Strategic Plan, as shown in Figure 1.

1 Calculated using the GHG emission factors 0.0800 kg per kWh of electricity and 1.8906 kg per m³ of natural gas, from the Ministry of Energy’s reporting template for annual energy consumption and greenhouse gas emissions reports.
Region of Waterloo Corporate Strategic Plan 2011-2014 Five Focus Areas:

1. **Environmental Sustainability**: Protect and enhance the environment.
2. **Growth Management and Prosperity**: Manage growth to foster thriving and productive urban and rural communities.
3. **Sustainable Transportation**: Develop greater, more sustainable and safe transportation choices.
4. **Healthy and Inclusive Communities**: Foster healthy, safe, inclusive and caring communities.
5. **Service Excellence**: Deliver excellent and responsive services that inspire public trust.

**Environmental Sustainability Strategy**
Positive environmental performance balanced with financial responsibility and delivery of effective community services.
- Environmental Progress Indicators
  - Air/Energy/GHGs
  - Water and Waster
  - Land and Culture (behavior)

**Service First Strategy**
High Quality Service Delivery (internal/external)

**Infrastructure Master Plans**
Long-range plans for water, waste, transportation, planning, human services based on population growth and other external influences and local conditions.

**Asset Management**
Cost-effective, reliable operations that meet or exceed compliance and service delivery requirements.
- Water, Waste, Transportation, Facilities and Fleet KPIs

**Corporate GHG Action Plan**
- Emissions inventory
- Action plan
- Reduction target
- Monitoring reporting

**Corporate Energy Management Plan**
- Conservative & demand management
- O&M
- Energy procurement
- Sustainable energy generation

Figure 1: Integrated Diagram of Major Corporate-Wide Plans and Strategies in Relation to Internal Energy Planning
2.1. Energy Plan Guiding Principles

Energy Vision
The Region of Waterloo will be an energy-conscious organization that continually seeks to conserve energy; and encourages the development and implementation of renewable and other sustainable energy infrastructure.

Energy Mission Statement
The Region of Waterloo aims to develop and implement energy plans that deliver service excellence and support current and future energy needs of the Region in a financially, socially and environmentally responsible manner.

Financial, Environmental and Social Responsibility
• Limit energy costs and exposure to market prices through conservation and generation
• Consider lifecycle costs during design and procurement
• Strive to follow the best practices outlined in recognized energy management standards
• Recognize the Region’s commitment to service when evaluating energy projects
• Actively consider options to reduce emissions associated with the Region’s energy consumption

Inter-Departmental and Stakeholder Engagement
• Establish energy management as a responsibility shared by every Region employee and promoted within each department
• Educate and engage staff through two-way communication
• Ensure decision makers understand how asset management decisions can affect energy performance
• Work with member municipalities, community residents, and local businesses and institutions, when appropriate, to further energy objectives

Accountability and Continual Improvement
• Make available the resources and information required to achieve energy objectives
• Develop and publish a new CEP every 5 years
• Internally review and assess progress of the CEP every year
• Review their alignment when the CEP or other strategic plans are updated
• Measure energy use at the facility level and report on it annually
• Develop internal energy performance targets at the division level and report annually on progress to the Executive Leadership
• Review energy performance during employee performance evaluations, as applicable
2.2. Goals and Objectives

Based on the strategic direction that has been set by Region of Waterloo’s corporate Strategic Plan, two main goals for energy management have been identified. The strategic objectives to achieve those goals have been developed based on the Region’s priorities and best practices for energy management, including those outlined in the energy management standard ISO 50001.

<table>
<thead>
<tr>
<th>Goals</th>
<th>Strategic Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Effectively manage energy to deliver service excellence to Region of Waterloo facility users.</td>
<td>1.1. Ensure compliance with any related legislation and regulations.</td>
</tr>
<tr>
<td></td>
<td>1.2. Improve energy efficiency through implementation of energy conservation and demand management.</td>
</tr>
<tr>
<td></td>
<td>1.3. Manage energy costs, reliability and price volatility by investing in on-site or distributed energy generation where feasible.</td>
</tr>
<tr>
<td></td>
<td>1.4. Regularly review new opportunities and oversee an energy procurement strategy.</td>
</tr>
<tr>
<td></td>
<td>1.5. Optimize asset performance and minimize energy costs through incorporating energy management in building/equipment life-cycle decisions.</td>
</tr>
<tr>
<td>2. Sustainably manage Region of Waterloo corporate energy use to minimize environmental impacts of energy use.</td>
<td>2.1. Reduce GHG emissions by managing energy consumption.</td>
</tr>
<tr>
<td></td>
<td>2.2. Reduce GHG emissions by investing in sustainable energy generation.</td>
</tr>
<tr>
<td></td>
<td>2.3. Investigate renewable energy purchasing as a means to reduce GHG emissions.</td>
</tr>
</tbody>
</table>
2.3. Energy Management Framework

The CEP is based on the Region’s Energy Management Framework below, which summarizes the drivers, planning, core services, supporting activities and performance management required to drive continual improvement in energy performance.

The Energy Management Framework outlines how the Region of Waterloo will manage energy as a continual business practice to deliver service excellence, support environmental sustainability and satisfy regulatory requirements. The cycle begins with understanding the business drivers that are the reason the Region has developed an energy management strategy and follows the well-established continuous improvement model of “plan-do-check-act”.

Every 5 years, energy policies, strategies and plans will be reviewed against current business drivers and lessons learned.
In 2012, the Region spent approximately $16 million on 133 million kWh of electricity and $2.3 million on 6.6 million m³ of natural gas for its facilities. The largest users of electricity were non-process facilities, which comprised 38% of total consumption, followed closely by water treatment facilities at 36% and wastewater at 23%. While water and wastewater treatment facilities also used a significant amount of natural gas, non-process facilities were the largest user by a substantial margin, and accounted for 86% of natural gas consumption.
3. Energy Baseline

2012 Natural Gas Use (6.6 million m³)
- 86% Non-Process
- 7% Wastewater
- 5% Water
- 2% Waste Management

2012 Electricity Use (133 million kWh)
- 36% Non-Process
- 38% Water
- 23% Wastewater
- 3% Waste Management
Regional Council has established energy management as a priority for the Region and directed staff to develop this Corporate Energy Plan (CEP). While Council will be sought to approve major changes in strategic energy management, the Energy Plan Steering Team provides high-level oversight on the prioritization and corporate-wide application of the energy strategy. The existing Energy Planning Working Group (EPWG) will be responsible for administering the CEP with the Energy Plan Steering Team (EPST) acting as an advisory body to that team.

While the EPWG is responsible for the CEP, energy management projects will be identified, prioritized and implemented by Region staff within the appropriate energy accounting centre. Energy accounting centres define the boundaries of business units responsible for energy performance. Each centre is accountable for its own energy use and is ultimately responsible for the decisions affecting that energy use. Five energy accounting centres have been defined for the Region of Waterloo, as shown in the Energy Governance Structure below (Figure 2).

Recognizing that the majority of energy use in certain divisions (such as Water and Wastewater) is due to process equipment and there are particular process requirements unique to these operations, the individuals within these divisions are best qualified to identify, prioritize and implement projects that will improve energy performance. Energy accounting centres have been established to allow for this. The ECO will provide support through the provision of services such as facilitating business case development, feasibility analyses, measurement and verification and providing advice when requested. The ECO will also stay current with external funding programs and partnership opportunities as a value add service to its internal partners.
4.1. Energy Planning Working Group (Executors of the Plan)

The existing Energy Planning Working Group (EPWG) will be the primary team responsible for managing the delivery of the CEP. During plan implementation, membership will be reviewed annually and typically consist of about six to ten individuals. Suggested members include:

- Individual(s) from the Energy Conservation Office (ECO)
- Individuals from divisions that significantly impact energy management in the Region, including Water, Wastewater, Waste Management, Transportation, Housing, Facilities Management
- An individual involved in the Region’s Sustainability Strategy and Corporate GHG inventory and reduction plan
- A revolving membership position from corporate Finance
- Representative facility manager(s)/chief operator(s)

In addition to the EPWG members, a representative from Information Technology (IT) will be appointed to participate in some meetings, as necessary, to discuss energy-related software needs.

The EPWG will be responsible for administering the CEP, developing action plans for their own energy accounting centre to ensure compliance with legislative requirements, reviewing the performance of implementation and revising the CEP. As a cross-disciplinary team, the EPWG will promote involvement and action from all divisions. The EPWG will provide guidelines for energy management processes, including auditing procedures and project prioritization.

4.2. Energy Conservation Office

Value Added Services

The ECO will provide support to all energy accounting centres and the EPWG. Through the development of a formal program implementation structure, value added services will be made available where requested by energy accounting centres and could include facilitating the development of business cases, feasibility studies, project coordination, identifying funding and partnership programs, and lead data collection, reporting and tracking of KPIs across the corporation. Project implementation will be managed by specific project teams within the energy accounting centre, and the teams will report energy efficiency improvements on these projects to the ECO.

Support Function to Address Legislative Requirements

The ECO will report on a corporate Energy Conservation and Demand Management Plan (ECDMP) that is comprised of various action plans being undertaken by energy accounting centres as required by Ontario Regulation 397/11. Goals and objectives as identified by the energy accounting centres will also be included. Affected operations include the following identified in the regulation:

- Administrative offices and related facilities
- Cultural Facilities
- Ambulance stations and associated offices and facilities
- Police stations and associated offices and facilities
- Storage facilities where equipment or vehicles are maintained, repaired or stored
- Buildings or facilities related to the treatment or pumping of water or sewage
- Parking garages

Significant energy savings can be realized through collaboration. The Region of Waterloo, City of Waterloo and University of Waterloo formed a community partnership in 2008 for a wind study.
4.3. Responsibilities

The responsibility matrix below outlines the various roles of different teams for energy management activities.

