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February 23, 2018

Municipality of West Grey
402813 Grey Road 4
RR#2
Durham, ON
N0G 1R0

Attention: Brent Glasier, Director of Infrastructure and Public Works

**RE: Neustadt Drinking Water System
2017 Annual Report**

Brent,

Please find attached the 2017 Annual Operations Report for the Neustadt Drinking Water System, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

Finally, as per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2018.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

AMERICAN WATER CANADA CORP.

Greg Prangley
Project Manager, Canadian Contract Services Group

2017 ANNUAL REPORT FOR WATER SYSTEMS

Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

Drinking-Water System Number:	220002147
Drinking-Water System Name:	Neustadt Drinking Water System
Drinking-Water System Owner:	Municipality of West Grey
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2017

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories	
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served:	n/a
Is your annual report available to the public at no charge on a web site on the Internet? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. Municipality of West Grey Grey Road #4 Durham, ON N0G 1R0	Number of Designated Facilities served:	n/a
	Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> No	

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?

n/a

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

<input type="checkbox"/> Public access/notice via the web	<input checked="" type="checkbox"/> Public access/notice via Government Office	<input type="checkbox"/> Public access/notice via a newspaper
<input type="checkbox"/> Public access/notice via Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input checked="" type="checkbox"/> Public access/notice via other method
INCLUDED WITH TAX NOTICE		

Describe your Drinking Water System

<p>Three GUDI wells: Well No. 2 with a submersible pump capable of delivering 10.6 L/s; Well No. 3 with a submersible pump capable of delivering 6.1 L/s; and Well No. 1 with a submersible pump capable of delivering 3.2 L/s. Pumping station No. 2 transfers flow monitored raw water from Well No. 2 and Well No. 3 (each well with online turbidity meters) to Well No. 1 pumphouse. Well No. 1 pumphouse contains the treatment equipment, including, but not limited to, flow meters, sodium hypochlorite disinfection system (primary disinfection), UV disinfection system, cartridge filters, online chlorine and</p>

turbidity analyzers, low level alarms and auto dialer.

There is a water tower with a volume of 1200m³. It is equipped with an on-line chlorine analyzer. Post chlorinators are in place to booster chlorine levels leaving the tower, if required.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite 12%

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

No significant expenses in 2017

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	Units	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 Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw Well #1	52	0	0	n/a	n/a
Raw Well #2	52	0	0	n/a	n/a
Raw Well #3	52	0-1	0-1	n/a	n/a
Treated (POE)	52	0	0	52	0-1
Distribution	104	0	0	52	0-1

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 #)	Units
Turbidity - Treated	4860	0.03-4.71*	NTU
Chlorine-Treated	4860	0.80-1.43	mg/L
Chlorine - Distribution	417	0.61-1.17	mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA	

* High POE (Treated) turbidity events did not exceed regulations for duration (>15min)

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	Range of Results	Unit of Measure
December 1, 2009	UV transmittance	2017 (monthly)	98.0-100.0	% transmittance

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

Parameter	Sample Date	Result Value POE	Distribution	Unit of Measure	Exceedance
Antimony	Aug 14/17	ND	-	mg/L	NO
Arsenic	Aug 14/17	0.003	-	mg/L	NO
Barium	Aug 14/17	0.12	-	mg/L	NO
Boron	Aug 14/17	0.022	-	mg/L	NO
Cadmium	Aug 14/17	ND	-	mg/L	NO
Chromium	Aug 14/17	ND	-	mg/L	NO
Lead-see results below					
Mercury	Aug 14/17	ND	-	mg/L	NO
Selenium	Aug 14/17	ND	-	mg/L	NO
Sodium	Aug 14/17	5.4	-	mg/L	NO
Uranium	Aug 14/17	0.00041	-	mg/L	NO
Fluoride	Aug. 15/16	0.73	-	mg/L	NO
Nitrite	Feb 6/17	<0.01	-	mg/L	NO
Nitrate	Feb 6/17	<0.1	-	mg/L	NO
Nitrite	May 8/17	<0.01	-	mg/L	NO
Nitrate	May 8/17	<0.1	-	mg/L	NO
Nitrite	Aug 14/17	<0.01	-	mg/L	NO
Nitrate	Aug 14/17	<0.1	-	mg/L	NO
Nitrite	Nov 6/17	<0.01	-	mg/L	NO
Nitrate	Nov 6/17	<0.1	-	mg/L	NO

