



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, 2017

<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;"> Township of Russell Public Utilities 851 Route 400 and 717 Notre-Dame St. Embrun ON K0A 1W1 </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>
---	---

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 13,656 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

Looping of Watermain/Commercial Park Servicing	\$ 1,130,000
Valve Replacement	\$ 40,000
Forced Road Looping	\$ 200,000
Russell Water Tower Study	\$ 25,000
Water Meter Replacement Program	\$ 660,000
Radio Upgrade	\$ 25, 000

OPERATIONAL EXPENDITURES

As of (2018-1-30)

Water meter costs	\$ 15,000
Fire Hydrants Material	\$ 6,000
Fire Hydrant Services	\$ 3,000
Material and Supplies	\$ 58,000
Chemicals	\$ 19,000
Services and rentals	<u>\$ 65,000</u>
TOTAL	\$ 166,000

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	153	0 - 6
Marionville	104	0	0	102	0 – 313
Russell	156	0	0	153	0 – 203

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	1460	0.03 – 0.35
Chlorine - Combined	1878	0.35 – 2.77
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 4, 2017	32	mg/L
	Embrun	July 4, 2017	32	mg/L
	Russell	July 4, 2017	32	mg/L
	Marionville	July 4, 2017	28	mg/L



	Alkalinity			
	Embrun	January 9, 2017	33	mg/L
	Embrun	January 9, 2017	33	mg/L
	Russell	January 9, 2017	34	mg/L
	Marionville	January 9, 2017	34	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 24, 2017	0.03	mg/L	NO
Antimony(Sb)	July 4, 2017	<0.0005	mg/L	NO
Arsenic(As)	July 4, 2017	<0.001	mg/L	NO
Barium(Ba)	July 4, 2017	0.01	mg/L	NO
Boron(B)	July 4, 2017	<0.01	mg/L	NO
Cadmium(Cd)	July 4, 2017	<0.0001	mg/L	NO
Calcium(Ca)	July 24, 2017	13	mg/L	NO
Chromium(Cr)	July 4, 2017	<0.001	mg/L	NO
Copper(Cu)	July 24, 2017	<0.001	mg/L	NO
Iron(Fe)	July 24, 2017	<0.03	mg/L	NO
Magnesium	July 24, 2017	3	mg/L	NO
Manganese	July 24, 2017	<0.01	mg/L	NO
Mercury(Hg)	July 4, 2017	<0.0001	mg/L	NO
Selenium(Se)	July 4, 2017	<0.001	mg/L	NO
Sodium(Na)	July 28, 2014	20	mg/L	NO
Uranium(U)	July 4, 2017	<0.001	mg/L	NO
Zinc(Zn)	July 24, 2017	<0.01	mg/L	NO
Fluoride(F)	July 24, 2017	0.57	mg/L	NO
Nitrite :	Oct 2, 2017	<0.10	mg/L	NO
Reservoir	Oct 2, 2017	<0.10	mg/L	NO
Embrun	Oct 2, 2017	0.31	mg/L	NO
Marionville	Oct 2, 2017	<0.10	mg/L	NO
Russell	Oct 2, 2017	<0.10	mg/L	NO
Nitrate:	Oct 2, 2017	0.18	mg/L	NO
Reservoir	Oct 2, 2017	0.23	mg/L	NO
Embrun	Oct 2, 2017	0.23	mg/L	NO
Marionville	Oct 2, 2017	0.23	mg/L	NO
Russell	Oct 2, 2017	0.24	mg/L	NO

