



February 24, 2025
Municipality of West Grey
402813 Grey Road 4
RR#2
Durham, ON
NOG 1R0

Attention: Geoff Aitken, Manager of Public Works

**RE: Neustadt Drinking Water System
2024 Annual and Summary Reports**

Geoff,

Please find attached the 2024 Annual and Summary Reports 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, 2024 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, 2024.

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

Sincerely,

Scott Gowan - Project Manager

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 Municipality Residential
Period being reported:	January 1 - December 31, 2024

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 website on the Internet? <input checked="" type="checkbox"/> Yes <input 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 402813 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 checked="" 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 the Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via other method

Describe your Drinking Water System

Three GUDI wells: Well No. 2 with a capacity of delivering 10.6 L/s (well pump does not meet that capacity); 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 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. During the 2024 year, it was not 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

Work was completed to set up a temporary tanker system while planned upgrades to the Water Tower took place.
 Major Rehabilitation Work was completed on the Water Tower, including interior and exterior coating, as well as lightning and corrosion protection.
 A new Turbidity Analyzer was installed at Well house #1

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	Corrective Action	Corrective Action Date
May 16, 2024	Online Chlorine Analyzer	Loss of Communication	A blown fuse caused the loss of communication to the Online Chlorine Analyzer. Over the period of 1.5 hours, an Operator monitored the chlorine residual as repairs were being made. Once communication was reestablished, chlorine levels were monitored and everything returned to normal.	May 16, 2024

Microbiological testing done under the Schedule 10, 11, 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	53	0 - 0	0 - 0	n/a	n/a
Raw Well #2	53	0 - 0	0 - 12	n/a	n/a
Raw Well #3	53	0 - 0	0 - 0	n/a	n/a
Treated POE	53	0 - 0	0 - 0	53	<10 - 20
Distribution	106	0 - 0	0 - 0	53	<10 - 20

Operational testing under Schedule 7, 8, or 9 of Regulation 170/03 during the period covered			
	Number of Grab Samples	Range of Results (min #) - (max #)	Units
Turbidity - Treated	8760*	0.01 - 5.0**	NTU
Chlorine - Treated	8760*	0.70 - 2.00*** A max of 2.00 occurs due to a chlorine spike when the well starts. The max the SCADA will record is 2.00 mg/L.	mg/L
Chlorine - Distribution	418	0.93 - 1.55	mg/L
Fluoride (if DWS provided fluoridation)	n/a	n/a	n/a

* For continuous monitors use 8760 as the number of samples
 **high turbidity incidents were either too short to be reportable (<15min) or occurred when system was off
 ***Minimum Chlorine residual required to meet CT is 0.20 mg/l

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	Units of Measure
December 1, 2009	UV Transmittance	2024 (monthly)	98.0-99.0	% Transmittance

Summary of Inorganic parameters tested during this reporting period or the most recent sample results					
Parameter	Sample Date	Result	Distribution	Unit of Measure	Exceedance
Alkalinity	Mar. 25, 2024 Sept. 3, 2024	-	266 266	mg/L	No

Antimony	Aug. 12, 2024	<0.6	-	µg/L	No
Arsenic	Aug. 12, 2024	1.3	-	µg/L	No
Barium	Aug. 12, 2024	88.7	-	µg/L	No
Boron	Aug. 12, 2024	26	-	µg/L	No
Cadmium	Aug. 12, 2024	0.062	-	µg/L	No
Chromium	Aug. 12, 2024	0.19	-	µg/L	No
Lead-see summary below					
Mercury	Aug. 12, 2024	<0.01	-	µg/L	No
Selenium	Aug. 12, 2024	<0.04	-	µg/L	No
Sodium	Aug. 4, 2020	5.3	-	mg/L	No
Uranium	Aug. 14, 2023	0.206	-	µg/L	No
Fluoride	Aug. 30, 2021	1.08	-	mg/L	No
Nitrite	Feb. 12, 2024 May 13, 2024 Aug. 5, 2024 Nov. 4, 2024	<0.003 <0.003 <0.003 <0.003	-	mg/L	No
Nitrate	Feb. 12, 2024 May 13, 2024 Aug. 5, 2024 Nov. 4, 2024	<0.006 <0.006 0.009 <0.006	-	mg/L	No