Summary of Lead Results during this reporting period (Winter: Dec. 15/16-April 15/17; Summer: June 15-Oct. 15/17)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations (µg/L)	Distribution System (µg/L)	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	ND (1)	NO
Summer	n/a	n/a	ND (1)	NO

As per O. Reg 170/03 Schedule 15.1-5, residential lead sampling is no longer required

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Aug 14/17	ND	µg/L	NO
Atrazine + N-dealkylated metabolites	Aug 14/17	ND	µg/L	NO
Azinphos-methyl	Aug 14/17	ND	µg/L	NO
Benzene	Aug 14/17	ND	µg/L	NO
Benzo(a)pyrene	Aug 14/17	ND	µg/L	NO
Bromoxynil	Aug 14/17	ND	µg/L	NO
Carbaryl	Aug 14/17	ND	µg/L	NO

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

Carbofuran	Aug 14/17	ND	µg/L	NO
Carbon Tetrachloride	Aug 14/17	ND	µg/L	NO
Chlorpyrifos	Aug 14/17	ND	µg/L	NO
Diazinon	Aug 14/17	ND	µg/L	NO
Dicamba	Aug 14/17	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 14/17	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 14/17	ND	µg/L	NO
1,2-Dichloroethane	Aug 14/17	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 14/17	ND	µg/L	NO
Dichloromethane	Aug 14/17	ND	µg/L	NO
2-4 Dichlorophenol	Aug 14/17	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 14/17	ND	µg/L	NO
Diclofop-methyl	Aug 14/17	ND	µg/L	NO
Dimethoate	Aug 14/17	ND	µg/L	NO
Diquat	Aug 14/17	ND	µg/L	NO
Diuron	Aug 14/17	ND	µg/L	NO
Glyphosate	Aug 14/17	ND	µg/L	NO
Malathion	Aug 14/17	ND	µg/L	NO
MCPA	Aug 14/17			
Metolachlor	Aug 14/17	ND	µg/L	NO
Metribuzin	Aug 14/17	ND	µg/L	NO
(Mono)chlorobenzene	Aug 14/17	ND	µg/L	NO
Paraquat	Aug 14/17	ND	µg/L	NO
Pentachlorophenol	Aug 14/17	ND	µg/L	NO
Phorate	Aug 14/17	ND	µg/L	NO
Picloram	Aug 14/17	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 14/17	ND	µg/L	NO
Prometryne	Aug 14/17	ND	µg/L	NO
Simazine	Aug 14/17	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 - Q4 2017	11.6	µg/L	NO
Terbufos	Aug 14/17	ND	µg/L	NO
Tetrachloroethylene	Aug 14/17	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 14/17	ND	µg/L	NO
Triallate	Aug 14/17	ND	µg/L	NO
Trichloroethylene	Aug 14/17	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 14/17	ND	µg/L	NO
Trifluralin	Aug 14/17	ND	µg/L	NO
Vinyl Chloride	Aug 14/17	ND	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	Sample Date	Result Value	Unit of Measure	ODWS Criteria
None				

Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

Non-Compliance with Legislations, Regulations, Approvals & Orders

During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:

There were no non-compliances in 2017

System Capability Assessment								
Comparison of Flow Rates (m ³ /d):								
Month	Average Flow	Maximum Flow	Well 1 Avg Flow	Well 1 Max Flow	Well 2 Avg Flow	Well 2 Max Flow	Well 3 Avg Flow	Well 3 Max Flow
January	98.2	129	20.6	49.9	51.0	133	39.4	97.6
February	99.5	116	18.1	44.8	58.9	130	34.8	85.7
March	106	429	15.6	53.3	73.9	358	29.9	98.1
April	104	150	18.0	43.1	63.3	168	35.4	84.9
May	105	155	16.4	50.3	70.9	173	31.4	97.3
June	130	283	20.2	55.4	87.9	318	38.9	108
July	129	232	25.2	61.4	72.6	245	48.5	122
August	117	196	19.6	53.3	76.7	222	36.3	106
September	112	169	17.9	66.7	75.9	157	32.9	125
October	115	152	22.2	59.5	64.9	148	42.6	115
November	108	133	23.7	52.6	54.9	151	44.6	91.2
December	112	134	21.3	51.6	65.4	153	40.6	102
AVERAGE	111.3		20.0		68.1		38.0	
MAXIMUM	-	429	-	61.4	-	358	-	125
SYSTEM (PTTW) CAPACITY	916	916		276		916		527
% CAPACITY	12.2%	46.8%		24.2%		39.1%		23.7%

*Due to rounding, the sum of the monthly well average totals may not equal the total average flow