



OPTIONAL ANNUAL REPORT TEMPLATE

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 to December 31, 2015

<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 <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></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;"> <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 style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input type="checkbox"/></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

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



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

Public access/notice via the web

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

Water is removed from Lake Ontario via an 856 metre long intake pipe to the WTP. The water is pre-chlorinated and travels through a full treatment process including coagulation, flocculation, sedimentation and granular activated carbon filtration. The water is then disinfected with chlorine and after an appropriate detention time, it enters an in-ground reservoir. From there, water is pumped to the distribution system as needed. The distribution system contains two pressure zones, each with their own elevated water storage tower. The WTP supplies water to the lower Zone 1, while a booster pumping station located between the two zones, supplies water to the higher Zone 2. The booster station also has re-chlorination facilities, as does the Zone 1 and Zone 2 storage towers.

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 1: \$583,560.00
Supernatant Upgrade: \$10,000.00
Pebblebeach Watermain: \$177,531.00
Filter Bldg Envelope Upgrades: \$195,336.00
Bayview Watermain Lining: \$112,000.00
Forth and Tweed Watermain Replacement: \$422,161.00

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
December 21, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Watermain Break	Reportable	n/a	BWA issued. Hydrant flushed, chlorine residual .95F, 1.03T. 2 Bacti samples taken. Bleeder line run off hydrant downstream of break until advisory lifted.	December 24, 2015
November 24, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Planned Work: Install New Service	Reportable	n/a	Hydrant flushed, chlorine residual 1.29 F. 2 sets of bacti samples taken. BWA issued. Bleeder line left running on hydrant to maintain residual until advisory lifted.	November 27, 2015
October 21, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Broken Valve	Reportable	n/a	Hydrant flushed, chlorine residual 1.23F 1.51T. 2 bacti samples taken. BWA issued. Bleeder line left running on hydrant until advisory lifted.	October 26, 2015
July 6, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Planned Work: Hydrant Relocation	Reportable	n/a	BWA issued. Two sets of bacti samples collected.	July 8, 2015
July 2, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Planned Work: Disconnecting Service	Reportable	n/a	One house affected, fed from neighbour's service. House isolated from main. 2 bacti samples taken.	July 6, 2015



				Main and house service flushed when service was returned.	
June 8, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Loss of system pressure due to construction.	Reportable	n/a	BWA issued. Samples taken at three locations downstream during and after advisory. Main flushed to restore chlorine residual.	June 10, 2015
May 26, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Planned Work: Loss of system pressure due to construction.	Reportable	n/a	BWA issued. Area of watermain under BWA transferred to DWS#20008104 (Hamilton Twp.). 2 bacti samples taken. Advisory lifted.	May 28, 2015
May 11, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Loss of system pressure due to construction.	Reportable	n/a	BWA issued to 5 houses affected. System was flushed downstream of tie –in. Chlorine residual 1.00F. 2 bacti samples taken. Advisory lifted.	May 14, 2015
May 7, 2015	Observation- Improperly Disinfected Water Directed to Water Users, etc. Loss of system pressure due to watermain shutdown for repair.	Reportable	n/a	BWA issued. System flushed for approx. 2 hrs, chlorine residual .68F - .86F. Two sets of bacti samples taken at 3 locations. Advisory lifted	May 10, 2015



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 – 4	0 – 260	N/A	N/A
Treated	52	0 – 0	0 – 0	52	0 – 43
Distribution	363	0 – 0	0 – 0	208	0 – 86

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 #)
Turbidity (NTU)	8760	0.01 – 1.00
Chlorine (mg/L)	8760	0.43 – 1.90
Fluoride (If the DWS provides fluoridation)	N/A	

NOTE: For continuous monitors use 8760 as the number of samples.

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
August 2, 2011 MDWL	Suspended Solids	Annual Avg. (one sample / month)	12	4.0 (no monthly average exceedances)	mg/L

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	Jan. 12/15	0.00024	mg/l	no
Arsenic	Jan. 12/15	0.0003	mg/l	no
Barium	Jan. 12/15	0.0214	mg/l	no
Boron	Jan. 12/15	0.0232	mg/l	no
Cadmium	Jan. 12/15	<0.000007	mg/l	no
Chromium	Jan. 12/15	<0.00011	mg/l	no
*Lead	Jan. 19/15	0.00016	mg/l	no
Mercury	Jan. 12/15	<0.00002	mg/l	no
Selenium	Jan. 12/15	<0.001	mg/l	no



Sodium	Jan. 12/15	17.7	mg/l	no
Uranium	Jan. 12/15	0.000099	mg/l	no
Fluoride	Jan. 12/15	0.09	mg/l	no
Nitrite	Oct. 13/15	<0.003	mg/l	no
Nitrate	Oct. 13/15	0.262	mg/l	no