Defined roles include:

**R = Responsible:** The party responsible for successful completion or delivery

**A = Accountable:** The party, ultimately accountable for results, that provides oversight (and approval if necessary) to the responsible party

**S = Support:** The supporting individual(s) that provide information or analysis to the responsible party

**C = Consulted:** Individual(s) with particular knowledge that can advise the responsible party

**I = Informed:** Individual(s) that should be informed about the activity

<table>
<thead>
<tr>
<th>BUSINESS DRIVERS</th>
<th>EPST</th>
<th>EPWG</th>
<th>ECO</th>
<th>EAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Drivers Review</td>
<td>R</td>
<td>C</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLANNING</th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Plan Revisions</td>
<td>A</td>
<td>R</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Energy Projects Planning</td>
<td>I</td>
<td>C</td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SERVICE DELIVERY</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation &amp; Demand Management</td>
<td>A</td>
<td>S</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td>A</td>
<td>S</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Sustainable Energy Generation</td>
<td>A</td>
<td>S</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Energy Procurement Analysis</td>
<td>A</td>
<td>R</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE MANAGEMENT</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Reporting</td>
<td>A</td>
<td>I</td>
<td>R</td>
<td>S</td>
</tr>
<tr>
<td>Measurement &amp; Verification of Projects</td>
<td>I</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Monitoring</td>
<td>C</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment &amp; Continuous Improvement</td>
<td>A</td>
<td>R</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

Figure 3: High level Responsibility Matrix
The core energy management services are those functions that directly impact energy performance through managing energy use and optimizing its supply:

<table>
<thead>
<tr>
<th>SERVICES ADDRESSING ENERGY USE:</th>
<th>SERVICES ADDRESSING ENERGY SUPPLY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Conservation and demand management</td>
<td>• Operations and maintenance</td>
</tr>
<tr>
<td>• Sustainable energy generation</td>
<td>• Energy procurement</td>
</tr>
</tbody>
</table>

To formalize these services, a program approach to energy management is being carried out to develop and execute projects and non-projects. An action plan has been put in place to deliver the program over the 2014-2024 time period to align with the Region’s capital planning process. Work has been identified in the following plan:

<table>
<thead>
<tr>
<th>Action Description</th>
<th>Total Cost ($)</th>
<th>Forecasted Savings ($/year)</th>
<th>Forecasted Savings (ekWh/year)</th>
<th>Lifetime of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Facility Meter Installations</td>
<td>198,000</td>
<td>Facilitates Savings in Building Management</td>
<td>Facilitates Savings in Building Management</td>
<td>10 – 15 years (for permanent meters)</td>
</tr>
<tr>
<td>Lighting Retrofits</td>
<td>970,000</td>
<td>180,000</td>
<td>830,000</td>
<td>8 – 10 years</td>
</tr>
<tr>
<td>HVAC Upgrades</td>
<td>2,876,000</td>
<td>481,000</td>
<td>2,600,000</td>
<td>15 – 20 years</td>
</tr>
<tr>
<td>Building Automation/Controls</td>
<td>1,650,000</td>
<td>255,000</td>
<td>1,650,000</td>
<td>10 – 15 years</td>
</tr>
<tr>
<td>Building Envelope Improvements</td>
<td>1,320,000</td>
<td>203,000</td>
<td>1,350,000</td>
<td>10 – 20 years</td>
</tr>
<tr>
<td>Process Optimization Projects*</td>
<td>In Development</td>
<td>TBD</td>
<td>TBD</td>
<td>10 – 20 years</td>
</tr>
<tr>
<td>New Construction Projects*</td>
<td>In Development</td>
<td>TBD</td>
<td>TBD</td>
<td>20 – 50 years</td>
</tr>
<tr>
<td>Sustainable Energy Generation</td>
<td>512,000</td>
<td>89,000</td>
<td>890,000</td>
<td>20 – 50 years</td>
</tr>
</tbody>
</table>

* Projects in development are currently being studied for feasibility and to determine energy savings

The services required to support this plan are further developed in the next sections with some specific project examples.
the amount of natural gas saved annually at Sunnyside Home after implementing the heat recovery project.

5.1 Energy Use

5.1.1 CONSERVATION AND DEMAND MANAGEMENT

Driving Corporate Strategic Objectives

1.2 Improve energy efficiency through implementation of energy conservation and demand management.

2.1 Reduce GHG emissions by managing energy consumption.

Each energy accounting center will proactively identify CDM opportunities, evaluate those opportunities and execute selected measures, along with the appropriate measurement and verification (M&V). The ECO will be available to support when requested. Currently, CDM opportunities are identified from a variety of sources and implemented on a case-by-case basis. As part of this plan’s implementation over the next five years, the EPWG will establish the processes and tools used to track, evaluate and report on CDM opportunities and projects. The EPWG will work with IT and other stakeholders to develop the supporting software requirements and proposed solution, as discussed in more detail under the Information Systems & Data Management section of this plan.

Systematic Approach to Energy Program Management: The ECO will develop various collaborative initiatives that will for example integrate preventive maintenance with energy efficient building operations. Work underway will include building portfolio “tune-ups”, re-commissioning and retro-commissioning services, and long term integration of planning with building condition assessments.

IDENTIFYING CDM OPPORTUNITIES

In the past five years, many successful CDM projects have originated from operator suggestions and energy audits. Input from operators, as well as other staff, will continue to be actively encouraged, and energy audits will be used as one of the tools to identify energy opportunities.
5. Core Energy Management Services

Energy Audits and Studies:
Energy audits will be planned by each department during the corresponding division’s budgeting process each fiscal year, according to the Region’s standard auditing process. To ensure that energy audits result in actionable projects that include energy supply improvements, include the following in audit RFP’s:

1. Auditors shall provide an execution model for realizing identified viable energy opportunities and incentive funding available for their implementation (such as federal or provincial funding programs).
2. Auditors shall identify any innovative sustainable generation opportunities that are particularly suited to the site.

Energy studies and audits shall be tracked and if the evaluated measures are not feasible, the results will be retained to inform future decision-making. Once developed, these reports will be saved in the energy project software solution discussed in the Information Systems & Data Management section of this plan.

Projects and Implementation:
In addition to staff suggestions and energy audits, CDM opportunities should arise from the evaluation process for projects involving modifications, upgrades or replacements of mechanical, electrical and/or controls equipment in existing and new facilities. These projects often present a good opportunity to improve energy performance at a lower cost than standalone energy retrofits. The incremental capital cost of installing an energy efficient solution when a system is designed is typically far less than upgrading to such a solution after a conventional system has been installed. The costs for services such as design, construction management and installation are generally similar for a conventional system and an energy efficient one, while the energy efficient equipment itself is often less expensive to purchase as an option on new equipment rather than as a standalone product to be added to existing equipment. To achieve this, a formal process is needed to incorporate energy performance into the decision-making process for capital projects:

1. For new buildings that will be occupied and over 500m², design to the LEED Silver or similar green building standards. From 2014 and on, the LEED rating system now has a much stricter energy conservation component with implications for better energy performing buildings.
2. For existing buildings and operations, when modifying, upgrading or replacing mechanical, electrical and/or

Lighting Retrofits: The Region has completed many successful lighting retrofits with funding support and will continue to assess and upgrade lighting throughout its facilities. The majority of upgraded lighting consists of fluorescent T8 fixtures and LED technology. In addition, occupancy sensors will be installed as part of some retrofits to decrease energy use when lighting is not needed.

HVAC Upgrades: Various HVAC upgrades will be completed at different facilities in the Region. Upgrades include solutions that better match heating, cooling and ventilation operation to demand, such as improving controls, balancing the HVAC system, adjusting temperature set-points and installing VFDs on air handling units. Other upgrades involve replacing equipment, such as boilers and chillers, with more efficient options or implementing heat recovery.

Existing Facility Meter Installations:
25 permanent meters are to be installed in various Region facilities and connected to reporting systems to provide better data that is automatically integrated into the systems used to inform decision making. In addition, temporary metering will be installed to measure the energy use of particular systems for specific projects.
The Region’s solar electric system generates 1.1 million kWh/year of energy. This is equivalent to meeting the typical electricity needs of 115 homes.

New Construction Projects: Various buildings have been LEED certified or are pending certification, including recently Waterloo Region Police Services North Division, Grand River Transit at 85 Chandler and the current 20 Weber St renovations.

Process Optimization Projects: Various projects will be completed within the process-oriented wastewater treatment, water treatment and waste operations, to optimize those processes and improve energy performance. In particular, energy-intensive processes, such as aeration, will be analyzed.

controls equipment, include energy performance as one of the selection criterion listed in the RFP’s for equipment and design services. Request that vendors of equipment provide lifecycle costs, including capital cost, maintenance and operating costs (such as energy and water costs).

3. When major replacements of boilers or central chiller plants are required, initiate a discussion on the potential for developing a district energy node to begin development of a thermal grid (a hot and chilled water distribution system).

CDM PROJECT IMPLEMENTATION

CDM opportunities will be evaluated as they arise and either prioritized for implementation, recorded for later review or dismissed. Once a project is approved, a project manager will be assigned from within the energy accounting center that is responsible for that project. The ECO will either take on or agree to designate responsibility for projects that affect facilities across multiple energy accounting centers. When implementing CDM projects, a measurement and verification (M&V) plan is to be developed, according to the guidelines provided in the Performance Management section of this plan. It is important to complete this M&V plan early in the process because it may require installing meters (either permanent or temporary) before the measure is implemented to develop a baseline.

5.1.2 OPERATIONS AND MAINTENANCE

Driving Corporate Strategic Objectives

1.5 Optimize asset performance and minimize energy costs through incorporating energy management in building/equipment life-cycle decisions.

2.1 Reduce GHG emissions by managing energy consumption.

Energy Performance Standards: Facilities Management will review, compile and oversee a database of energy performance standards for building equipment and building materials in collaboration with the energy accounting centers.
5. Core Energy Management Services

To help train new operators and share successful strategies among current operators, the Region will work toward incorporating identified energy management best practices into its standard operations and maintenance (O&M) procedures.

Over the next two years, the Region is developing a comprehensive Asset Management Plan, which provides the framework for Facility Assets to be operated and maintained according to appropriate, planned regimes. Under the Asset Lifecycle Management component of this plan, O&M strategies will be documented based on each Division’s asset management principles and framework. These O&M strategies shall incorporate the energy management best practices outlined by this Energy Plan.

