

DWCo. LTD

Dufferin Water Co. LTD
13 Rose Ridge Lane
Mono On
L9W 5Y3
Phone 519 942 5695 Fax 519 940 3956

Mansfield Water System

Large Municipal Residential Drinking Water System

Schedule 22

Summary Report

For the Period:
January 01, 2018 to December 31, 2018

Prepared for the Township of Mulmur
By Dufferin Water Co. Ltd

Introduction

Schedule 22 of O. Reg 170/03 requires the preparation by the water system owner of a "Summary Report for Municipalities." This requirement only applies to large and small municipal residential systems. The Mansfield Water System is classified as a Large Municipal Residential Drinking Water System.

The Summary Report for the preceding year is to be issued by March 31 of the following year. This report was prepared by Dufferin Water Co. Ltd on behalf of the Township of Mulmur.

Distribution of the Summary Report is the responsibility of the owner. For a municipality that owns the water supply, all members of council are to receive the report. If the water system is owned by a municipal service board established under Section 195 of the Municipal Act, 2001 then all members of that board are to receive the report. Finally, if a water supply provides water to another municipality under contract, then the water supply owner shall, give by March 31 a copy of the Summary Report to the Municipality being supplied.

The contents of the Summary Report for the municipality must include the following:

1. A list of the requirements of the Safe Drinking Water Act and its regulations that the water system failed to meet during the reporting period, including the duration of the failure.
2. A list of the requirements of the water system's Certificate of Approval that the water system failed to meet during the report period, including the duration of the failure.
3. A list of any Orders that the water system failed to meet during the report time frame, including the duration of the failure.
4. For each of the above failures, a description of the measures taken to correct the failure.
5. A summary of the quantities and flow rates of water supplied "including monthly average, maximum daily flows, and daily instantaneous peak flow rates." (*Information is to enable the owner to assess the capability of the water system to meet existing and future demand*).
6. A statement that captures the comparison of the flow information to the rated capacity and flow rates stated in the water supply's approval.

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Issues of Non-Compliance

The following table lists the requirements of the Act, Regulations, System Approval (s) and any order that the system failed to meet at any time during the reporting period and measures taken to correct each failure:

Drinking Water Legislation	Requirements the system failed to meet	Duration	Corrective Action(s)	Status
Not Applicable				

Assessment of System Flows and Rates of Water Taking

The following tables list the quantities and flow rates of the water supplied during this reporting period, including monthly average and maximum daily flows, daily instantaneous peak flow rates and a comparison to the rated capacity and flow rates specified in the system approval:

Well Number One

Approved Daily Volume: 326.88 cubic metres
Approved Flow Rate: 227 litres/minute

Month	Average Daily Volume (m ³)	Percent Of Approved Volume	Maximum Daily Volume (m ³)	Percent Of Approved Volume
January	56	17%	124	38%
February	2	0%	42	13%
March	0	0%	0	0%
April	0	0%	0	0%
May	68	21%	241	74%
June	157	48%	196	60%
July	92	28%	200	61%
August	65	20%	114	35%
September	65	20%	101	31%
October	58	18%	84	26%
November	55	17%	77	24%
December	61	19%	87	27%

Flow control is in the form of a pressure reducing valve that is equipped to open and close when the well pump is energized. The valve limits the flow of water from the well and prevents the pump from exceeding the permitted flow rates. Average flow rate when this well is operating is 204 litres per minute.

Well Number Two

Approved Daily Volume: 262.08 cubic metres

Approved Flow Rate: 182 litres/minute

Month	Average Daily Volume (m ³)	Percent Of Approved Volume	Maximum Daily Volume (m ³)	Percent Of Approved Volume
January	25	9%	72	27%
February	50	19%	90	34%
March	78	30%	97	37%
April	71	27%	94	36%
May	56	21%	94	36%
June	39	15%	53	20%
July	24	9%	54	21%
August	17	7%	30	11%
September	18	7%	25	10%
October	17	6%	24	9%
November	16	6%	22	8%
December	18	7%	26	10%