*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	11	<0.00001-0.00026	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
Alachlor	Jan 12/15	<0.00002	mg/l	NO
Aldicarb	Jan 12/15	<0.00001	mg/l	NO
Aldrin + Dieldrin	Jan 12/15	<0.00001	mg/l	NO
Aldrin	Jan 12/15	<0.00001	mg/l	NO
Dieldrin	Jan 12/15	<0.00001	mg/l	NO
Atrazine + N-dealkylated metabolites	Jan 12/15	0.00006	mg/l	NO
Atrazine	Jan 12/15	0.00004	mg/l	NO
De-ethylated Atrazine	Jan 12/15	0.00002	mg/l	NO
Azinphos-methyl	Jan 12/15	<0.00002	mg/l	NO
Bendiocarb	Jan 12/15	<0.00001	mg/l	NO
Benzene	Jan 12/15	<0.00032	mg/l	NO
Benzo(a)pyrene	Jan 12/15	<0.000004	mg/l	NO
Bromoxynil	Jan 12/15	<0.000033	mg/l	NO
Carbaryl	Jan 12/15	<0.00001	mg/l	NO
Carbofuran	Jan 12/15	<0.00001	mg/l	NO
Carbon Tetrachloride	Jan 12/15	<0.00016	mg/l	NO
Chlordane (Total)	Jan 12/15	<0.00001	mg/l	NO
a-chlordane	Jan 12/15	<0.00001	mg/l	NO
g-chlordane	Jan 12/15	<0.00001	mg/l	NO
Oxychlordane	Jan 12/15	<0.00001	mg/l	NO
Chlorpyrifos	Jan 12/15	<0.00002	mg/l	NO
Cyanazine	Jan 12/15	<0.00003	mg/l	NO
Diazinon	Jan 12/15	<0.00002	mg/l	NO
Dicamba	Jan 12/15	<0.00020	mg/l	NO
1,2-Dichlorobenzene	Jan 12/15	<0.00041	mg/l	NO

1,4-Dichlorobenzene	Jan 12/15	<0.0036	mg/l	NO
Dichlorodiphenyltrichloroethane (DDT) + Metabolites	Jan 12/15	<0.00001	mg/l	NO
op-DDT	Jan 12/15	<0.00001	mg/l	NO
pp-DDD	Jan 12/15	<0.00001	mg/l	NO
pp-DDE	Jan 12/15	<0.00001	mg/l	NO
pp-DDT	Jan 12/15	<0.00001	mg/l	NO
1,2-Dichloroethane	Jan 12/15	<0.00035	mg/l	NO
1,1-Dichloroethylene (vinylidene chloride)	Jan 12/15	<0.00033	mg/l	NO
Dichloromethane	Jan 12/15	<0.00035	mg/l	NO
2,4-Dichlorophenol	Jan 12/15	<0.00015	mg/l	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 12/15	<0.00019	mg/l	NO
Diclofop-methyl	Jan 12/15	<0.00040	mg/l	NO
Dimethoate	Jan 12/15	<0.00003	mg/l	NO
Dinoseb	Jan 12/15	<0.000036	mg/l	NO
Diquat	Jan 12/15	<0.001	mg/l	NO
Diuron	Jan 12/15	<0.00003	mg/l	NO
Glyphosate	Jan 12/15	<0.001	mg/l	NO
Heptachlor + Heptachlor Epoxide	Jan 12/15	<0.00001	mg/l	NO
Heptachlor	Jan 12/15	<0.00001	mg/l	NO
Heptachlor Epoxide	Jan 12/15	<0.00001	mg/l	NO
Lindane (Total)	Jan 12/15	<0.00001	mg/l	NO
Malathion	Jan 12/15	<0.00002	mg/l	NO
Methoxychlor	Jan 12/15	<0.00001	mg/l	NO
Metolachlor	Jan 12/15	<0.00001	mg/l	NO
Metribuzin	Jan 12/15	<0.00002	mg/l	NO
Monochlorobenzene	Jan 12/15	<0.0003	mg/l	NO
Paraquat	Jan 12/15	<0.001	mg/l	NO
Parathion	Jan 12/15	<0.00002	mg/l	NO
Pentachlorophenol	Jan 12/15	<0.00015	mg/l	NO
Phorate	Jan 12/15	<0.00001	mg/l	NO
Picloram	Jan 12/15	<0.001	mg/l	NO
Polychlorinated Biphenyls (PCB)	Jan 12/15	<0.00004	mg/l	NO
Prometryne	Jan 12/15	<0.00003	mg/l	NO
Simazine	Jan 12/15	<0.00001	mg/l	NO
Temephos	Jan 12/15	<0.00001	mg/l	NO
Terbufos	Jan 12/15	<0.00001	mg/l	NO
Tetrachloroethylene (perchloroethylene)	Jan 12/15	<0.00035	mg/l	NO
2,3,4,6-Tetrachlorophenol	Jan 12/15	<0.00020	mg/l	NO
Triallate	Jan 12/15	<0.00001	mg/l	NO
Trichloroethylene	Jan 12/15	<0.00044	mg/l	NO
2,4,6-Trichlorophenol	Jan 12/15	<0.00025	mg/l	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan 12/15	<0.00022	mg/l	NO
Trifluralin	Jan 12/15	<0.00002	mg/l	NO
Vinyl Chloride	Jan 12/15	<0.00017	mg/l	NO
THM: Annual Average	Oct 13/15	21.500	ug/l	NO



Ontario Drinking-Water Systems Regulation O. Reg. 170/03

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
N/A			