5.2 Energy Supply

5.2.1 ENERGY PROCUREMENT

Driving Corporate Strategic Objectives

1.4 Implement an energy procurement strategy.

2.3 Investigate renewable energy purchasing as a means to reduce GHG emissions.

In 2008, the Region completed a study on energy procurement to develop their energy purchasing strategy. As there have been many changes in the market since then, the Region plans to update this strategy. A review of current market dynamics, costs, risks and benefits will provide a better understanding in the development of options. These options will be provided to senior leadership for approval of a strategy moving forward. The ECO will be collaborating with Finance on this study of energy procurement options for Region facilities, considering the following:

- Evaluate risks and benefits for various options
- Perform an environmental scan of what other municipalities are doing in Ontario
- Electricity options (time-of-use, market price, retail contract, green energy)
- Natural gas options (regulated price from local distribution company, retail contract)
- District energy (chilled water, hot water)
- Biomass and energy from waste (in the future)
- The trade-off between risk and predictability of energy prices

It is important that the operations group responsible for each facility understands the electricity and natural gas rate structures for that facility so that the costs can be managed accordingly. Electricity rates in particular impact the optimal way to operate a facility for managing energy costs. For time-of-use billing, for example, significant cost savings can be achieved by shifting demand to off-peak hours, when the electricity rates are lower. When paying the market price though, shaving the peak demand of the facility is usually more effective because there are significant demand charges. Since the planned energy procurement study will begin with a review of existing energy rates, the existing rates will be communicated to each operations department once the review is complete. Going forward, whenever rates are to be changed, the operations division in charge of the facility will be given the opportunity to provide input on the rate structure and will be notified of new rates once effective.

ELECTRICITY

Electricity rates consist of the commodity price, delivery charges, the debt retirement charge, the global adjustment and regulatory components determined by the Ontario Energy Board (OEB). The commodity portion can be purchased either from the local distribution company (LDC) or under a retail contract from an electricity marketer, while the other components are regulated and must be paid to the LDC. The commodity price charged by the LDC is regulated through the OEB and fluctuates according to market prices; whereas, retail contract prices are unregulated and set by the electricity marketer. Regardless of the rate structure, it is important to understand the rate design and how it impacts the costs for each facility.

Building Envelope Improvements:
The Region has initiated building condition assessments for many of its facilities and will upgrade building components such as windows or insulation to improve energy performance.
of any purchasing agreements made, the Region will be billed through the LDC and the LDC will deliver the electricity to Region facilities. Certain electricity marketers also offer contracts for green energy, which will reduce overall GHG emissions if purchased.

**NATURAL GAS**

Natural gas rates consist of the commodity price and delivery charges. Similar to electricity, the commodity portion can be purchased from either the LDC or a natural gas marketer under a retail contract. Natural gas prices have fluctuated drastically in the past ten years and can be difficult to predict. Retail contracts can provide price stability and can be beneficial if market prices increase more than the contracted price, but they also present the risk that regulated prices will decrease and the Region will be locked into a contract with prices higher than the market.

**DISTRICT ENERGY**

While opportunities to purchase district energy are not common today, they are expected to increase as the concept becomes more popular in Canada. If there is a particular grouping of facilities being developed by one of the Region’s member municipalities, for example, a city may put in a district energy system to which a nearby Region facility could be connected. Another possible source would be an industrial facility that has excess heat to reject from one of their processes and that is located near to a Region facility.

**OTHER ENERGY**

Other energy supplies are likely to be explored in the future and should be reviewed as they are added to the list of potential energy purchase options for use by the Region. These energy supplies could include biogas, biomass, energy from waste and other renewable fuels considered in the future.

5.2.2 SUSTAINABLE ENERGY GENERATION

Driving Corporate Strategic Objectives

1.3 Manage energy costs, reliability and price volatility by investing in on-site or distributed energy generation where feasible.

2.2 Reduce GHG emissions by investing in sustainable energy generation.

Currently, most municipalities in Ontario buy the bulk of their electricity from the transmission grid managed by Hydro One; however, in the not-too-distant future, local governments will likely take a more proactive role in managing their electrical and thermal energy consumption. Municipalities will develop more sustainable energy systems that include both the electrical and thermal generation and potentially incorporate developing new district energy distribution systems (distribution of hot and chilled water from central energy plants). Ontario Power Authority encourages such developments by the local governments, particularly because as large energy consumers and often partial owners in their local electrical distribution companies, municipalities are in a good position to develop such systems and cost effectively manage their energy and operating costs for public facilities.

---

1 Since 2003, the Henry Hub spot price has varied from over $18/MMBTU to under $2/MMBTU according to data from the US Energy Information Administration.
Installing energy generation systems on-site will reduce the Region’s exposure to increasing market prices and enable the Region to predict energy budgets more accurately. Installing new Combined Heat and Power (CHP) generators connected to Region facilities reduces the Region’s reliance on the regulated electrical distribution network, increasing energy reliability and flexibility. On-site generation using back-up electrical generators (or combined heat and power units) is particularly beneficial during power outages, which may increase in frequency, considering the aging infrastructure and capacity constraints of the grid. Such CHP systems typically consist of natural gas fired-reciprocating engine generators that are linked to the natural gas distribution grid and can be designed to operate in island mode (supply electricity and hot water to a single building or number of buildings while disconnected from the electrical grid) or in parallel mode with the electrical grid.

Further, installing renewable electricity systems that connect to the grid under the FiT and microFiT programs provides income to offset energy costs. In addition to financial benefits, sustainable energy generation reduces the GHG emissions resulting from energy consumption by either using a technology that does not involve combustion or increasing the efficiency of generation and distribution so that more useful energy can be generated from the same amount of fuel (i.e. CHP).

Each energy accounting centre will consider sustainable energy generation opportunities for their facilities and in the case of district energy, surrounding facilities as well. Sustainable energy generation systems include:

- Solar energy, including photovoltaic, thermal and solar walls;
- Wind energy;
- Hydroelectric energy that is low impact;
- Geothermal exchange systems using ground source heat pumps;
- Biomass combustion, including energy from waste, landfill gas and digester gas;
- Combined heat and power (CHP) with a combined efficiency of over 75%; and
- District energy (heating and cooling distribution system).

IDENTIFYING INNOVATIVE GENERATION OPTIONS

As energy costs rise and environmental sustainability is increasingly valued, more organizations are investing in sustainable energy generation and technologies are advancing. To take advantage of these developments, the Region will investigate the use of innovative generation options that are market-ready, including those listed above. The ECO will be responsible for providing information on new and emerging generation technologies, gathered through the following means:

- Initiate new partnerships with the cities and organizations in the area, including the private sector,
- Research publications,
- Conferences,
- Cross-learning from other municipalities through programs, and
- Energy audits.

PROJECT IMPLEMENTATION

As they arise, sustainable energy generation opportunities will be evaluated and either prioritized for implementation, recorded for later review or dismissed. Once a sustainable energy generation project is approved, a project manager will be assigned from within the energy accounting center where the project is to be installed. The ECO will either take on or agree to designate responsibility for projects that affect facilities across multiple energy accounting centers. When planning the implementation of these projects, developers a measurement and verification plan to track and report on the amount of energy the system actually generates each year. Suppliers of generation technology often offer metering as an option for a small incremental cost compared to the equipment cost. Specify in the procurement documentation that such monitoring equipment be included as an option.

Sustainable Energy Generation: The Region will install sustainable energy generation and distribution systems, such as on-site solar PV, at Region facilities.
6. Supporting Activities

6.1. Communications, Training & Engagement

People are at the core of energy management and in the long term, people’s actions account for a much larger portion of energy savings than technology upgrades. To support the implementation of this CEP, the EPWG will

- Communicate energy management successes, best practices and new initiatives;
- Develop training to further improve the energy knowledge of operations staff and help all staff understand their role in energy management; and
- Engage staff in energy management through encouraging their actions as well as their suggestions for improvement.

COMMUNICATIONS

Relevant, ongoing communication and recognition of achievements is one of the keys to engaging people and sustaining their commitment to a strategy. The ECO will work with various groups who have completed energy projects to showcase those successes and will provide updates on the Region’s energy management strategy through the following media:

- Intranet
- Internal newsletters
- Information packages for new employees
- External website
- Social media
- Press releases

TRAINING AND ENGAGEMENT

Various training and engagement programs have been implemented over the past five years, including energy management workshops for operators and an employee staff suggestion program. Over the next five years, the following actions will be taken:

- Staff will receive training on an ongoing basis through workshops, seminars and other forms of training. These staff members will then bring back the knowledge gained and present learnings to the EPWG during meetings.
- An energy awareness campaign will be run to help staff recognize and reduce energy consumption.
- An operator recognition program will be investigated to reward operators for outstanding performance in energy management each quarter. Recognition may include staff announcements, portal news stories, conduct a lunch-and-learn on the successful measure they have implemented and awards.
- An energy champion program will be investigated with champions selected from each division to educate and encourage colleagues to manage their impact on energy consumption.

6.2. Finance & Administration

Finance has a critical role to fulfill for the successful implementation of this CEP. Since cost avoidance is a primary driver of the Region’s energy management strategy, cost data is essential to measure performance and inform decision-making. The finance department, as the body that receives and processes all electricity and natural gas bills for the Region, is the keeper of this data.

To provide each division with timely information for tracking their energy costs, when a staff member in Accounts Payable pays an electricity or natural gas invoice, that staff member will also email a copy of the invoice to the ECO and appropriate division representative. With the implementation of the Asset Management Strategy and related system upgrades, this process can be improved. Under the Asset Management
Strategy, each facility will have its own account to which energy costs are charged. When developing the system and process changes that allow this a level of tracking, the EPWG will facilitate the development of a corresponding, automated method of collecting and communicating consumption / cost data for individual divisions and facilities.

6.3. Asset Lifecycle Management

The Asset Management Strategy and this CEP are closely linked through Asset Lifecycle Management (ALM): the creation, acquisition, maintenance, renewal and disposal of assets. ALM dictates that when decisions are made regarding asset creation and acquisition, the lifecycle costs, of which energy costs are usually a large component will be a key consideration. This will help to incorporate energy performance into the decision-making process for the procurement of buildings, systems, products, equipment and design services. While this CEP provides direction, implementation will be taken under the Asset Management Strategy.

