



OPTIONAL ANNUAL REPORT

Drinking-Water System Number:	W260092014
Drinking-Water System Name:	Township of Russell Distribution
Drinking-Water System Owner:	Township of Russell
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 to December 31, 2016

<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"/> www.russell.ca</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;"> <p>Township of Russell Public Utilities 851 Route 400 and 717 Notre-Dame St. Embrun ON K0A 1W1</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">n/a</div></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"/> n/a</p> <p>Number of Interested Authorities you report to: <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">n/a</div></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"/> n/a</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 n/a



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

Owner and Operating Authority

The Township of Russell is the Owner and Operating Authority of a drinking Water System that includes:

- Four storage tanks (three elevated towers and one above ground reservoir);
- A distribution network and its associated appurtenances.

Water Source

Treated water is supplied by the City of Ottawa through a connection to its distribution system from Mitch Owens Road and Bank Street to Embrun Reservoir.

Existing Water Works - Distribution System

The water system for Township of Russell is currently a Class 2 distribution system and serves approximately 11,768 people.

Treated water is pumped from the City of Ottawa through a 450 mm feeder main to the Embrun Reservoir where chlorine and ammonia are added. From there it is pumped to the Embrun Tower and to the Russell Water tower and then to the Marionville booster pumping station and then pumped to the Marionville tower.

The distribution system consists of PVC and Polyethylene pipes ranging from 25 mm (1 inch) service connections to a 406 mm (16 inch) piping. Piping in the local distribution networks in the communities of Embrun, Russell and Marionville consist largely of 150 mm, 200 mm, 250 mm and 350 mm PVC pipes. The municipal distribution system also contains fire hydrants, standard service connections, gate valves, valve chambers, isolation and interconnection valves, blow-off points, drain valve chambers, and air release chambers.

Facilities:

- 450mm diameter connection to Russell Feedermain (from City of Ottawa) at Embrun Reservoir site;
- connection to Russell watermain (toward community of Russell) at Embrun Reservoir site;
- connection to Marionville watermain (replacement of modulating control valve by a pipe section, between Marionville Booster Station and Marionville, on MacDonald Road).
- Embrun Reservoir (re-chlorination facility)



List all water treatment chemicals used over this reporting period

Sodium hypochlorite, Ammonium Sulfate

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

CAPITAL EXPENDITURES

G.I.S.	\$10,000
Valve Replacement	\$25,000
Loop @ Forced rd	\$40,000 - budgeted
Seguin St Watermain Extension	\$165,000 - budgeted

OPERATIONAL EXPENDITURES

As of (2017-1-17)

Water meter costs	\$ 42,000.00
Fire Hydrants material	\$ 11,000.00
Fire Hydrant Services	\$ 4,000.00
Material and supplies	\$ 25,700.00
Chemicals	\$ 19,000.00
Services and rentals	<u>\$ 65,000.00</u>
TOTAL	\$166,700.00

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	AWQI	Result	Unit of Measure	Corrective Action	Corrective Action Date

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 #)
Distribution					
Embrun	156	0	0	156	0 – 97
Marionville	104	0	0	104	0 – 436
Russell	156	0	0	156	0 - 261

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	1,464	0.04 – 0.70
Chlorine - Combined	8,760	0.28 – 2.76
Fluoride (If the DWS provides fluoridation)	n/a	

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

*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	Result	Unit of Measure
	Alkalinity			
	Embrun	July 6, 2016	26	mg/L
	Embrun	July 6, 2016	26	mg/L
	Russell	July 6, 2016	24	mg/L
	Marionville	July 6, 2016	26	mg/L
	Alkalinity			
	Embrun	January 5, 2016	34	mg/L
	Russell	January 5, 2016	34	mg/L
	Russell	January 5, 2016	30	mg/L
	Marionville	January 5, 2016	33	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
Aluminum(Al)	July 4, 2016	0.06	mg/L	NO
Antimony(Sb)	July 4, 2016	<0.0005	mg/L	NO
Arsenic(As)	July 4, 2016	<0.001	mg/L	NO
Barium(Ba)	July 4, 2016	0.01	mg/L	NO
Boron(B)	July 4, 2016	<0.01	mg/L	NO
Cadmium(Cd)	July 4, 2016	<0.0001	mg/L	NO
Calcium(Ca)	July 4, 2016	7	mg/L	NO
Chromium(Cr)	July 4, 2016	<0.001	mg/L	NO
Copper(Cu)	July 4, 2016	<0.001	mg/L	NO
Iron(Fe)	July 4, 2016	<0.03	mg/L	NO
*Lead(Pb)	2015	<0.001	mg/L	NO
Magnesium	July 4, 2016	2	mg/L	NO
Manganese	July 4, 2016	<0.01	mg/L	NO
Mercury(Hg)	July 4, 2016	<0.0001	mg/L	NO
Selenium(Se)	July 4, 2016	<0.001	mg/L	NO
Sodium(Na)	July 28, 2014	20	mg/L	NO
Uranium(U)	July 4, 2016	<0.001	mg/L	NO
Zinc(Zn)	July 4, 2016	<0.01	mg/L	NO
Fluoride(F)	July 4, 2016	0.56	mg/L	NO
Nitrite : Reservoir Embrun Marionville Russell	Oct 17, 2016	<0.10	mg/L	NO
	Oct 17, 2016	<0.10	mg/L	NO
	Oct 17, 2016	0.26	mg/L	NO
	Oct 17, 2016	<0.10	mg/L	NO
Nitrate: Reservoir Embrun Marionville Russell	Oct 17, 2016	0.19	mg/L	NO
	Oct 17, 2016	0.18	mg/L	NO
	Oct 17, 2016	0.25	mg/L	NO
	Oct 17, 2016	0.18	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 (mg/L) (min#) – (max #)	Number of Exceedances

