



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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February 19, 2016

Mr. Will Moore, CAO  
The Corporation of the Township of Chatsworth  
R.R. #1  
Chatsworth, ON  
N0H 1G0

**Re: Section 11 Reports of Ontario Regulation 170/03**

Dear Mr. Moore;

Please find attached the 2015 Annual Report for the Chatsworth Water Treatment Plant Waterworks # 220003011. The report has been prepared as per Section 11 of O.Reg. 170/03 by the Ontario Clean Water Agency on behalf of the Township of Chatsworth. This report no longer has to be submitted to the Ministry of the Environment.

As per O.Reg. 170/03; Section 12 (4); this report must be made available to any member of the public during normal business hours without charge at the office of the owner. If the office of the owner is not reasonably convenient to users of water from the system, the report must be made available at a location that is reasonably convenient to those users.

Should you have any further questions regarding the attached report, please contact the undersigned at (519) 941-1938.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Craggs".

Scott Craggs  
Operations Manager  
West Highlands Hub

SC/lb

cc: Lisa Benoit, PCT



<b>Drinking-Water System Number:</b>	220003011
<b>Drinking-Water System Name:</b>	Chatsworth Water System
<b>Drinking-Water System Owner:</b>	Township of Chatsworth
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2015 to December 31, 2015

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [x]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>Township of Chatsworth Municipal Office Rural Route, No. 1 Chatsworth, Ontario N0H 1G0</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">N/A</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">N/A</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></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	

**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 [ ] Not Applicable [X]**

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 - Include notice in water billings**

### **Describe your Drinking-Water System**

The Chatsworth Water Treatment Plant & Distribution System is owned by The Corporation of the Township of Chatsworth. The Chatsworth Water Treatment Plant & Distribution System is operated by the Ontario Clean Water Agency.

The following is a description of the Chatsworth Water Treatment Plant and Distribution System.

The Village of Chatsworth is serviced by a large municipal water system which derives its raw water from two (2) municipally owned wells. Each well is equipped with pumping equipment capable of pumping at 529.8 L/min at 67.1 m total dynamic head. Well No. 1 and Well No. 2 are equally rated at 569.0 L/min and are not meant to run simultaneously. Both wells are located within the same pumphouse. The pumphouse is located in Part Lot 5, Concession 1 East, Toronto Sydenham Road, former Township of Holland. Well #1 is a 33.6 meter deep drilled well. Well #2 is a 20.9 meter deep drilled well.

The wells are approximately 130 m from the Spey River, and have been determined by Henderson, Paddon & Associates Ltd. as being groundwater under some influence of surface water. When the wells were constructed, approximately 1.6 m of fill was added to the site to ensure good drainage around and away from the site, and as a safety measure to protect against flooding from the Spey River. Henderson, Paddon & Associates Ltd. also concluded that both Well No. 1 and Well No. 2 draw from the same aquifer.

#### **Pumphouse**

The Chatsworth water system has been categorized as GUDI. The minimum treatment requirement is 2 log removal/inactivation of cryptosporidium, 3 log inactivation/removal of giardia and 4 log removal/inactivation of viruses using chemically assisted filtration. An equivalent treatment that has been accepted is cartridge filtration, UV and chlorination.

Raw water is pumped from either Well No. 1 or Well No. 2 into a common 100 mm diameter discharge line. It then passes through a cartridge filter. The cartridge filter is 5 micron nominal size and has a treatment capacity of 8.9 L/sec. The filtered water is then directed through one of two ultraviolet disinfection reactors which have a light flux of at least 40 mJ/cm<sup>2</sup>. The water is then treated with sodium hypochlorite for primary and secondary disinfection. Treated water is directed past a flow meter, free chlorine residual analyzer and a turbidity meter prior to treated water being directed into the distribution system.

#### **Distribution System**

The Chatsworth water system services approximately 567 people. The water works was established in 1984 and includes an 854 cubic meter steel standpipe. Distribution system piping consists of PVC construction and mains range in size from 150 mm to 200 mm in diameter. There are approximately 37 fire hydrants, 1 blow off, 1 hydrant flusher, 4 sampling stations and 220 connections in the Chatsworth distribution system.

#### **Stand Pipe Reservoir**

The stand pipe has an approximate 854 cubic meter capacity and is located on Sideroad #1.

**List all water treatment chemicals used over this reporting period**

Sodium Hypochlorite 6% – for disinfection
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**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**

N/A
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**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
None					

**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 #)
<b>Raw</b>	104	0-10.0	0-21.0	N/A	N/A
<b>Treated</b>	52	0-0	0-0	52	0-4.0
<b>Distribution</b>	104	0-0	0-0	52	0-4.0

**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 #)
<b>Raw Water</b>		
<b>Turbidity Well 1</b>	12	0.23-0.51 NTU's
<b>Turbidity Well 2</b>	12	0.15-0.46 NTU's
<b>Treated Water</b>		
<b>Chlorine Residual (free)</b>	8760	0.56-2.00 mg/L
<b>Distribution System</b>		
<b>Chlorine Residual (free)</b>	365	0.42-1.60 mg/L
<b>Fluoride (If the DWS provides fluoridation)</b>	N/A	N/A

<i><b>NOTE:</b> For continuous monitors use 8760 as the number of samples.</i>
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<i><b>NOTE:</b> Record the unit of measure if it is <b>not</b> milligrams per litre.</i>
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**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	Result	Unit of Measure
11/19/2008	UV Transmittance	Jan 1, 2015 To Dec 31, 2015	99.0 %	Scale 1- 100%