6.4. Information Systems & Data Management

Effective management of energy can only be accomplished if energy use is understood and that requires timely, comprehensive and accurate data. The Region does currently collect a significant amount of data and tracks it using a SCADA system or in the Energy and Environmental Management System (EEMS). The Region has been collecting energy data within EEMS since 2003 and is ready to take the next step toward more advanced systems that allow better analysis capabilities and integration with sub-metered data. To improve the systems that enable effective energy management, support from the Region’s IT division will be essential.

In addition to updating EEMS, the EPWG will work with IT and other stakeholders to establish a software solution to be used for tracking, evaluating and reporting on CDM and sustainable energy generation opportunities, from identification through to implementation. This will enable the Region to encourage more suggestions from staff, track measures that should be reconsidered at a later date and generate automatic reports on the results of these measures, for both public and internal purposes.

The Region leverages funding for energy projects with grants from external agencies. The Operations Centre solar electric project received $500,000 each from the Provincial and Federal governments towards the $1,500,000 project.

High-level requirements of this software solution include:
- Online access with different security levels for different users
- Energy management suggestion tool on employee portal
- Automatic and customized reporting capability
- Status tracking for energy management initiatives
- Analysis tools to assist with lifecycle cost avoidance calculations and project evaluation of new opportunities
- Tie-in to the overall revenue meters and sub-meter data for implemented projects
- Energy data normalization for weather
- Tracking of project costs, projected and actual savings, key performance indicators
- A database of learnings from different projects and reports from energy studies with the capability to notify a user that is entering a new project or study of results from similar projects or studies
- Documentation database for relevant policies/procedures
7. Performance Management

The purpose of performance management is to check that the Region’s energy management strategy and related activities are producing the desired results and if not, adjust the strategy and/or supporting activities to improve performance. Activities under this service category are focused on establishing processes for continuous improvement of the Region’s energy management.

ENERGY MONITORING

To enable effective performance management, the Region shall collect, organize and communicate energy data, as necessary both to effectively plan, implement and assess energy management initiatives and to consider energy costs in strategic decision-making. Currently, metering in Region facilities includes real-time meters, meters connected to building automation systems, interval meters with Utilismart software capability and regular utility meters. Monthly utility data is currently entered and tracked in EEMS once it has been received and processed by Accounts Payable.

Two areas for improvement in energy monitoring have been identified as priorities for this plan:

1. Make energy cost and consumption data available for each division in a more timely fashion.
2. Increase the amount of real-time energy use data available from revenue meters and sub-metering of significant energy-using equipment.

The first of these items will be addressed through sending out the invoice information to the appropriate division representative, as discussed in the Finance & Administration section of this Plan. The second item will be addressed by installing sub-meters gradually, both as part of the measurement and verification plans for specific energy management measures and as part of metering initiatives planned for particular facilities. In water and wastewater operations, the sub-meters installed will be tied into the operational SCADA system to allow operators to easily track energy consumption and adjust operating procedures when appropriate. Information on energy use of the entire operation will then be communicated to EEMS. In other facilities, sub-meters will be specified to include the capability to directly convey data to EEMS.

MEASUREMENT AND VERIFICATION (M&V) OF ENERGY PROJECTS

An M&V strategy shall be selected and reported on for each planned energy management project. If implemented projects fall significantly short of projections, the project shall be investigated and the learnings entered into the software system (used to track and evaluate projects) to inform future decision-making. For sustainable energy generation projects, the M&V can be based on modeling simulations and compared to actual energy generated, measured by energy monitors installed along with the system. The M&V methodology for CDM projects shall be selected from the International Performance Measurement and Verification Protocol (IPMVP) options.
REPORTING

Each quarter, the EPWG will meet to discuss planned and current projects. On an annual basis, each energy accounting centre will provide a summary of the projects completed that year and the projects planned for future implementation, as well as any causes for adjustments in baseline energy consumption. An example of such an adjustment is a regulation change that increases the water treatment levels and requires a more energy-intensive treatment technology to be used.

The ECO will compile this information, the energy key performance indicators (KPIs) outlined below, and the energy consumption report required by Ontario Regulation 397/11 into an annual summary report for the Senior Management Team (SMT).

<table>
<thead>
<tr>
<th>Energy Accounting Centre</th>
<th>Key Performance Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings</td>
<td>ekWh / ft²</td>
</tr>
<tr>
<td>Water</td>
<td>ekWh / ML treated water, adjusted for new standards</td>
</tr>
<tr>
<td>Wastewater removed</td>
<td>ekWh / ML treated water, adjusted for new standards, and kWh / cBOD</td>
</tr>
<tr>
<td>Waste</td>
<td>ekWh / tonne of waste processed</td>
</tr>
<tr>
<td>Transportation – airport</td>
<td>ekWh / ft²</td>
</tr>
</tbody>
</table>
8. Glossary

**Asset Management:** The integrated set of processes that minimize the lifecycle costs of owning, operating, and maintaining assets, at an acceptable level of risk, while continuously delivering established levels of service.

**Asset Management Team (AMT):** The existing Region of Waterloo team that is developing the Asset Management Plan.

**Combined Heat & Power (CHP):** Cogeneration of electricity and heat by a single engine or power station.

**Community Housing:** A range of affordable housing and housing programs that is overseen or funded by the Region of Waterloo.

**Corporate Energy Plan (CEP):** The plan that sets out a framework for energy management at the Region of Waterloo facilities and operations.

**Corporate Finance:** The existing Region of Waterloo corporate finance group.

**Council:** Region of Waterloo Council.

**Equivalent kilowatt hour (ekWh):** Conversion of other forms of energy into a common kWh value.

**Energy & Environmental Management System (EEMS):** A versatile online database designed to track consumption, expenses and environmental effects of energy usage.

**Energy Accounting Centre (EAC):** Business units responsible for energy performance. Each centre is accountable for its own energy use and is given control over the decisions affecting that energy use.

**Energy Conservation Office (ECO):** Team (within Facilities Management Division) responsible for overseeing the development and implementation of the Plan.

**Energy Plan Steering team (EPST):** The Directors of divisions that account for the bulk of the region’s energy consumption. Responsible for providing oversight and guidance. This team is comprised of three directors: Director, Water Services; Director, Facilities Management; Director, Waste Management.

**Energy Planning Working Group (EPWG):** The team charged with developing this Corporate Energy Plan and the team that will be responsible for its implementation.

**Facility Assets:** Assets to be managed under the Asset Management Plan.

**Greenhouse Gas (GHG):** Various atmospheric gases whose densities affect the temperature of the earth.

**Heating, ventilating & air conditioning (HVAC):** Industry term relating to mechanical equipment required to service buildings.

**Key performance indicators (KPI):** Performance measurements that have been selected to evaluate progress and success of an organization, project, system or program.
Kilowatt hour (kWh): A unit of energy equivalent to one kilowatt of power expended for one hour of time.

(kWp): The peak power available under optimum conditions

LED lamp: a light emitting diode that is assembled into a lamp for use in lighting fixtures

m3: volume measurement, cubic meters

Materials recycling centre (MRC): Facility where recyclables are processed

Measurement and Verification (M&V): The processes by which energy savings are measured and verified

Megawatt hours (MWh): common energy unit in 1000 x kWh

(MMBTU): common thermal energy unit in 1 million x British Thermal Units

Request for proposal (RFP): A document that invites potential suppliers to present proposals on a product or service of interest

Supervisory Control and Data Acquisition (SCADA): An industrial computer system that monitors and controls water and wastewater treatment process

Sustainable Energy Generation: A comprehensive term for alternative energy supply systems and generation, including renewable energy, geothermal, biomass, combined heat and power and district energy

Variable frequency drives (VFD): An electronics control centre that adjusts electric motor speeds and torque to match the load demand
Appendix A: Project Evaluation Criteria

When evaluating and prioritizing projects for implementation, consider the following criteria:

**Time sensitivity:** Energy efficient options on existing capital projects or equipment purchases often require a decision to be made within a short timeframe to prevent delaying the project. In these cases, if this timeframe is missed, the energy efficient option is not feasible to implement at a later date, so if the measure meets other criteria, then time sensitivity makes it high priority for implementation.

**Direct project financials:** For capital cost < $50,000 Evaluate capital cost, forecasted avoided costs and simple payback. Assign projects with lower simple payback a higher priority.

For capital cost > $50,000 Evaluate capital cost, forecasted avoided costs over the lifecycle of the measure and net present value considering debenture costs. Assign projects with higher net present value a higher priority.

**Indirect cost avoidance:** Energy management projects often improve the operation of equipment and may prevent premature and/or critical equipment failure. Some indirect cost avoidances may be greater than the energy cost avoided by the project, so this criterion can significantly impact priority.

**Environmental benefit:** The avoided GHG emissions from a reduction in energy consumption or via the use of renewable/alternative sources should be calculated and considered as well as the financials. Marginal abatement cost curves can be used to factor in both considerations.

**Service Level:** In addition to cost, measures that improve service levels will be prioritized higher and overall service level should be maintained or increased after measure implementation.

**Leadership potential:** Certain projects, such as thermal and pumped energy storage, can demonstrate leadership in energy management and promote development in the field. These may be demonstration initiatives where newer technology applications are being implemented and scrutinized against claimed benefits. While this is not the most important criterion, it should be recognized if the project already meets other criteria.
Appendix B: Audit Process

1. Review the existing CDM measure list and the measures planned for implementation by that energy accounting centre. If more savings opportunities than those already identified are required to meet the Region’s goals, proceed with additional energy audits.

