**BUSINESS PLAN: Drinking Water Supply**

How does this service contribute to the results identified in the City of London Strategic Plan?

<table>
<thead>
<tr>
<th>✓ A strong economy</th>
<th>✓ A vibrant and diverse community</th>
<th>✓ A green and growing City</th>
<th>✓ A sustainable infrastructure</th>
<th>✓ A caring community</th>
</tr>
</thead>
</table>

Comply with all regulatory requirements to operate, sustain, expand, and improve the waterworks infrastructure for efficiently delivering high quality and reliable water supply to London’s customers for all drinking, recreational, irrigation, sanitary, fire protection, and institutional/commercial/industrial needs, while also providing education and encouraging water conservation.

Name the main activities done to provide this service:

<table>
<thead>
<tr>
<th>Name The Activities Done To Provide This Service</th>
<th>How Much Did We Do? (optional)</th>
<th>Is The City Mandated To Provide This Service?</th>
<th>Can The Level Of Service Be Changed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality Sampling and Reporting</td>
<td>Approx. 12,000 tests per year plus continuous on-line testing</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Operation, Maintenance and Repair of the System</td>
<td>Approx. 42.0M m³ of water sold per year</td>
<td>Yes</td>
<td>Yes (with limitations)</td>
</tr>
<tr>
<td>Renewal of Existing Infrastructure</td>
<td>Approx. 20 km of existing watermains replaced or rehabilitated per year</td>
<td>Yes</td>
<td>Yes (with limitations)</td>
</tr>
<tr>
<td>Extension of Services for Growth</td>
<td>Approx. 12 km of new watermains installed per year</td>
<td>Yes</td>
<td>Yes (with limitations)</td>
</tr>
<tr>
<td>Water Meter Program (New &amp; Replacement)</td>
<td>Approx. 12,000 meters installed per year</td>
<td>Yes</td>
<td>Yes (with limitations)</td>
</tr>
<tr>
<td>Water Billing Services through London Hydro</td>
<td>Approx. 1.2M bills per year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Water Efficiency and Conservation Education and Outreach</td>
<td>Approx. 110,000 customers contacted to provide water saving tips</td>
<td>Yes</td>
<td>Yes (with limitations)</td>
</tr>
</tbody>
</table>
What is the current state of this service?

- Current objectives of the Water utility include:
  - Working towards achieving a financially sustainable utility and addressing lifecycle renewal, growth and economic development objectives of the City while ensuring regulatory compliance
  - Maintaining / improving the existing level of service provided to the citizens and businesses of London
  - Improving on lost water revenue (non-revenue water)
  - Reducing the number of lead service connections
  - Providing support for the City’s Industrial Land Development Strategy

- These objectives are being driven by a number of factors, including:
  - Customer expectations of the services that should be provided
  - Council-approved level of service requirements
  - Council-endorsed strategic initiatives
  - City of London Strategic Plan

- A number of challenges are facing the Water service area in the achievement of these objectives:
  - Declining revenue base, aging infrastructure (much of which is reaching the end of its useful life at the same time), increasing cost drivers over which the utility has no direct control (power, labour, etc.), an aging workforce, and ever-increasing regulatory requirements
  - Increasing customer expectations for improved service levels commensurate with the rising cost of the service
  - Specific compliance issues drawing attention and effort away from overall compliance management

- Some of the challenges noted above have been managed with positive results in 2013 through the following achievements:
  - Implemented a new funding model which covers a portion of the system renewal cost
  - Considerable staff training on the need for and mechanics of the new funding model
  - City-wide communication and education campaign, addressing the rationale for the new funding model and how customers can save on their water bill
  - Revised revenue and expenditure forecasts

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1 Financial Sustainability is defined as the movement toward annual rate increases that can be maintained at or near the annual rate of inflation based on a combination of CPI and the Construction Price Index with appropriate use of debt financing, adequate reserve funds and the appropriate investment in capital.
What is the current state of this service? (cont’d)

- Preparation of the City’s Water Growth Master Plan and input to the Industrial Land Development Strategy and new Development Charges study
- Re-accreditation of the City’s Water Operating Authority license under the Drinking Water Quality Management Standard, and increased vigilance with respect to compliance under the Safe Drinking Water Act and the Fire Code
- Advanced a program for eliminating and/or substantively reducing the risk of drinking water contamination in all flooded air and vacuum valve chambers within the distribution system
- Advanced the program for replacement of lead services
- Initiated implementation of a Computerized Maintenance Management System, to bring the utility’s maintenance and work flow management up to industry standards. This will result in staff resource efficiencies, enhanced documentation, and cost tracking of maintenance activities, while also ensuring compliance with regulatory requirements

What is the future direction of this service?