Summary of Lead Results during this reporting period (Winter: Dec. 15/21 - Apr. 15/22;
Summer: June 15/22- Oct. 15/22)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples Taken)	Distribution Locations	Distribution System	Any Adverse Water Quality Incidents?
Winter April 11, 2022	n/a	Firehall	0.14	No
Summer October 3, 2022	n/a	Firehall	0.24	No

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

Parameter	Sample Date	Result	Unit of Measure	Exceedance
Alachlor	Aug. 12, 2024	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	Aug. 12, 2024	<0.01	µg/L	No
Azinphos-methyl	Aug. 12, 2024	<0.05	µg/L	No
Benzene	Aug. 12, 2024	<0.32	µg/L	No
Benzo(a)pyrene	Aug. 12, 2024	<0.004	µg/L	No
Bromoxynil	Aug. 12, 2024	<0.33	µg/L	No
Carbaryl	Aug. 12, 2024	<0.05	µg/L	No
Carbofuran	Aug. 12, 2024	<0.01	µg/L	No
Carbon Tetrachloride	Aug. 12, 2024	<0.17	µg/L	No
Chlorpyrifos	Aug. 12, 2024	<0.02	µg/L	No
Diazinon	Aug. 12, 2024	<0.02	µg/L	No
Dicamba	Aug. 12, 2024	<0.20	µg/L	No
1,2-Dichlorobenzene	Aug. 12, 2024	<0.41	µg/L	No
1,4-Dichlorobenzene	Aug. 12, 2024	<0.36	µg/L	No
1,2-Dichloroethane	Aug. 12, 2024	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Aug. 12, 2024	<0.33	µg/L	No
Dichloromethane	Aug. 12, 2024	<0.35	µg/L	No
2-4 Dichlorophenol	Aug. 12, 2024	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug. 12, 2024	<0.19	µg/L	No
Diclofop-methyl	Aug. 12, 2024	<0.40	µg/L	No
Dimethoate	Aug. 12, 2024	<0.06	µg/L	No
Diquat	Aug. 12, 2024	<1.00	µg/L	No
Diuron	Aug. 12, 2024	<0.03	µg/L	No
Glyphosate	Aug. 12, 2024	<1.00	µg/L	No
HAA	Feb. 12, 2024 May 13, 2024 Aug. 5, 2024	<5.3 <5.3 <5.3	µg/L	No

	Nov. 4, 2024	<5.3		
Malathion	Aug. 12, 2024	<0.02	µg/L	No
MCPA	Aug. 12, 2024	<0.00012	µg/L	No
Metolachlor	Aug. 12, 2024	<0.01	µg/L	No
Metribuzin	Aug. 12, 2024	<0.02	µg/L	No
Monochlorobenzene	Aug. 12, 2024	<0.30	µg/L	No
Paraquat	Aug. 12, 2024	<1.00	µg/L	No
Pentachlorophenol	Aug. 12, 2024	<0.15	µg/L	No
Phorate	Aug. 12, 2024	<0.01	µg/L	No
Picloram	Aug. 12, 2024	<1.00	µg/L	No
Polychlorinated Biphenyls(PCB)	Aug. 12, 2024	<0.04	µg/L	No
Prometryne	Aug. 12, 2024	<0.03	µg/L	No
Simazine	Aug. 12, 2024	<0.01	µg/L	No
THM (NOTE: show latest annual average)	2024 Average	8.75 (distribution)	µg/L	No
Terbufos	Aug. 12, 2024	<0.01	µg/L	No
Tetrachloroethylene	Aug. 12, 2024	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	Aug. 12, 2024	<0.20	µg/L	No
Triallate	Aug. 12, 2024	<0.01	µg/L	No
Trichloroethylene	Aug. 12, 2024	<0.44	µg/L	No
2,4,6-Trichlorophenol	Aug. 12, 2024	<0.25	µg/L	No
Trifluralin	Aug. 12, 2024	<0.02	µg/L	No
Vinyl Chloride	Aug. 12, 2024	<0.17	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
n/a				

Part 2 - SUMMARY REPORT (as required by O. Reg 170/03, Section 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:

No non-compliances in 2024 were reported.