2. Rank facilities by their energy consumption and compare the largest energy-users against benchmarks for similar facilities. Based on the analysis, plan energy audits for the building(s) or operation(s) in which energy performance can likely be improved. Use the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) level system (summarized below) for classifying audits or another method of standardizing energy audit processes:

**Level 1: Walk-through audit**
- Includes a brief inspection of the facility
- Identifies low-cost CDM measures
- Provides a rough estimate of costs and savings

**Level 2: Energy Survey & Analysis**
- Includes a more detailed inspection of the facility
- Provides a refined analysis of energy use
- Includes detailed analysis of CDM opportunities and more accurate estimates of the costs and savings than Level 1
- Identifies both low cost and more capital intensive CDM measures improvements

**Level 3: Detailed Survey & Analysis**
- Completed for specific, major capital investments
- Includes a refined analysis of costs and savings based on monitored data and in-depth analysis

3. For facilities that have not previously been audited and in which opportunities are completely unknown, plan an ASHRAE Level 1 audit (a walk-through audit) to identify simple CDM measures for immediate implementation and more complicated measures for additional investigation. This level of audit will determine whether a Level 2 or 3 audit would be productive and if so, establishes the scope of work for that audit.

4. For facilities in which opportunities are known to exist and the scope of work is well-defined, plan a Level 2 audit (an energy survey and analysis) to identify measures for implementation.

5. For facilities in which the opportunities to be investigated are for a particular system that consumes a significant portion of overall energy use, plan a Level 3 audit (detailed survey and analysis).

6. To ensure that identified measures are actionable, in the audit RFP, specify that the audit report shall include an execution model for realizing identified viable energy opportunities and incentive funding available for their implementation (such as Federal, Provincial, OPA and local distribution company funding).

7. For Level 1 and 2 audits, in the RFP, specify that the audit report shall include any innovative sustainable generation opportunities that are particularly suited to the site.
## Appendix C: Reporting CDM Opportunities

<table>
<thead>
<tr>
<th>Source of CDM Opportunity</th>
<th>Responsibility for Ensuring CDM Opportunity is Tracked</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internally initiated</strong></td>
<td></td>
</tr>
<tr>
<td>Operator suggestions</td>
<td>The operator that provided the suggestion</td>
</tr>
<tr>
<td>General staff suggestions</td>
<td>The staff that provided the suggestion</td>
</tr>
<tr>
<td>Chief building operator meetings</td>
<td>An Energy Conservation Office representative that attended the meeting</td>
</tr>
<tr>
<td>Energy audits and studies</td>
<td>The Region’s project manager for that energy audit or study</td>
</tr>
<tr>
<td>Existing capital or asset management projects for which there is an energy efficient option. This includes scheduled replacements of equipment, systems, aspects of building envelope, etc.</td>
<td>The Region’s project manager for that project</td>
</tr>
<tr>
<td><strong>Externally initiated</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering, Contractors and Equipment Vendors, member municipalities</td>
<td>The Region staff that receives outside input for innovative energy solutions within the Region, which may include collaboration opportunities with the City of Kitchener, Waterloo, Cambridge</td>
</tr>
</tbody>
</table>
Appendix D: Operations and Maintenance Reference

The following table outlines a few key operations and maintenance best practices that improve energy performance:

<table>
<thead>
<tr>
<th>Operations</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish appropriate setbacks</td>
<td>Carry out preventative maintenance</td>
</tr>
<tr>
<td>Control operations to match, not exceed, needs</td>
<td>Clean / change equipment components as appropriate</td>
</tr>
<tr>
<td>Use the appropriate utilities for applications</td>
<td>Detect and repair leaks</td>
</tr>
</tbody>
</table>

Table 1. Examples of typical problems that cause higher energy costs

<table>
<thead>
<tr>
<th>Typical Problems</th>
<th>Monitoring Frequency*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process Operations</strong></td>
<td></td>
</tr>
<tr>
<td>• incorrect set-points</td>
<td>hourly</td>
</tr>
<tr>
<td>• fouled heat exchangers</td>
<td>daily</td>
</tr>
<tr>
<td>• advanced controls switched off</td>
<td>hourly</td>
</tr>
<tr>
<td>• poor control timing</td>
<td></td>
</tr>
<tr>
<td><strong>Boilers</strong></td>
<td></td>
</tr>
<tr>
<td>• poor air-fuel ratio</td>
<td>hourly</td>
</tr>
<tr>
<td>• fouled exchangers</td>
<td>daily</td>
</tr>
<tr>
<td>• excessive blow-down</td>
<td>hourly</td>
</tr>
<tr>
<td>• incorrect boiler selection</td>
<td></td>
</tr>
<tr>
<td><strong>Refrigeration</strong></td>
<td></td>
</tr>
<tr>
<td>• fouled condenser</td>
<td>daily</td>
</tr>
<tr>
<td>• air in condenser</td>
<td>daily</td>
</tr>
<tr>
<td>• incorrect superheat settings</td>
<td>daily</td>
</tr>
<tr>
<td>• high head pressure settings</td>
<td>daily</td>
</tr>
<tr>
<td>• incorrect compressor selection</td>
<td>hourly</td>
</tr>
<tr>
<td><strong>Compressed Air</strong></td>
<td></td>
</tr>
<tr>
<td>• leaks</td>
<td>daily/hourly</td>
</tr>
<tr>
<td>• poor compressor control</td>
<td>hourly</td>
</tr>
<tr>
<td>• incorrect pressure</td>
<td></td>
</tr>
<tr>
<td><strong>Steam</strong></td>
<td></td>
</tr>
<tr>
<td>• leaks</td>
<td>hourly</td>
</tr>
<tr>
<td>• failed traps</td>
<td>hourly</td>
</tr>
<tr>
<td>• poor isolation</td>
<td>hourly</td>
</tr>
<tr>
<td>• incorrect set-points</td>
<td>hourly</td>
</tr>
<tr>
<td>• low condensate return</td>
<td>hourly</td>
</tr>
<tr>
<td><strong>Space Heating/Cooling</strong></td>
<td></td>
</tr>
<tr>
<td>• excessive space temperature</td>
<td>hourly</td>
</tr>
<tr>
<td>• excessive fan power use</td>
<td>hourly</td>
</tr>
<tr>
<td>• overcooling</td>
<td>hourly</td>
</tr>
<tr>
<td>• heating and cooling</td>
<td>hourly</td>
</tr>
<tr>
<td>• high chilled water temperature</td>
<td>hourly</td>
</tr>
<tr>
<td><strong>Power Generation</strong></td>
<td></td>
</tr>
<tr>
<td>• poor engine performance</td>
<td>hourly</td>
</tr>
<tr>
<td>• incorrect control settings</td>
<td>hourly</td>
</tr>
<tr>
<td>• poor cooling tower operation</td>
<td>hourly</td>
</tr>
<tr>
<td>• fouled heat exchangers</td>
<td>hourly</td>
</tr>
</tbody>
</table>

Figure 4 Source: "Canadian Industry Program for Energy Conservation, Energy Management Information Systems: Achieving Improved Energy Efficiency, a Handbook for managers, engineers and operational staff, Natural Resources Canada 2004"
The following provides a summary of measurement and verification options outlined by the International Performance Measurement and Verification Protocol:

**Option A – Retrofit Isolation: Key Parameter Measurement**

This is the simplest option and does not require baseline measurements because reference data is well-documented and the baseline can be determined from engineering calculations. The energy use after implementation can be determined from a measured key parameter and estimated values that are based on historical data, equipment specifications or engineering judgment.

**Option B - Retrofit Isolation: All Parameter Measurement**

This option requires that both the baseline energy and energy use after implementation are measured directly or are calculated based on a related parameter that is measured directly.

**Option C - Whole Facility**

This option should be selected when there are multiple CDM measures implemented that are significant enough to impact overall energy use. It requires that the baseline energy and energy use after implementation be based on data available for the facility’s energy use. A year’s worth of monthly utility data can be used for this option. Other factors affecting consumption can be adjusted for using analysis techniques such as regression.

**Option D - Calibrated Simulation**

This option can also be used when multiple CDM measures are implemented, but it is an option when no historical data is available and implementation is complete. A computer model is used to simulate the baseline energy use and the energy use after implementation. Collected energy data is used to calibrate the model.
# Appendix F: Annual Reporting

## Energy Accounting Centre Reporting Template

**YEAR:**

**DATE SUBMITTED:**

**ENERGY ACCOUNTING CENTRE:**

**AVERAGE KEY PERFORMANCE INDICATOR VALUE:**

### PROJECT PROGRESS

<table>
<thead>
<tr>
<th>Project No</th>
<th>Status</th>
<th>Completion Date</th>
<th>M&amp;V</th>
<th>Capital Cost, $</th>
<th>Incentive Funding</th>
<th>Annual Electricity Savings, kWh</th>
<th>Annual Natural Gas Savings, m³</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### BASELINE ADJUSTMENTS (ONLY FILL OUT IF NECESSARY)

<table>
<thead>
<tr>
<th>Adjustment Cause</th>
<th>Explanation of Adjustment</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>
Region of Waterloo  
Corporate Resources  
Council and Administrative Services

To: Chair Tom Galloway and Members of the Administration and Finance Committee

Date: June 17, 2014

Subject: Service First Call Centre Launch Update

Recommendation

For information.

Summary
Nil.

Report

Background

On August 11, 2011, Regional Council approved the creation of the Service First Call Centre (CR-CLK-11-012). The goal of the Service First Call Centre implementation was to consolidate the Region’s 127 phone lines into a single, easily recognizable number offering a more consistent level of enhanced service 24/7. The call centre would respond to 80% of calls at the first point of contact, with the remaining 20% of calls being responded to by a subject matter expert with a single transfer.

A study conducted by a consulting firm, At Focus, in 2010 found that as the Region had grown larger and more complex it had outgrown its previous decentralized call handling model. With the exception of some higher profile services, this had made it increasingly difficult for the public to contact the right staff person with a general information question, to lodge a complaint or make a service request, and this was reflected in survey and focus group input. Region staff were also frustrated by not being
able to effectively redirect calls applying to other program areas.

After 2.5 years of intensive planning and implementation, the SFCC project is on track to publicly launch on June 17. This report provides an update on the status of the SFCC prior to the public launch.

Service First Call Centre Launch Update

A number of benefits were identified in the original business case for the SFCC, including: simpler access for general inquiries and routine service requests through a single phone number; extended hours of service; the goal of a single transfer for questions and requests requiring a subject matter expert; and more consistent responses and follow up to inquiries. For the organization the anticipated benefits included: the opportunity to redirect staff resources to more specialized program area activities; greater access to call centre technology; and, detailed reporting and tracking of call types, volumes and service response.