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

Parameter	Sample Date	Result Value		Unit of Measure	Exceedance
		Well 1	Well 2		
Antimony	01/12/15	<0.02	<0.02	ug/l	No
Arsenic	01/12/15	<0.20	<0.20	ug/l	No
Barium	01/12/15	7.37	6.99	ug/l	No
Boron	01/12/15	13.50	12.10	ug/l	No
Cadmium	01/12/15	<0.003	<0.003	ug/l	No
Chromium	01/12/15	0.13	0.13	ug/l	No
Lead Distribution	01/19/15	2.17		ug/l	No
Mercury	01/12/15	0.01	0.02	ug/l	No
Selenium	01/12/15	<1.0	<1.0	ug/l	No
Sodium	01/13/14	4.72	5.56	mg/l	No
Uranium	01/12/15	0.473	0.478	ug/l	No
Fluoride	01/16/12	<0.06	< 0.06	mg/l	No
Nitrite	Jan 19/15 Apr 13/15 Jul 13/15 Oct 13/15	<0.003 <0.003 <0.003 <0.003	<0.003 <0.003 <0.003 <0.003	mg/l	No
Nitrate	Jan 19/15 Apr 13/15 Jul 13/15 Oct 13/15	0.619 0.235 1.10 1.14	0.348 0.211 1.09 1.24	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
Distribution	2	0.36 – 0.80	0

- Plumbing exemption – sampled for pH, alkalinity and lead in 2015.

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

Parameter	Sample Date	Result Value		Unit of Measure	Exceedance
		Well 1	Well 2		
Alachlor	01/12/15	<0.02	<0.02	ug/l	No
Aldicarb	01/12/15	<0.01	<0.01	ug/l	No
Aldrin + Dieldrin	01/12/15	<0.01	<0.01	ug/l	No
Atrazine + N-dealkylated metabolites	01/12/15	<0.01	<0.01	ug/l	No
Azinphos-methyl	01/12/15	<0.02	<0.02	ug/l	No
Bendiocarb	01/12/15	<0.01	<0.01	ug/l	No
Benzene	01/12/15	<0.32	<0.32	ug/l	No
Benzo(a)pyrene	01/12/15	<0.004	<0.004	ug/l	No
Bromoxynil	01/12/15	<0.33	<0.33	ug/l	No
Carbaryl	01/12/15	<0.01	<0.01	ug/l	No
Carbofuran	01/12/15	<0.01	<0.01	ug/l	No
Carbon Tetrachloride	01/12/15	<0.16	<0.16	ug/l	No
Chlordane (Total)	01/12/15	<0.01	<0.01	ug/l	No
Chlorpyrifos	01/12/15	<0.02	<0.02	ug/l	No
Cyanazine	01/12/15	<0.03	<0.03	ug/l	No
Diazinon	01/12/15	<0.02	<0.02	ug/l	No
Dicamba	01/12/15	<0.20	<0.20	ug/l	No
1,2-Dichlorobenzene	01/12/15	<0.41	<0.41	ug/l	No
1,4-Dichlorobenzene	01/12/15	<0.36	<0.36	ug/l	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	01/12/15	<0.01	<0.01	ug/l	No
1,2-Dichloroethane	01/12/15	<0.35	<0.35	ug/l	No
1,1-Dichloroethylene (vinylidene chloride)	01/12/15	<0.33	<0.33	ug/l	No
Dichloromethane	01/12/15	<0.35	<0.35	ug/l	No
2-4 Dichlorophenol	01/12/15	<0.15	<0.15	ug/l	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	01/12/15	<0.19	<0.19	ug/l	No
Diclofop-methyl	01/12/15	<0.40	<0.40	ug/l	No
Dimethoate	01/12/15	<0.03	<0.03	ug/l	No
Dinoseb	01/12/15	<0.36	<0.36	ug/l	No
Diquat	01/12/15	<1	<1	ug/l	No
Diuron	01/12/15	<0.03	<0.03	ug/l	No
Glyphosate	01/12/15	<1	<1	ug/l	No

<b>Heptachlor + Heptachlor Epoxide</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Lindane (Total)</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Malathion</b>	01/12/15	<0.02	<0.02	ug/l	No
<b>Methoxychlor</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Metolachlor</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Metribuzin</b>	01/12/15	<0.02	<0.02	ug/l	No
<b>Monochlorobenzene</b>	01/12/15	<0.30	<0.30	ug/l	No
<b>Paraquat</b>	01/12/15	<1	<1	ug/l	No
<b>Parathion</b>	01/12/15	<0.02	<0.02	ug/l	No
<b>Pentachlorophenol</b>	01/12/15	<0.15	<0.15	ug/l	No
<b>Phorate</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Picloram</b>	01/12/15	<1	<1	ug/l	No
<b>Polychlorinated Biphenyls(PCB)</b>	01/12/15	<0.04	<0.04	ug/l	No
<b>Prometryne</b>	01/12/15	<0.03	<0.03	ug/l	No
<b>Simazine</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>THM – Distribution</b>  (NOTE: show latest annual average) <b>average –7.18 ug/l</b>	Jan 19/15 Apr 13/15 Jul 13/15 Oct 13/15			ug/l	No
<b>Temephos</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Terbufos</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Tetrachloroethylene</b>	01/12/15	<0.35	<0.35	ug/l	No
<b>2,3,4,6-Tetrachlorophenol</b>	01/12/15	<0.20	<0.20	ug/l	No
<b>Triallate</b>	01/12/15	<0.01	<0.01	ug/l	No
<b>Trichloroethylene</b>	01/12/15	<0.44	<0.44	ug/l	No
<b>2,4,6-Trichlorophenol</b>	01/12/15	< 0.25	<0.25	ug/l	No
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	01/12/15	<0.22	<0.22	ug/l	No
<b>Trifluralin</b>	01/12/15	<0.02	<0.02	ug/l	No
<b>Vinyl Chloride</b>	01/12/15	<0.17	<0.17	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
N/A			