



OPTIONAL ANNUAL REPORT TEMPLATE

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| Drinking-Water System Number: | 260039208 |
| Drinking-Water System Name: | Hamilton Township Water Agreement Distribution System |
| Drinking-Water System Owner: | Corporation of the Township of Hamilton |
| Drinking-Water System Category: | Large Municipal Residential |
| Period being reported: | January 1, 2016 to December 31, 2016 |

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|--|---|
| <p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> - Township of Hamilton Municipal Office 82855 Majestic Hills Drive, Cobourg Ontario - Lakefront Utility Services Inc. Office 207 Division Street, Cobourg Ontario - www.hamiltontownship.ca </div> | <p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text" value="1"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [X] No []</p> |
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

| Drinking Water System Name | Drinking Water System Number |
|----------------------------|------------------------------|
| n/a | n/a |

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [X]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web

[X] Public access/notice via Government Office

[] Public access/notice via a newspaper

[X] Public access/notice via Public Request

[] Public access/notice via a Public Library

[] Public access/notice via other method _____

Describe your Drinking-Water System

The Hamilton Township Stand Alone Distribution System is supplied with potable water produced by the Cobourg Water Treatment Plant. The Cobourg WTP obtains raw water through a 1050 mm steel intake pipe that extends 850 m into Lake Ontario. The Stand-Alone Distribution System extends north of Hwy. 401 from Ontario Street to Oliver's Lane. Treated water is supplied to approximately 119 homes in the area bounded by Ontario Street, Oliver's Lane, and June Avenue. The service area consists of 150 mm, 200 mm, and 300 mm watermains, 23 valves, and 13 hydrants.

The Hamilton Township Stand Alone Distribution System includes a total of 19 fire hydrants and 36 distribution valves. There are no storage, pressure boosting, rechlorination facilities, or other external structures provided in the Hamilton Township Stand-Alone Distribution System.

List all water treatment chemicals used over this reporting period

Aluminum Sulphate
Chlorine
Sodium Hypochlorite



Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Filter Refurbishment/ Upgrade Phase 2: \$1,075,000.00
 Refurbish Low Lift Pump #1: \$ 40,000.00
 Alexandria Drive Watermain Replacement: \$ 400,000.00
 Residential Water Meter Replacement Project: \$ 125,000.00
 Commercial Water Meter Replacement Project: \$ 46,000.00
 Refurbish Back Wash Pump # 2: \$ 15,000.00

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

| Incident Date | Parameter | Result | Unit of Measure | Corrective Action | Corrective Action Date |
|---------------|--|--------|-----------------|---|------------------------|
| Jan 30, 2016 | Observation- Improperly Disinfected Water Directed to Water Users, etc: Watermain shut down before air gap was fully established after main valve failed. | n/a | n/a | Reported to MOECC an MOH. BWA issued. Notified affected residents. Repaired valve. Flushed affected area. Final chlorine residual 0.84F @ 1hr 24min Collected and analyzed samples. Bleeder line run off hydrant downstream of break until advisory lifted. | Feb 1, 2016 |



| | | | | | |
|--------------|--|-----|-----|---|--------------|
| July 3, 2016 | Observation-Physical/Chemical Other: Generator failure cause loss of power to SCADA, chlorine analyzer, and turbidity analyzer for 30 minutes. | n/a | n/a | Filter effluent valves closed to stop flow. Manually dosed contact chamber with primary chlorinator to increase residual. Started standby generator. Collected grab samples to verify residuals. Contractor called to repair generator and replace battery. | July 4, 2016 |
|--------------|--|-----|-----|---|--------------|

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

| | Number of Samples | Range of E.Coli Or Fecal Results (min #)-(max #) | Range of Total Coliform Results (min #)-(max #) | Number of HPC Samples | Range of HPC Results (min #)-(max #) |
|--------------|-------------------|--|---|-----------------------|--------------------------------------|
| Raw | 52 | 0 – 2 | 0 – 500 | N/A | N/A |
| Treated | 52 | 0 – 0 | 0 – 0 | 52 | 0 – 75 |
| Distribution | 364 | 0 – 0 | 0 – 0 | 209 | 0 – 520 |

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

| | Number of Grab Samples | Range of Results (min #)-(max #) |
|---|------------------------|----------------------------------|
| Filter Turbidity (NTU) | 8760 | 0.00 – 1.00 |
| Chlorine (mg/l) | 8760 | 0.14 – 1.90 |
| Fluoride (If the DWS provides fluoridation) | N/A | |

NOTE: For continuous

Note: System is programmed to shut down when chlorine residual reaches 0.60 mg/l or when turbidity reaches 0.30 NTU. The numbers shown in the range represent instantaneous events in the system caused by power flickers, calibrations, and other operational anomalies. These numbers are not representative of normal operating conditions.

NOTE: Record the unit of measure if it is **not** milligrams per litre.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

| Date of legal instrument issued | Parameter | Date Sampled | # of samples | Result | Unit of Measure |
|---------------------------------|------------------|----------------------------------|--------------|---------------------------------------|-----------------|
| June 23, 2016 MDWL | Suspended Solids | Annual Avg. (one sample / month) | 12 | 3.58 (no monthly average exceedances) | mg/L |

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

| Parameter | Result Value | Standard | Unit of Measure | Exceedance | Sample Date |
|-----------|--------------|----------|-----------------|------------|-------------|
| Antimony | 0.11 | 6 | ug/l | no | Jan. 5/16 |
| Arsenic | .20 | 25 | ug/l | no | Jan. 5/16 |
| Barium | 20.2 | 1000 | ug/l | no | Jan. 5/16 |
| Boron | 26.3 | 5000 | ug/l | no | Jan. 5/16 |
| Cadmium | 0.009 | 5 | ug/l | no | Jan. 5/16 |
| Chromium | 0.07 | 50 | ug/l | no | Jan. 5/16 |
| Mercury | 0.01 <MDL | 1 | ug/l | no | Jan. 5/16 |
| Selenium | 0.16 | 10 | ug/l | no | Jan. 5/16 |
| Uranium | 0.036 | 20 | ug/l | no | Jan. 5/16 |
| *Lead | 0.01 | 10 | ug/l | no | Jan. 19/16 |
| Nitrite | 0.003 <MDL | 1 | mg/l | no | Oct. 11/16 |
| Nitrate | 0.177 | 10 | mg/l | no | Oct. 11/16 |
| Fluoride | 0.09 | 1.5 | mg/L | no | Jan. 12/15 |
| Sodium | 17.7 | 20 | mg/l | no | Jan. 12/15 |

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems.