On February 20th, 2013, the SFCC began handling its first calls through the rerouting of calls from the 127 existing information lines. Over the past year, calls from a variety of program areas were gradually transferred into the SFCC in what was referred to as a soft launch period with no public communications. This transition period has allowed the SFCC to build its resource capacity and expertise slowly and deliberately and to resolve any operational issues before call volumes and complexity increased with greater public awareness and a formal launch. The SFCC has been focused on implementing and fine-tuning the following key success factors prior to public launch.

Internal and External Collaboration

The creation of the SFCC was a highly collaborative effort. Throughout the life of the project, staff from across the Region have been involved in the creation of the SFCC. Multiple technical working groups met regularly on all issues from script creation; human resources; space selection and design; communications and change management; and technology. A cross departmental Steering Team consisting of senior management staff provide oversight and guidance to the project. Beyond these working groups, staff from many programs and technical areas in Information Technology Services, Human Resources, Communications and Facilities worked collaboratively to launch the SFCC. This project is considered to be one of the most highly collaborative internal change initiatives undertaken by the Region.

A critical component to the success of the SFCC when responding to the public is having clear, accurate and up to date information in call scripts provided by program areas. These scripts are routinely updated in consultation with program area staff. Before launch the SFCC team met with each program area to ensure that scripts are as up to date as possible and that the SFCC is correctly handling all call types.
Externally, the City of Kitchener has been a key partner. A unique partnership has been established whereby the SFCC is co-located at the City of Kitchener Operations Facility, and the City has the option of using the Region’s Customer Relationship Management (CRM) software, thus avoiding the cost of a duplicate system. Ongoing opportunities to partner will be explored as appropriate.

The Region has also had the benefit of learning from the experiences of many other municipalities that have created consolidated call centres such as the City of Kitchener, Halton Region, the City of Calgary, the Region of Peel, the City of Toronto, the City of Winnipeg and the City of Vancouver.

**Performance Measures**
A comprehensive dashboard of key measures and associated targets has been developed to monitor SFCC effectiveness and has been utilized over the past year. These measures focus on four quadrants of external and internal customer satisfaction, operational efficiency and employee engagement, and allowed staff to monitor the development of the SFCC and make improvements to achieve key performance targets.

The most important metric in the SFCC is service level, or the length of time a member of the public waits before a call is answered. The call centre technology allows the SFCC to monitor caller wait times and determine how the Centre is performing against key service targets. The goal of the SFCC is to answer 80% of calls within 60 seconds. Experience, historical data, and technology allows for more accurate projections related to call patterns and volumes which facilitates the ongoing adjustment of staffing schedules to minimize wait times. The SFCC is consistently meeting or exceeding its service target in relation to wait times.

Other targets measure call abandonment, the average length of calls and Customer Service Representative (CSRs) availability. All targets in these areas are being consistently met.

The SFCC currently handles on average 22,000 calls per month. There are 13.2 permanent FTEs in the call centre in a mix of full and part time positions.

An ongoing focus on performance management is helping staff to achieve optimal performance. The SFCC supervisory team coaches and provides direct feedback to CSRs based on a quality score card. Calls are scored based on key behaviours related to customer experience; use of tools and technology; and accuracy and completeness. The goal is to provide feedback on a minimum of 4 calls each month per CSR. Average quality ratings based on this score of CSRs range from 84-95% in a month.

**Customer Satisfaction**
In April, the SFCC launched a point of service survey that is offered to all general inquiry callers. Response rates to date have been high and overall quite positive. This
is notable considering that many individuals are primarily motivated to complete a point of service survey when dissatisfied. As of June 3rd, 264 people have responded to the survey. Overall satisfaction with the call experience is 90%. Ratings of staff qualities are quite strong (78-92%). A strong majority of respondents got the information or outcome they needed (92% and 88%), and 86% reported getting through to a CSR without difficulty. Though there are always opportunities to improve performance, the SFCC to date has performed well overall, and satisfaction will continue to be measured on an ongoing basis. This survey is one part of an overall customer feedback strategy. Further surveys will be conducted annually to ask a broader audience about their experience calling the Region.

Internally, the SFCC conducts surveys with key program contacts to determine satisfaction with the service provided on behalf of operating areas. The SFCC has also created Service Level Agreements with each department to outline key responsibilities of each party and to identify key information about calls handled on behalf of the programs.

Public Launch
June 17th marks the official public launch of the SFCC. A public event to coincide with the Administration and Finance Committee meeting is being held in the lobby at 150 Frederick to mark the first official call to the SFCC by Chair Ken Seiling. A tour and interviews with the SFCC will be conducted via live webcast. This event will kick off a public campaign with social media; television commercials which leverage the promotional campaign led by corporate communications; and promotional materials to be distributed at events throughout the summer and fall. Existing communications campaigns of various program areas will also be leveraged to promote the number to access services.

Next Steps

Grand River Transit
Due to the large volume and complexity of calls handled by Grand River Transit (GRT), an additional year is being taken to transition responsibility for those calls into the SFCC. Special care is being taken to ensure that service responses to current calls received in the SFCC are not impacted by the introduction of GRT calls. As a first step, GRT staff will use the CRM and test out new scripts on site, and once they have been refined and key metrics are being consistently met, a date for final transfer will be identified. This transfer is expected in early 2015.

Close-out Report
With the SFCC main project coming to a close, a report will be brought to Council in September to provide a review of the project based on the initial business case and assessment of the key success factors identified at the outset of the project.
Corporate Strategic Plan:

The 2011-2014 Corporate Strategic Plan contains an action (5.1.2) involving the creation of the Service First Call Centre.

Financial Implications:

The Service First Call Centre project is being completed within existing approved budget, and is on track to be operating cost neutral.

Other Department Consultations/Concurrence:

The implementation of the SFCC has involved the Corporate Leadership Team (CLT) and staff at various levels from all departments of the Region.

Attachments

Nil

Prepared By:  
Deb Bergey, Manager, Citizen Service  
Kris Fletcher, Director, Council and Administrative Services

Approved By:  
Gary Sosnoski, Commissioner, Corporate Resources
Region of Waterloo
Finance Department
Office of the Chief Administrator

To: Chair Tom Galloway and Members of the Administration and Finance Committee

Date: June 17, 2014  File Code: F01-80

Subject: Regional Service Review

Recommendation:
That the Regional Municipality of Waterloo undertake a Regional Service Review under the direction of the Audit Committee as generally described in report F-14-074/CA-14-006 dated June 17, 2014;

And That the 2014 capital budget and 2015 capital forecast be amended to include the Regional Service Review at an estimated cost of $500,000 to be funded from the 2014 and 2015 Internal Audit Budgets and from the Capital Levy Reserve Fund, as set out in report F-14-074/CA-14-006.

Summary: Nil

Report:

Background

At its meeting on January 15, 2014, Regional Council considered a notice of motion presented by Councillor Deutschmann with respect to a potential Regional Service Review. The resolution approved by Council is contained in Appendix “A” to this report and the operative clause of the resolution reads as follows:

“Be it resolved that the Regional Municipality of Waterloo tender for and secure the services of a third party consulting firm to conduct a service review of all Regional services and programs, that this review be led by a subcommittee of Regional Council and the CAO and that the third party consulting firm report to Regional Council with the purpose of finding efficiencies in the delivery and overall service levels of Regional services and programs and that the CAO report back by the Summer of 2014 with a report detailing the scope of work and RFP for review.”
This report is staff’s response to the direction received on January 15, 2014 and provides an outline of the possible scope, timing and cost of a Regional Service Review.

Objectives and Scope of Work

A service review is one method used to ensure that municipal services are of the highest value to the community, to reduce or eliminate lower valued services, to apply best practices to cost effective service delivery, and to direct valuable, limited resources to the delivery of valued programs and services.

Service reviews in other jurisdictions have typically focused on addressing questions such as:

- What programs and services should the organization be providing?
- Because of changing circumstances, are there programs or services that the organization should no longer be providing?
- For those programs and services that the organization continues to provide, what “level of service” should be provided?
- Is the organization providing the desired level of service as efficiently as possible? Are there ways to provide the desired services more efficiently?

A Regional Service Review would be designed around these questions and would encompass all Regional services with the exception of the Waterloo Regional Police Service and Regional Libraries, which are governed by separate boards.

If approved, the Region would issue a Request for Proposal (RFP) to engage a consultant to undertake the service review. The primary objective of the RFP would be to select the consulting firm with the best combination of capability and experience to efficiently and cost-effectively undertake and successfully complete the review. The consultant(s) would conduct a thorough review of the Region’s organization and service delivery, providing recommendations and measures to reduce costs and improve the efficiency of service delivery. The scope of work to be set out in the RFP would include the following key tasks:

1. Identify and document all services provided by the Region, including service descriptions, current resource utilization (staff and budget), and performance indicators, whether the service is:
   a. mandatory – Regional Council is required to deliver the program under federal or provincial legislation and service levels are defined by those other levels of government, e.g. Ontario Works
   b. mandatory/discretionary – Regional Council is required to deliver the program under federal or provincial legislation and service levels are at the discretion of Regional Council, e.g. Sunnyside Home
   c. discretionary – the program is not required by legislation and Regional Council has complete discretion over the operation of the program, e.g. municipally operated Child Care centres
2. Identify the services that are outside the Region’s mandate
3. Identify the division of responsibilities between the Region and the Area Municipalities
4. Identify the services which have the greatest potential for cost savings, either by reducing or ceasing to provide a service, or through a change in the method of service delivery
5. Perform additional analysis on the services most likely to yield savings including a description of impacts on service level
6. Prepare interim and final reports

While the organizational structure review that is currently underway will identify the preferred departmental organizational structure to provide the current range of Regional programs and services, a service review would recommend changes to the scope and/or scale of Regional services and how they are delivered. If these service changes require further refinements to the organizational structure, those would be dealt with later in 2015.