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Hardness as CaCO ₃	July 4, 2016	26	Mg/L	NO
Alachlor	July 4, 2016	<0.5	ug/L	NO
Aldicarb	July 4, 2016	<9	ug/L	NO
Aldrin + Dieldrin	July 4, 2016	<0.012	ug/L	NO
Atrazine + N-dealkylated metabolites	July 4, 2016	<0.2	ug/L	NO
Azinphos-methyl	July 4, 2016	<2.0	ug/L	NO
Bendiocarb	July 4, 2016	<2.0	ug/L	NO
Benzene	July 4, 2016	<0.5	ug/L	NO
Benzo(a)pyrene	July 4, 2016	<0.01	ug/L	NO
Bromoxynil	July 4, 2016	<0.5	ug/L	NO
Carbaryl	July 4, 2016	<5	ug/L	NO
Carbofuran	July 4, 2016	<5	ug/L	NO
Carbon Tetrachloride	July 4, 2016	<0.2	ug/L	NO
Chlordane (Total)	July 4, 2016	<0.018	ug/L	NO
Chlorpyrifos	July 4, 2016	<1.0	ug/L	NO
Cyanazine	July 6, 2015	<1.0	ug/L	NO
Diazinon	July 4, 2016	<1.0	ug/L	NO
Dicamba	July 4, 2016	<1.0	ug/L	NO
1,2-Dichlorobenzene	July 4, 2016	<0.4	ug/L	NO
1,4-Dichlorobenzene	July 4, 2016	<0.4	ug/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	July 4, 2016	<0.024	ug/L	NO
1,2-Dichloroethane	July 4, 2016	<0.2	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	July 4, 2016	<0.5	ug/L	NO
Dichloromethane	July 4, 2016	<4.0	ug/L	NO
2,4 Dichlorophenol	July 4, 2016	<0.5	ug/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	July 4, 2016	<5.0	ug/L	NO
Diclofop-methyl	July 4, 2016	<0.9	ug/L	NO
Dimethoate	July 4, 2016	<2.5	ug/L	NO
Dinoseb	July 6, 2015	<1.0	ug/L	NO
Diquat	July 4, 2016	<5	ug/L	NO
Diuron	July 4, 2016	<10	ug/L	NO
Glyphosate	July 4, 2016	<10	ug/L	NO
Heptachlor + Heptachlor Epoxide	July 6, 2015	<0.012	ug/L	NO
Lindane (Total)	July 6, 2015	<0.006	ug/L	NO
Malathion	July 4, 2016	<5.0	ug/L	NO
Methoxychlor	July 6, 2015	<0.006	ug/L	NO
2-Methyl-4-Chlorophenoxyacetic Acid (MCPA)	July 4, 2016	<10	ug/L	NO
Metolachlor	July 4, 2016	<1.0	ug/L	NO



Metribuzin	July 4, 2016	<5.0	ug/L	NO
Monochlorobenzene	July 4, 2016	<0.2	ug/L	NO
Paraquat	July 4, 2016	<1	ug/L	NO
Parathion	July 6, 2015	<1.0	ug/L	NO
Pentachlorophenol	July 4, 2016	<0.5	ug/L	NO
Phorate	July 4, 2016	<0.5	ug/L	NO
Picloram	July 4, 2016	<5.0	ug/L	NO
Polychlorinated Biphenyls(PCB)	July 4, 2016	<0.1	ug/L	NO
Prometryne	July 4, 2016	<0.25	ug/L	NO
Simazine	July 4, 2016	<1.0	ug/L	NO
SO ₄	July 4, 2016	20	mg/L	NO
THM (NOTE: show latest annual average)				
Embrun	Oct 17, 2016	34.3	ug/L	NO
Marionville	Oct 17, 2016	31.8	ug/L	NO
Russell	Oct 17, 2016	35.1	ug/L	NO
Temephos	July 6, 2015	<10	ug/L	NO
Terbufos	July 4, 2016	<0.4	ug/L	NO
Tetrachloroethylene	July 4, 2016	<0.3	ug/L	NO
2,3,4,6-Tetrachlorophenol	July 4, 2016	<0.5	ug/L	NO
Triallate	July 4, 2016	<1	ug/L	NO
Trichloroethylene	July 4, 2016	0.3	ug/L	NO
2,4,6-Trichlorophenol	July 4, 2016	<0.5	ug/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	July 6, 2015	<1.0	ug/L	NO
Trifluralin	July 4, 2016	<1.0	ug/L	NO
Vinyl Chloride	July 4, 2016	<0.2	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
Chloramine (combined)	Max Value: 2.76	mg/L	Jan - Dec
Sodium	20	Mg/L	July 28, 2014