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

| Location Type | Number of Samples | Range of Lead Results (min#) – (max #) | Number of Exceedances |
|---------------|-------------------|--|-----------------------|
| Plumbing | N/A | | |
| Distribution | 6 | <0.00001-0.00015 | 0 |

Summary of Organic parameters sampled during this reporting period or the most recent sample results

| Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|-------------|--------------|-----------------|------------|
| Benzene [ug/L] | Jan 5/16 | 0.32 <MDL | ug/L | NO |
| Carbon tetrachloride [ug/L] | Jan 5/16 | 0.16 <MDL | ug/L | NO |
| 2-Dichlorobenzene [ug/L] | Jan 5/16 | 0.41 <MDL | ug/L | NO |
| 4-Dichlorobenzene [ug/L] | Jan 5/16 | 0.36 <MDL | ug/L | NO |
| 1-Dichloroethylene (vinylidene chloride) [ug/L] | Jan 5/16 | 0.33 <MDL | ug/L | NO |
| 2-Dichloroethane [ug/L] | Jan 5/16 | 0.35 <MDL | ug/L | NO |
| Dichloromethane [ug/L] | Jan 5/16 | 0.35 <MDL | ug/L | NO |
| Monochlorobenzene [ug/L] | Jan 5/16 | 0.3 <MDL | ug/L | NO |
| Tetrachloroethylene (perchloroethylene) [ug/L] | Jan 5/16 | 0.35 <MDL | ug/L | NO |
| Trichloroethylene [ug/L] | Jan 5/16 | 0.44 <MDL | ug/L | NO |
| Vinyl Chloride [ug/L] | Jan 5/16 | 0.17 <MDL | ug/L | NO |
| Diquat [ug/L] | Jan 5/16 | 1 <MDL | ug/L | NO |
| Paraquat [ug/L] | Jan 5/16 | 1 <MDL | ug/L | NO |
| Glyphosate [ug/L] | Jan 5/16 | 1 <MDL | ug/L | NO |
| Polychlorinated Biphenyls (PCBs) - Total [ug/L] | Jan 5/16 | 0.04 <MDL | ug/L | NO |
| Benzo(a)pyrene [ug/L] | Jan 5/16 | 0.004 <MDL | ug/L | NO |
| Alachlor [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| Atrazine + N-dealkylated metabolites [ug/L] | Jan 5/16 | 0.07 | ug/L | NO |
| Atrazine [ug/L] | Jan 5/16 | 0.05 | ug/L | NO |
| Desethyl atrazine [ug/L] | Jan 5/16 | 0.02 | ug/L | NO |
| Azinphos-methyl [ug/L] | Jan 5/16 | 0.05 <MDL | ug/L | NO |
| Carbaryl [ug/L] | Jan 5/16 | 0.05 <MDL | ug/L | NO |
| Carbofuran [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Chlorpyrifos [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| Diazinon [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| Dimethoate [ug/L] | Jan 5/16 | 0.03 <MDL | ug/L | NO |
| Diuron [ug/L] | Jan 5/16 | 0.03 <MDL | ug/L | NO |
| Malathion [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| Metolachlor [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Metribuzin [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| Phorate [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Prometryne [ug/L] | Jan 5/16 | 0.03 <MDL | ug/L | NO |
| Simazine [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Terbufos [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Triallate [ug/L] | Jan 5/16 | 0.01 <MDL | ug/L | NO |
| Trifluralin [ug/L] | Jan 5/16 | 0.02 <MDL | ug/L | NO |
| 4-dichlorophenoxyacetic acid (24-D) [ug/L] | Jan 5/16 | 0.19 <MDL | ug/L | NO |
| Bromoxynil [ug/L] | Jan 5/16 | 0.33 <MDL | ug/L | NO |
| Dicamba [ug/L] | Jan 5/16 | 0.20 <MDL | ug/L | NO |
| Diclofop-methyl [ug/L] | Jan 5/16 | 0.40 <MDL | ug/L | NO |
| MCPA [mg/L] | Jan 5/16 | 0.00012 <MDL | mg/L | NO |
| Picloram [ug/L] | Jan 5/16 | 1 <MDL | ug/L | NO |

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|----------------------------|-----------|-----------|------|----|
| 4-dichlorophenol [ug/L] | Jan 5/16 | 0.15 <MDL | ug/L | NO |
| 6-trichlorophenol [ug/L] | Jan 5/16 | 0.25 <MDL | ug/L | NO |
| 6-tetrachlorophenol [ug/L] | Jan 5/16 | 0.20 <MDL | ug/L | NO |
| Pentachlorophenol [ug/L] | Jan 5/16 | 0.15 <MDL | ug/L | NO |
| THM: Annual Average | Oct 11/16 | 18.500 | ug/l | NO |

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

| Parameter | Result Value | Unit of Measure | Date of Sample |
|-----------|--------------|-----------------|------------------|
| Sodium | 17.7 | mg/L | January 12, 2015 |