Current Regional Initiatives

A service review would build on ongoing Regional initiatives focused on improving service and efficiency, such as program reviews conducted by the Region’s Internal Audit area, performance measurement activities, and annual reviews of service levels conducted by staff and Council as part of the budget process.

a. Program Reviews

A well-executed program review should provide confidence that programs are “doing what they are supposed to do” with the most efficient use of goods, human resources, and funds. Program reviews are intended to provide an objective assessment of the extent to which a program is achieving its intended results, i.e. its effectiveness. Reviews also objectively assess whether a program is efficiently using its resources, (both funding and people) as well as verify that the program is in compliance with applicable laws and regulations. They are very in depth reviews of individual programs, which are completed by Internal Audit, with assistance from the management staff in the program area. All program reviews have utilized external consultants.

Internal Audit typically conducts two program reviews per year. Regional staff has undertaken a number of program reviews since 2006, as shown in Appendix B. Common themes which have been observed through recent program reviews include:

- need for a clear identification of program mandate
- automating manual processes
- improved use of performance measurement and reporting
- documentation of processes and procedures
- updating program area organizational structures

Internal Audit has advised the Corporate Leadership Team of common issues and themes coming out of recent program reviews in an effort to identify potential areas for improvement in their departmental operations.
b. Performance Measurement

The Region of Waterloo participates in a number of performance measurement efforts. The most prominent program, which spans most Regional service areas, is the Ontario Municipal Benchmarking Initiative (OMBI). OMBI is a co-operative of six upper tier municipalities and ten single tier cities committed to continuously improving the way services are delivered to citizens and promoting accountability and transparency of municipal results.

The OMBI “2012 Performance Benchmarking Report” was released on October 16, 2013. In general, 2012 OMBI measures and comparisons indicate that Regional programs are operating effectively and in an efficient manner. As indicated in report F-13-100, 2012 OMBI Performance Benchmarking Report, approximately 75% of the Region’s service areas are performing at or better than the OMBI median, 43% of service areas saw an improvement in their overall year over year performance and 36% of service areas maintained the level of their performance at that of prior years’. The Region of Waterloo performed at or above the median in 84% of service areas reporting efficiency measures. With respect to effectiveness measures, the Region performed at or above the OMBI median in 67% of service areas. Balancing efficiency and customer service/community impact is an ongoing challenge. Focusing on efficiency in isolation may have an adverse impact on customer service or community impact and vice versa. Regional staff continually strives to provide a balance between program efficiency and effectiveness (customer service and community impact).

c. Annual Budget Process

Regional staff continues to undertake base budget reviews as part of the budget development process. Budget review sessions with the CAO, CFO, program and Finance staff cover operating budgets (including a three year expenditure/revenue review), capital budgets (including the need, timing, cost and financing of capital projects) and program user fees. Since 2010, the base budget review process has identified $11 million in base budget reductions, as shown below:

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 2.1 m</td>
<td>$ 2.4 m</td>
<td>$ 2.1 m</td>
<td>$ 1.9 m</td>
<td>$ 2.5 m</td>
<td>$ 11.0 m</td>
</tr>
</tbody>
</table>

The nature of these base reductions is varied and includes revenue adjustments and expenditure reductions in materials & supplies, staff training, administrative costs and other expenditures not having a service level impact.

**Other Municipal Experience/Results**

Several municipalities have undertaken service reviews over the last few years. Appendix C provides a summary of recent municipal experiences with such reviews. While every municipality and review process is different, there are some common themes that have emerged:

- The service review must have a clear mandate and objective.
• Council engagement at the beginning and throughout the process is essential.

• All services areas of the municipality should be open to review and recommendation.

• A clear understanding of each recommendation’s implication for service, finances and other resources must be available for Council to make informed decisions.

**Governance**

The resolution adopted by Council on January 15, 2014 states that the service review would be “led by a subcommittee of Regional Council and the CAO.” Given the scope and nature of project, staff recommends that the Region’s Audit Committee fulfill the governance role for this review. As indicated in the Committee’s Terms of Reference (attached as Appendix D), the Audit Committee was established to monitor the effectiveness and efficiency of Regional programs. The Audit Committee operates as a sub-committee of Administration and Finance Committee and includes the following members:

- Chair of Administration and Finance Committee (will also Chair Audit Committee);
- Vice-Chair of Administration and Finance Committee;
- Chair of Planning and Works Committee;
- Chair of Community Services Committee;
- Regional Chair (ex-officio)

The Audit Committee receives and considers Program Review reports and recommendations, and as such is well suited to be the appropriate subcommittee to direct the work of the successful consultant and consider the Service Review’s recommendations.

**Timeline**

Should Council decide to proceed with a Regional Service Review, the following timeline is proposed:

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council direction to proceed with the review</td>
<td>Jun 2014</td>
</tr>
<tr>
<td>RFP finalized and issued</td>
<td>Jul 2014</td>
</tr>
<tr>
<td>Consultant selected</td>
<td>Sep 2014</td>
</tr>
<tr>
<td>Information gathering</td>
<td>Oct 2014-Jan 2015</td>
</tr>
<tr>
<td>Present interim report to Audit Committee</td>
<td>Feb 2015</td>
</tr>
</tbody>
</table>

It is proposed that staff would work with the Audit Committee to issue the RFP in July and select a consultant by September. The successful consultant would then proceed with an information gathering phase through the fall, and report back to the new Audit Committee.
Committee early in 2015 with potential areas of opportunity to achieve costs savings. Additional detailed work on specific service areas would then be completed in the first quarter of 2015 with a final report submitted in the second quarter of 2015, in time to inform 2016 and future budgets. Although it is possible that some findings and recommendations from the interim report could be incorporated into the 2015 budget process it is more likely that the results of the service review would inform the 2016 budget process. The release of the final report would coincide (roughly) with the finalization of the 2015-2018 strategic planning exercise to be undertaken with the incoming Council.

Public Engagement

Although detail regarding public involvement with the service review process has not been resolved, it will be important to engage the public in this process at appropriate times. There may be opportunity for initial public engagement and input to the Service Review in conjunction with the 2015 Strategic Planning process and the 2015 budget process. It may also be appropriate to provide additional opportunities for public input: (a) Once the interim report and initial findings are presented to Audit Committee and/or (b) Regarding implementation once the final report is presented to Council. The public engagement process will be developed as part of finalizing the project workplan with the selected Consultants, and it will be integrated with the engagement process for the 2015 Strategic Planning process and the 2015 budget.

Next Steps

Should Council choose to proceed with a Regional Service Review, staff would proceed to finalize the terms of reference of the review and develop the RFP, both in conjunction with the Audit Committee. This would be a priority project for Internal Audit staff, with the Region’s Manager of Internal Audit serving as the Project Manager and primary point of contact. Staff from Finance and other departments would participate in the project as required. Direction would be provided as required by the Chief Administrative Officer, and the project team would report to the Audit Committee for overall strategic direction and reporting of results.

Corporate Strategic Plan:

This report supports the Corporate Strategic Plan objective to ensure Regional programs and services are efficient and effective and demonstrate accountability to the public under Focus Area 5 Service Excellence.

Financial Implications:

Recent municipal experience (as described in Appendix C) indicates a fairly wide range of potential costs. Staff estimates the cost of a review of Regional services would be in the range of $300,000 to $500,000. Two of the factors that would impact the cost would be the nature and extent of public involvement and input, and the extent of Regional staff resources that could be dedicated to the project. Both of these would need to be clarified in the RFP document.
The review is not included in the approved 2014 Regional Budget or ten year capital plan. Should Council wish to proceed with this project the Capital Budget and Forecast could be amended to include the service review project with a budget of $500,000. Funding would be as follows:

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Audit Operating Budget</td>
<td>$65,000</td>
<td>$65,000</td>
<td>$130,000</td>
</tr>
<tr>
<td>Capital Levy Reserve Fund</td>
<td>$135,000</td>
<td>$235,000</td>
<td>$370,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$200,000</strong></td>
<td><strong>$300,000</strong></td>
<td><strong>$500,000</strong></td>
</tr>
</tbody>
</table>

**Other Department Consultations/Concurrence:**

All Regional Departments were consulted in the preparation of this report.

**Attachments:**

- Appendix A – Council Resolution from January 15, 2014
- Appendix B – List of Previously Completed Program Reviews
- Appendix C – Summary of Service Reviews in Other Municipalities
- Appendix D – Audit Committee Terms of Reference

**Prepared By:**  Lee Parent, Manager of Financial Services

Cheryl Braan, Manager of Budgets and Performance Measurement

David Young, Manager, Internal Audit

**Approved By:**  Craig Dyer, Chief Financial Officer

Mike Murray, Chief Administrative Officer
Appendix A

Resolution adopted by Regional Council on January 15, 2014

Notice of Motion

Moved by R. Deutschmann

Seconded by S. Strickland

Whereas Finance Report F-13-060 provides the following:

The Chief Administrative Officer will initiate a review of the Region’s overall organizational structure in the fall of 2013. While this review is not directly tied to the budget process, the purpose will be to ensure that the Region’s organizational structure is conducive to the efficient and effective delivery of public services. It is expected that the results of the review will be available in the spring of 2014.

And whereas the Chief Administrative Officer (referred to as “CAO”) has previously advised council that the CAO has overseen the review of Regional departments, from time to time, for the purpose of finding savings and efficiencies,

And whereas it is acknowledged in Finance Report F-13-060 that the 2014 Budget will present many challenges for staff and Council, as well as significant budget challenges for the years beyond 2014;

And whereas Regional management have recognized the need to depart from previous practices as provided at page 8 of Finance Report F-13-060

Notwithstanding that this would be a departure from previous practice at the Region, establishing budget guidelines is recommended for the following reasons:

- Significant budget challenges lie ahead which will require a different approach than used in the past;

- Given that a 1% reduction in the 2014 tax rate equates to over $4 million, reductions totaling approximately $7.3 million will be required to achieve a tax rate increase for regional services in the range of 1.9% - this will result in service level reductions in 2014.

Be it resolved that the Regional Municipality of Waterloo tender for and secure the services of a third party consulting firm to conduct a service review of all Regional services and programs, that this review be led by a subcommittee of Regional Council and the CAO and that the third party consulting firm report to Regional Council with the purpose of finding efficiencies in the delivery and overall service levels of Regional services and programs and that the CAO report back by the Summer of 2014 with a report detailing the scope of work and RFP for the review.