Permit to Take Water (PTTW) Flow Comparison

Well #1 Raw Water Flow				Well #2 Raw Water Flow			
Month	Raw Water Flow			Month	Raw Water Flow		
	Average	Maximum	Monthly		Average	Maximum	Monthly
	Daily	Daily	Total		Daily	Daily	Total
	m3	m3	m3		m3	m3	m3
Jan '24	24.3	78.4	752	Jan '24	67.3	151.4	2,086
Feb '24	26.1	55.2	756	Feb '24	59.5	152.0	1,725
Mar '24	20.6	62.8	638	Mar '24	73.0	177.3	2,264
Apr '24	24.1	69.9	724	Apr '24	62.5	189.0	1,875
May '24	111.1	196.5	3,444	May '24	3.4	50.6	104
Jun '24	141.2	180.7	4,236	Jun '24	0.5	8.3	16
Jul '24	132.6	153.0	4,112	Jul '24	0.6	5.4	20
Aug '24	135.1	155.2	4,188	Aug '24	0.2	2.1	7
Sep '24	59.1	172.0	1,773	Sep '24	130.5	726.2	3,915
Oct '24	29.6	83.0	917	Oct '24	77.7	401.1	2,410
Nov '24	24.1	69.8	723	Nov '24	70.1	155.7	2,103
Dec '24	23.2	52.7	718	Dec '24	64.9	152.8	1,947
Annual Summary				Annual Summary			
Average	62.8			Average	50.6		
Maximum		196.5		Maximum		726.2	
Total			22,980	Total			18,472
PTTW Capacity	276	276		PTTW Capacity	916	916	
%Capacity	22.8	71.2		%Capacity	5.5	79.3	

Well #3 Raw Water Flow				Combined Raw Water Flow			
Month	Raw Water Flow			Month	Combined Raw Water Flow		
	Average	Maximum	Monthly		Average	Maximum	Monthly
	Daily	Daily	Total		Daily	Daily	Total
	m3	m3	m3		m3	m3	m3
Jan '24	39.4	144.2	1,220	Jan '24	130.9	222.6	4,059
Feb '24	44.8	112.5	1,299	Feb '24	130.3	162.5	3,780
Mar '24	34.8	106.3	1,080	Mar '24	128.4	177.3	3,982
Apr '24	35.2	107.0	1,057	Apr '24	121.8	189.0	3,655
May '24	0.4	3.6	11	May '24	114.8	196.5	3,560
Jun '24	0.4	3.3	11	Jun '24	142.1	180.7	4,263
Jul '24	0.3	2.9	10	Jul '24	133.6	156.8	4,141
Aug '24	0.3	2.5	8	Aug '24	135.6	155.2	4,203
Sep '24	26.7	290.9	801	Sep '24	216.3	796.0	6,490
Oct '24	50.6	142.2	1,569	Oct '24	157.9	401.1	4,896
Nov '24	41.5	119.6	1,244	Nov '24	135.6	189.3	4,069
Dec '24	41.9	99.3	1,300	Dec '24	132.2	152.8	3,965
Annual Summary				Annual Summary			
Average	26.3			Average	139.9		
Maximum		290.9		Maximum		796.0	
Total			9,609	Total			51,061
PTTW Capacity	527	527		PTTW Capacity	1719	1719	
%Capacity	4.4	55.2		%Capacity	8.1	46.3	

Municipal Drinking Water Licence (MDWL) Flow Comparison

Month	Treated Water Flow		
	Average	Maximum	Monthly
	Daily	Daily	Total
	m3	m3	m3
Jan '24	109.8	189.8	3,404
Feb '24	108.0	127.7	3,132
Mar '24	107.8	147.1	3,343
Apr '24	102.6	170.0	3,077
May '24	106.2	184.1	3,293
Jun '24	131.0	170.9	3,929
Jul '24	125.0	145.1	3,874
Aug '24	127.9	147.0	3,965
Sep '24	191.8	662.3	5,753
Oct '24	134.2	339.2	4,159
Nov '24	113.4	160.7	3,402
Dec '24	109.1	127.7	3,381
Annual Summary			
Average	122.2		
Maximum		662.3	
Total			44,712
Rated Capacity	916	916	
%Capacity	13.3	72.3	

Treated Peak Flow Outliers

September 5/6/7 - Due to the Tower being filled after upgrades were completed, the peak flows on these days were **501.2m³**, **662.3m³**, **529.8m³**, respectively.

September 18 - Due to switching from the temporary tanker system back to regular Tower operation, the peak flow on this day was **446.0m³**.

With these four outliers removed, the maximum peak flow for September was **282.1m³**, and the annual peak flow for 2024 was **339.2m³** which is **37.0%** of the total capacity.