Flow control is in the form of a pressure reducing valve that is equipped to open and close when the well pump is energized. The valve limits the flow of water from the well and prevents the pump from exceeding the permitted flow rates. Average flow rate when this well is operating is 108 litres per minute

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Well Number Three

Approved Daily Volume: 362.88 cubic metres
Approved Flow Rate: 252 litres/minute

Month	Average Daily Volume (m ³)	Percent Of Approved Volume	Maximum Daily Volume (m ³)	Percent Of Approved Volume
January	28	8%	67	18%
February	46	13%	101	28%
March	30	8%	90	25%
April	61	17%	180	50%
May	70	19%	281	77%
June	20	5%	60	17%
July	12	3%	54	15%
August	3	1%	13	4%
September	1	0%	7	2%
October	1	0%	25	7%
November	0	0%	0	0%
December	0	0%	0	0%

Flow control is in the form of a pressure reducing valve that is equipped to open and close when the well pump is energized. The valve limits the flow of water from the well and prevents the pump from exceeding the permitted flow rates. Average flow rate when this well is operating is 246 litres per minute

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Distributed Water

Approved Daily Volume: 951.8 cubic metres

Approved Flow Rate: 661 Litres per minute

Month	Average Daily Volume (m ³)	Percent Of Approved Volume	Maximum Daily Volume (m ³)	Percent Of Approved Volume
January	129	14%	214	22%
February	123	13%	157	16%
March	129	14%	177	19%
April	160	17%	214	22%
May	207	22%	513	54%
June	236	25%	303	32%
July	150	16%	319	34%
August	109	12%	163	17%
September	110	12%	138	14%
October	100	10%	136	14%
November	97	10%	122	13%
December	102	11%	136	14%

Flow control is in the form of a pressure reducing valve located on the discharge side of each pressure pump. These valves limit the flow of treated water and prevents the distribution flow rate from exceeding the permitted flow rates. Average flow rate when pumps are operating is 330 litres per minute.

Drinking-Water Systems Regulation O. Reg. 170/03

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:
Drinking-Water System Name:
Drinking-Water System Owner:
Drinking-Water System Category:
Period being reported:

260063661
Mansfield Well Supply
Township of Mulmur
Large Municipal Residential
January 01, 2018 to December 31, 2018

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Report is available for inspection at the municipal office in Terra Nova

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []

Number of Interested Authorities you report to:

N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []

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

Drinking-Water Systems Regulation O. Reg. 170/03

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: Notices are posted at the Post Office and the Municipal Office

Describe your Drinking-Water System

The Mansfield Water System is classified as a Large Municipal Residential Water System that currently serves approximately 140 homes. The system is owned by the Township of Mulmur and operated by Dufferin Water Co. Ltd. Water is supplied via three municipal wells, a standpipe and a pumphouse. Inspection, maintenance and sampling are conducted on a regular basis in accordance with Ontario Regulation 170/03 to ensure the safety of the water supply

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite (12% solution – NSF Foodgrade)

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

Re-sleeve Well#1 and replace submersible +/- \$15,000

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	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A					

Drinking-Water Systems Regulation O. Reg. 170/03

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 #)
Raw	142	0	0	0	n.a.
Treated	52	0	0	52	0 - 2
Distribution	115	0	0	52	0 - 7

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 (raw)	36	0.09 to 0.91 NTU
Chlorine – Pumphouse	8760	0.53 to 2.51
Chlorine Distribution Grab	429	0.79 to 1.88
Fluoride (If the DWS provides fluoridation)	N/A	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

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	May 23/18	ND	mg/L	No
Arsenic	May 23/18	ND	mg/L	No
Barium	May 23/18	0.0082	mg/L	No
Boron	May 23/18	0.036	mg/L	No
Cadmium	May 23/18	ND	mg/L	No
Chromium	May 23/18	ND	mg/L	No
Lead	Oct 15/18	ND	mg/L	No
Mercury	May 23/18	ND	mg/L	No
Selenium	May 23/18	ND	mg/L	No
Sodium	May 23/18	15	mg/L	No