Carried
Appendix B

List of Previously Completed Program Reviews

The following is a list of in progress and completed program reviews along with the corresponding year of completion:

In Progress


Completed

- Region of Waterloo International Airport – 2012.
- Rent Supplement – 2012.
- Information Technology Services – 2010.
- External Communications – 2010.
- Waterloo Region Housing - 2007
## Appendix C

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Resource Description</th>
<th>Cost</th>
<th>Scope</th>
<th>Outcome</th>
</tr>
</thead>
</table>
| City of Toronto 2011 | External Consultant (KPMG) | $2.0 million in 2011, $2.75 million in 2012 | Entire municipality  
Core Service Review (TCSR) What services should the City provide? | 2013 Budget included $178 million in efficiency and other cost savings, incremental and new user fees of $29.5 million ($18.0 million due to increased transit fares).  
90% of services were core services and 69 areas were identified for further study. 2012-2014 savings of $200-300 million were identified. Capital expenditures were reduced by $132 million.  
119 opportunities for service efficiencies identified.  
Council approved a User Fee Policy. Fees should generally be full cost recovery unless there are other policy objectives or legislative requirements. |
| Region of Peel 2012  | Internal             | N/A                           | Entire municipality. Reviewed Toronto reports and applied to Peel programs and services. TCSR identified 194 options – 110 applied to Peel programs.  
Majority of options did not have service implications. Did not undertake broad service review; rather undertake comprehensive reviews of specific programs/services. | 2012 review of Early Learning and Child Care Program undertaken.  
Peel has phased out directly operated centres. Resulting savings invested in Children’s Services to address system pressures. |
<table>
<thead>
<tr>
<th>Municipality</th>
<th>Resource</th>
<th>Cost</th>
<th>Scope</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Ottawa 2004</td>
<td></td>
<td></td>
<td>2003 Council directed that $120 million in cost savings to be identified in the operating budget. All City Programs reviewed and identified impact of a 5/10/15/20% reduction.</td>
<td>Reductions were included in 2003 and 2004 budgets. Staff report many of those reductions were re-instated in later years due to public dissatisfaction with service level reductions. City also undertook a detailed study of services from an efficiency perspective (IBM lead study). City implemented an investment of $89 million with resulting savings of $44 million over 4 years.</td>
</tr>
<tr>
<td>City of London 2010</td>
<td></td>
<td></td>
<td>City has engaged PwC as internal auditor in 2010 for three years. PwC maintains an internal audit practice that is marketed to a broad range of clients. All city departments and functions. City has requested and encouraged City Boards and Commissions to engage PwC as internal auditor.</td>
<td>16 projects have been undertaken in 2011/12 with 141 recommendations. $4.36 million in savings have been identified over 5 years. Recommendations have generally been accepted by Council.</td>
</tr>
<tr>
<td>City of Hamilton 2011</td>
<td>External Consultant (KPMG)</td>
<td>$350,000</td>
<td>All City services</td>
<td>All City Services were profiled and ranked / prioritized service delivery options (improvement/ reduction or elimination). Top 34 opportunities were identified. Used filter process to identify 10 areas for &quot;deep dive&quot; service reviews / business cases. Information Services Governance and Fleet Related operations were identified in 2013 for further study.</td>
</tr>
<tr>
<td>Municipality</td>
<td>Resource</td>
<td>Cost</td>
<td>Scope</td>
<td>Outcome</td>
</tr>
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<td>--------------</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>District of</td>
<td>External Consultant (Strategy</td>
<td>$100,000</td>
<td>Completed an internal services review in 2012 to inventory all services. Objectives of the review:</td>
<td>Have engaged a Consultant. Consultant report received January 2014 that included 38 recommendations.</td>
</tr>
<tr>
<td>Muskoka 2013</td>
<td>Corp)</td>
<td></td>
<td>a) Determine if District services are being provided in the most cost-effective manner and represent sound value for money spent;</td>
<td>Further study/reporting from staff to standing committees required – scheduled for Summer 2014.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Evaluate whether particular services may be eliminated or the level of service reduced;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) Consider the implications of the options identified in b);</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>d) Examine methods for improved procurement methods that will generate savings and new revenue possibilities;</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>e) Identify the recommended options, quantify any savings and the implications for the public;</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>f) Based upon the options accepted by Council, prepare an implementation plan for consideration.</td>
<td></td>
</tr>
<tr>
<td>Municipality</td>
<td>Resource</td>
<td>Cost</td>
<td>Scope</td>
<td>Outcome</td>
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<tr>
<td>------------------------------</td>
<td>-----------------------------------</td>
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<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Region of Niagara 2012</td>
<td>Responsive Region Improvement Teams</td>
<td>$613,000 *</td>
<td>Entire municipality</td>
<td>Council surveyed for input to work plan. RRIT undertakes process reviews, full reviews, assurance reviews and consulting assignments. Use a combination of internal and external resources. Report to Council states the RRIT during the period January 1, 2012 to August 2013 completed 41 assignments resulted in proposed $2.8 million in cost savings and $715,000 in estimated cost avoidance. Not all recommendations implemented by Regional Council.</td>
</tr>
<tr>
<td>City of Windsor 2008-2010</td>
<td>Staff Lead</td>
<td>N/A</td>
<td>All Services</td>
<td>Outsourcing of garbage and recycling collection; Outsourcing of parking enforcement; Outsourcing of direct delivery of child care and early learning subsidy service.</td>
</tr>
</tbody>
</table>
Appendix D

Terms of Reference
Audit Committee (AC)

1. **Name of Committee**
   - The Audit Committee was established by Regional Council on April 30, 2008.

2. **Purpose/Mandate/Scope**
   - The Audit Committee was established to monitor the effectiveness and efficiency of Regional programs. The Audit Committee will focus on corporate accountability by reviewing/directing the following:
     - Financial Audit and Statements including presentations from the External Auditor
     - Receipt of the Annual Financial Statements and Management Letter
     - Review and recommend approval of the External Audit Plan.
     - Review and if necessary recommend approval of the Internal Audit Plan
     - Review of individual Internal Audit Reports
     - Review of Program Review Reports
     - Monitor the Progress of the Implementation of Tangible Capital Asset Accounting
     - Receive/Initiate Special Audits (e.g. transit audit)

3. **Reporting**
   - The Audit Committee will operate as a sub-committee of Administration and Finance Committee.
   - Internal audit reports that are reviewed by the Audit Committee shall be forwarded to the appropriate Standing Committee.

4. **Committee Membership**
   - The Audit Committee will include the following members:
     - Chair of Administration and Finance Committee;
     - Vice-Chair of Administration and Finance Committee;
     - Chair of Planning and Works Committee;
     - Chair of Community Services Committee;
     - Regional Chair (ex-officio);
   - The Chair of Administration and Finance Committee will Chair the Audit Committee.
5. **Meetings**
   - The Audit Committee will meet at a minimum three times per year at the call of the Chair.

6. **Committee Procedures**
   - The Committee procedures will comply with the Region’s Procedural By-law.

Dated May 8, 2008
May 29, 2014

Sent via email only

Chair Ken Seiling
Region of Waterloo
150 Frederick Street
Kitchener ON N2G 4J3

Dear Chair Seiling,

AMO delivers the federal Gas Tax Fund to 443 Ontario municipalities. A small portion of the Fund is set aside to fulfil our role as Fund Administrator and cover our costs. Through our efficient and innovative delivery model, our costs are less than expected. As a result, we are distributing the unused administrative funds back to municipalities to invest in infrastructure.

Region of Waterloo will receive $391,836.40 in surplus administrative funds in 2014. Your municipality can expect a cheque by the end of June. Payments are being made on a per capita basis using populations from the 2006 Census and funds are subject to the terms and conditions of the federal Gas Tax Fund. These funds are in addition to your regular federal Gas Tax Fund payment, the first of which is scheduled to be distributed in July.

AMO delivers more than half a billion dollars per year of federal Gas Tax Funds at a cost of less than 0.5% of program allocation. We try to ensure that as much of the Fund as possible goes toward building and revitalizing local infrastructure. Ontario municipalities are the only ones to receive additional Gas Tax funds in 2014. AMO is a national leader in the delivery of the Fund and we’re proud of it.

We encourage you to share the benefits of the federal Gas Tax Fund in your community with residents, businesses, Members of Parliament and the media. For more information about AMO’s administration, and to learn more about how the Gas Tax is at work across Ontario, visit bit.ly/AMOGasTax or follow @GasTaxinOntario on Twitter.

The Ontario model is unique and it recognizes that municipalities are a mature, accountable order of government. Our success in delivering the Fund, and your success in investing it in local priority projects, demonstrates this fact and means more money for local infrastructure across Ontario.

If you should have any questions, please contact Judy Dezell, Manager Gas Tax Implementation at AMO 416-971-9856 ext 306 or dezell@amo.on.ca.

Russ Powers
AMO President
<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>26-Jan-10</td>
<td>Committee</td>
<td>Report on a policy related to development charge grants, exemptions and deferral requests, to include past history/practice, implications, and options.</td>
<td>Finance</td>
<td>2014, as part of Development Charges By-law review</td>
</tr>
<tr>
<td>28-Feb-12</td>
<td>A&amp;F</td>
<td>Process for calculating/appeal of development charges</td>
<td>Finance / Legal Services</td>
<td>2014, as part of Development Charges By-law review</td>
</tr>
<tr>
<td>11-Dec-13</td>
<td>D. Craig</td>
<td>That staff review and comment on a three year planned budget cycle starting in 2016 and modeled after the City of Waterloo.</td>
<td>Finance/CAO's Office</td>
<td>Spring 2014</td>
</tr>
<tr>
<td>11-Dec-13</td>
<td>D. Craig</td>
<td>THAT the issue of eliminating Regional staff through a process of attrition be referred to the Administration and Finance Committee for a future staff report on this issue.</td>
<td>CAO's Office</td>
<td>May-2014</td>
</tr>
<tr>
<td>15-Jan-14</td>
<td>R. Deutschmann</td>
<td>That staff report back to Council with the scope of work for an RFP for a service review and the subsequent timing will be outlined in that report.</td>
<td>CAO's Office</td>
<td>30-Jun-2014</td>
</tr>
</tbody>
</table>