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
Conductivity	July 24, 2017	187	µS/cm	N/A
Total Dissolved Solids (TDS)	July 24, 2017	120	mg/L	N/A
Hardness as CaCO ₃	July 24, 2017	45	mg/L	NO
Total Kjeldahl Nitrogen	July 24, 2017	0.4	mg/L	NO
Alachlor	July 4, 2017	<0.5	µg/L	NO
Aldrin	July 4, 2017	<0.006	µg/L	NO
Atrazine + N-dealkylated metabolites	July 4, 2017	<0.2	µg/L	NO
Azinphos-methyl	July 4, 2017	<2.0	µg/L	NO
Bendiocarb	July 4, 2017	<2.0	µg/L	NO
Benzene	July 4, 2017	<0.5	µg/L	NO
Benzo(a)pyrene	July 4, 2017	<0.01	µg/L	NO
Bromoxynil	July 4, 2017	<0.5	µg/L	NO
Carbaryl	July 4, 2017	<5	µg/L	NO
Carbofuran	July 4, 2017	<5	µg/L	NO
Carbon Tetrachloride	July 4, 2017	<0.2	µg/L	NO
Chlordane (a)	July 4, 2017	<0.006	µg/L	NO
Chlordane (g)	July 4, 2017	<0.006	µg/L	NO
Chlordane (oxy)	July 4, 2017	<0.006	µg/L	NO
Chlorpyrifos	July 4, 2017	<1.0	µg/L	NO
De-Ethylated atrazine	July 4, 2017	<1.0	µg/L	NO
Diazinon	July 4, 2017	<1.0	µg/L	NO
Dieldrin	July 4, 2017	<0.006	µg/L	NO
Dicamba	July 4, 2017	<1.0	µg/L	NO
1,2-Dichlorobenzene	July 4, 2017	<0.4	µg/L	NO
1,4-Dichlorobenzene	July 4, 2017	<0.4	µg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	July 4, 2017	<0.024	µg/L	NO
1,2-Dichloroethane	July 4, 2017	<0.2	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	July 4, 2017	<0.5	µg/L	NO
Dichloromethane	July 4, 2017	<4.0	µg/L	NO
2-4 Dichlorophenol	July 4, 2017	<0.5	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	July 4, 2017	<1.0	µg/L	NO
Diclofop-methyl	July 4, 2017	<0.9	µg/L	NO
Dimethoate	July 4, 2017	<2.5	µg/L	NO
Diquat	July 4, 2017	<5	µg/L	NO
Diuron	July 4, 2017	<10	µg/L	NO
Glyphosate	July 4, 2017	<10	µg/L	NO
Haloacetic Acids (Running Average)	Oct 2, 2017	42.5	µg/L	NO
Malathion	July 4, 2017	<5.0	µg/L	NO



2-Methyl-4-chlorophenoxyacetic acid (MCPA)	July 4, 2017	<10.0	µg/L	NO
Metolachlor	July 4, 2017	<1.0	µg/L	NO
Metribuzin	July 4, 2017	<5.0	µg/L	NO
Monochlorobenzene	July 4, 2017	<0.2	µg/L	NO
Paraquat	July 4, 2017	<1	µg/L	NO
Pentachlorophenol	July 4, 2017	<0.5	µg/L	NO
Phorate	July 4, 2017	<0.5	µg/L	NO
Picloram	July 4, 2017	<5.0	µg/L	NO
Polychlorinated Biphenyls(PCB)	July 4, 2017	<0.1	µg/L	NO
Prometryne	July 4, 2017	<0.25	µg/L	NO
Simazine	July 4, 2017	<1.0	µg/L	NO
SO ₄	July 24, 2017	33	mg/L	NO
THM (NOTE: show latest annual average)				
Embrun	Oct 2, 2017	41.1	µg/L	NO
Marionville	Oct 2, 2017	37.1	µg/L	NO
Russell	Oct 2, 2017	41.6	µg/L	NO
Terbufos	July 4, 2017	<0.4	µg/L	NO
Tetrachloroethylene	July 4, 2017	<0.3	µg/L	NO
2,3,4,6-Tetrachlorophenol	July 4, 2017	<0.5	µg/L	NO
Triallate	July 4, 2017	<1	µg/L	NO
Trichloroethylene	July 4, 2017	0.3	µg/L	NO
2,4,6-Trichlorophenol	July 4, 2017	<0.5	µg/L	NO
Trifluralin	July 4, 2017	<1.0	µg/L	NO
Vinyl Chloride	July 4, 2017	<0.2	µg/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: 2.77	mg/L	Jan - Dec