Drinking-Water Systems Regulation O. Reg. 170/03

Uranium	May 23/18	ND	mg/L	No
Fluoride	May 23/18	0.1	mg/L	No
Nitrite	Dec 13/18	ND	mg/L	No
Nitrate	Dec 13/18	2.04	mg/L	No

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	May 23/18	ND	ug/L	No
Aldicarb	May 23/18	ND	ug/L	No
Aldrin + Dieldrin	May 23/18	ND	ug/L	No
Atrazine + N-dealkylated metabolites	May 23/18	ND	ug/L	No
Azinphos-methyl	May 23/18	ND	ug/L	No
Bendiocarb	May 23/18	ND	ug/L	No
Benzene	May 23/18	ND	ug/L	No
Benzo(a)pyrene	May 23/18	ND	ug/L	No
Bromoxynil	May 23/18	ND	ug/L	No
Carbaryl	May 23/18	ND	ug/L	No
Carbofuran	May 23/18	ND	ug/L	No
Carbon Tetrachloride	May 23/18	ND	ug/L	No
Chlordane (Total)	May 23/18	ND	ug/L	No
Chlorpyrifos	May 23/18	ND	ug/L	No
Cyanazine	May 23/18	ND	ug/L	No
Diazinon	May 23/18	ND	ug/L	No
Dicamba	May 23/18	ND	ug/L	No
1,2-Dichlorobenzene	May 23/18	ND	ug/L	No
1,4-Dichlorobenzene	May 23/18	ND	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	May 23/18	ND	ug/L	No
1,2-Dichloroethane	May 23/18	ND	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	May 23/18	ND	ug/L	No
Dichloromethane	May 23/18	ND	ug/L	No
2-4 Dichlorophenol	May 23/18	ND	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 23/18	ND	ug/L	No
Diclofop-methyl	May 23/18	ND	ug/L	No
Dimethoate	May 23/18	ND	ug/L	No
Dinoseb	May 23/18	ND	ug/L	No
Diquat	May 23/18	ND	ug/L	No
Diuron	May 23/18	ND	ug/L	No
Glyphosate	May 23/18	ND	ug/L	No
HAAs	2018	ND	ug/L	No
Heptachlor + Heptachlor Epoxide	May 23/18	ND	ug/L	No
Lindane (Total)	May 23/18	ND	ug/L	No

Drinking-Water Systems Regulation O. Reg. 170/03

Malathion	May 23/18	ND	ug/L	No
MCPA	May 23/18	ND	ug/L	No
Methoxychlor	May 23/18	ND	ug/L	No
Metolachlor	May 23/18	ND	ug/L	No
Metribuzin	May 23/18	ND	ug/L	No
Monochlorobenzene	May 23/18	ND	ug/L	No
Paraquat	May 23/18	ND	ug/L	No
Parathion	May 23/18	ND	ug/L	No
Pentachlorophenol	May 23/18	ND	ug/L	No
Phorate	May 23/18	ND	ug/L	No
Picloram	May 23/18	ND	ug/L	No
Polychlorinated Biphenyls(PCB)	May 23/18	ND	ug/L	No
Prometryne	May 23/18	ND	ug/L	No
Simazine	May 23/18	ND	ug/L	No
THM (NOTE: show latest annual average)	2018	11.3	ug/L	No
Temephos	May 23/18	ND	ug/L	No
Terbufos	May 23/18	ND	ug/L	No
Tetrachloroethylene	May 23/18	ND	ug/L	No
2,3,4,6-Tetrachlorophenol	May 23/18	ND	ug/L	No
Triallate	May 23/18	ND	ug/L	No
Trichloroethylene	May 23/18	ND	ug/L	No
2,4,6-Trichlorophenol	May 23/18	ND	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May 23/18	ND	ug/L	No
Trifluralin	May 23/18	ND	ug/L	No
Vinyl Chloride	May 23/18	ND	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
Sodium	15	Mg/L	May 23/18

Medical Officer of Health is aware of concentrations and notifies family doctors accordingly.

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)