- Core business objectives will remain consistent; however, specific attention will be given to opportunities for synergistic activities in four areas: regulatory compliance, growth, efficiency and best management practices, with sustainability being a common theme in all areas.
- The drivers for these four activity areas include: protecting public health and private property; meeting all regulatory requirements; ensuring the Standard of Care provision is met; supporting Council’s objectives of economic development and growth; gaining efficiencies to reduce long term costs; investing in succession planning; harnessing innovative technologies; and maintaining a high level of service to consistently meet customers’ expectations.
- Continuing focus on delivering a financially sustainable utility in the near term and infrastructure sustainability as the 20-Year Capital Plan is implemented.
- Continuing efforts to meet new regulatory requirements under the Safe Drinking Water Act, Fire Code, Water Opportunities (and Conservation) Act, Clean Water Act (Source Water Protection Plans), and Green Energy Act (Electrical Efficiency).
What do you plan to do?

2014

- **Compliance**
  - Visual flow identification/colour coding of fire hydrants owned and maintained by the Water utility, in accordance with the Fire Code, utilizing the City’s computerized hydraulic model (requiring validation through a significant increase in field testing).
  - Implement the Source Water Protection Plan as it relates to Risk Management Officer and Risk Management Inspectors liaison with private property owners within well-head protection areas as mandated under the Clean Water Act.
  - Continue with implementing the newly established air and vacuum valve chamber inspection program, including chamber rehabilitation and valve replacement to eliminate and/or substantively reduce contamination risk as required under the Safe Drinking Water Act.
  - Continual improvement initiatives associated with the Drinking Water Quality Management System as required under our Utility Licensing requirements included in the Safe Drinking Water Act. The City’s Council-endorsed Operational Plan mandates an annual review of activities/procedures, with an accompanying report to Council regarding its status, and identification of recommended improvement opportunities.
  - Implement a more rigorous Environmental Management approach to regulatory compliance by providing additional resources to plan, monitor and document our Drinking Water Quality Management System.

- **Growth**
  - Completion of Growth Master Plan for Water infrastructure and coordination with GMIS.
  - Support for the Development Charges update.
  - Support the Industrial Land Development Strategy.
  - Infill and intensification analysis of existing water distribution system utilizing the computerized hydraulic model.

- **Efficiency**
  - Assessing energy conservation opportunities at the City’s two main pumping stations, and continuing to make energy efficiency gains at the remaining facilities through installation of new, more energy efficient equipment, and review for operational optimization opportunities.
  - Implementation of District Meter Areas to reduce non-revenue water, to analyze for water leakage and identify/prevent future watermain breaks.
  - Assessment and potential implementation of large customer water meter automated reading system to reduce meter reading costs and evaluate customers’ real-time consumption data, which further assists in hydraulic model calibration.
What do you plan to do? (cont’d)
2014

- **Best Management Practices**
  - Set a strategy for achieving an appropriate minimum reserve fund balance for the water utility, consistent with corporate wide financial objectives.
  - Initiate development of a Computerized Maintenance Management System, to bring the utility maintenance and work flow management up to industry standards. This will result in staff resource efficiencies, enhanced documentation, and cost tracking of maintenance activities, while also ensuring compliance with regulatory requirements.
  - Implement new technologies for condition assessment of critical infrastructure to support corporate asset management decision-making, optimized renewal efforts, and minimizing the risks associated with the effects from large diameter transmission main failures.
  - Undertake additional efforts in shut-off valve maintenance, ensuring operational reliability, reducing customer impacts, and reduced staffing costs for emergency repairs of watermain breaks.
  - Augmenting current professional staff complements to support compliance, growth and efficiency initiatives, as well as developing capacity to support succession plans that ensure appropriately experienced and certified staff perform the necessary functions in accordance with Collective Agreement and regulatory requirements.
  - Build on existing customer service and communication successes and develop a customer service charter that serves to limit the amount of time it takes to handle billing and service related issues; increase visibility in the community; provide additional avenues to find information and learn how to lower monthly bills; develop an enhanced customer contact website in conjunction with London Hydro; implement and measure drinking water education curriculum for local elementary and secondary schools.
  - Financial monitoring of the major factors in the financial forecast: rate structure changes, consumption forecasts, construction cost indexing, non-revenue water management and reserve fund balances.
What do you plan to do?
2015 – 2018

- **Compliance**
  - Anticipate achieving full compliance under the Fire Code with respect to colour coding of fire hydrants.
  - Full operational implementation of the Source Water Protection Plan in 2015 as it relates to Risk Management Officer and Risk Management Inspectors liaison with private property owners within well-head protection areas. Additional consideration to be given to when to decommission remaining active wells.
  - Full operational implementation of the air and vacuum valve maintenance program to eliminate and/or substantively reduce contamination risk.
  - Continual improvement initiatives associated with the Drinking Water Quality Management System will be ongoing, summarized and reported to Council annually.
  - Long term planning will be initiated to address anticipated constraints imposed under the Intra-basin Transfer restrictions associated with the future use of the Lake Huron Water Supply System in accordance with Safeguarding and Sustaining Ontario’s Water Resources for Future Generations proposal. Draft regulations are anticipated in 2014.

- **Growth**
  - Implement various Development Charges-funded growth projects, including waterworks to support the Industrial Land Development Strategy.

- **Efficiency**
  - Implement energy conservation projects at the City’s water pumping stations.
  - Continue deployment and monitoring of District Meter Areas, by analyzing leakage rates, and to prevent future watermain breaks by identifying leaks prior to failure.
  - Continue liaison with our large customers, using the water meter automated reading system to provide them with real-time consumption data. This data will also further assist in hydraulic model calibration accuracy, and reduce meter reading costs.
What do you plan to do? (cont’d)

2015 – 2018

- **Best Management Practices**
  - Achieve financial sustainability in the near term and continue with infrastructure sustainability as the 20-Year Capital Plan is implemented.
  - Development and optimization of the Computerized Maintenance Management System. Initiate long-term strategic planning of assets based on preliminary results of the CMMS implementation.
  - Continue with the program(s) for monitoring, analyzing, and assessing the condition of large diameter transmission mains, through full development of the implemented technologies.
  - Fully integrate the corporate asset management decision-making process with current Water utility asset management practices.
  - Fully design an operational hydraulic model and water quality model to support long term planning, subdivision development and servicing, intensification analysis, and operational planning and response to routine maintenance and emergency situations, including threats to water quality.

- **Anticipated customer service initiatives will include:**
  - Web and app-based customer portals to retrieve and analyze water use data for our customers
  - Fixed network meter reading for ICI and expansion to residential sectors to allow more detailed water use information and tracking.
  - Expansion of the Eco Yard Evaluation program into a year round water/energy audit or leak check in local homes and businesses – currently free of charge.
  - More targeted value of water and conservation messaging.
  - Further development of water curriculum in schools to include other elements of the water cycle, i.e. wastewater, storm water.
  - Develop a grey water/rainwater use program and strategy.
### Key Performance Indicators

<table>
<thead>
<tr>
<th>Description of measure</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How Much?</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Water sold in million cubic meters</td>
<td>43.1</td>
<td>42.0</td>
<td>41.0</td>
<td>40.7</td>
<td>40.4</td>
<td>40.1</td>
<td>39.8</td>
</tr>
<tr>
<td>2. Percentage of existing watermains renewed (1)</td>
<td>0.83%</td>
<td>1.20%</td>
<td>1.26%</td>
<td>1.25%</td>
<td>1.49%</td>
<td>1.41%</td>
<td>1.40%</td>
</tr>
<tr>
<td>3. Number of lead services replaced (2)</td>
<td>440</td>
<td>400</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>4. Number of water meters installed (3)</td>
<td>10,739</td>
<td>6,000</td>
<td>15,000</td>
<td>15,000</td>
<td>15,000</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td><strong>How Well?</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Non-revenue water (% of total pumped) (4)</td>
<td>11.2%</td>
<td>11.0%</td>
<td>10.8%</td>
<td>10.6%</td>
<td>10.4%</td>
<td>10.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>6. Average annual cost for residential customer</td>
<td>$306</td>
<td>$336</td>
<td>$363</td>
<td>$388</td>
<td>$400</td>
<td>$412</td>
<td>$424</td>
</tr>
<tr>
<td><strong>Is Anyone Better Off?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Number of boil water advisories</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. Number of customers with service interruption of more than 2 hours (5)</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td>9. Number of watermain breaks per 100 km</td>
<td>6.6</td>
<td>8.2</td>
<td>8.2</td>
<td>8.1</td>
<td>8.0</td>
<td>8.0</td>
<td>7.9</td>
</tr>
<tr>
<td>10. Water quality complaints (6)</td>
<td>119</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>295</td>
</tr>
<tr>
<td>11. Ministry of Environment Report Card score (7)</td>
<td>95.8%</td>
<td>98.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**NOTES:** 2012 values represent actual amounts; 2013-2018 values represent forecasts

1. Renewal is defined as replacement or structural relining and does not include cement mortar relining or anode protection.
2. Delivery of the Corrosion Plan is being re-evaluated for 2014.
3. Meter replacement program delivery is being re-evaluated in 2013.
4. Reduction in non-revenue water is based on implementation of District Meter Areas City-wide over 5 years.
5. Number of customers out of service is an approximation based on watermain break records.
6. Number of complaints in 2012 is a mixture of "per event" and “individual complaints” versus absolute number of complaints. Process of complaints logging is under review from a "best practices" perspective. 2013 complaints are expected to increase as more hydrants are flow tested, which may agitate rust sediment in cast iron watermains.
7. Due to the Air and Vacuum Valve maintenance program only being launched in 2013, the score may be impacted until the program is fully implemented. A score lower than 100% does not indicate that drinking water was unsafe at any time.