

OPTIONAL ANNUAL REPORT TEMPLATE

| | |
|---------------------------------|---------------------------------------|
| Drinking Water System Number: | 260063661 |
| Drinking Water System Name: | Mansfield Well Supply |
| Drinking Water System Owner: | Township of Mulmur |
| Drinking Water System Category: | Large Municipal Residential |
| Period being reported: | January 01, 2022 to December 31, 2022 |

| | |
|---|--|
| <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 [] No[x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</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; margin-top: 10px;"> <p>Report is available for inspection at the municipal office in Terra Nova</p> </div> | <p><u>Complete for all other Categories</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>N/A</p> </div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>N/A</p> </div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</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 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 drinking water? Yes [] No []

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

Water System is classified as a Large Municipal Residential Water System that currently serves approximately 153 service connections. 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 pump house. 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

12 % Sodium Hypochlorite

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

Replace well pump in well 2a - +/- \$15K

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 | | | | | |
| | | | | | |

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 | | 149 | 0 to 0 | 0 to 2 | 0 | n.a. |
| Treated | | 52 | 0 to 0 | 0 to 0 | 52 | 0 to 1 |
| Distribution | | 122 | 0 to 0 | 0 to 1 | 58 | 0 to 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#) | Unit of Measure |
|--|------------------------|--------------------------------|-----------------|
| Turbidity | 35 | 0.16 to 0.91 | NTU |
| Chlorine | 8760 | 0.64 to 2.85 | Mg/L |
| Fluoride(If the DWS provides fluoridation) | N/A | N/A | N/A |

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

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 |
|---------------------------------|-----------|--------------|--------|-----------------|
| N/A | | | | |
| N/A | | | | |

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 | June 29/21 | ND | ug/L | No |
| Arsenic | June 29/21 | ND | ug/L | No |
| Barium | June 29/21 | 55 | ug/L | No |
| Boron | June 29/21 | 13 | ug/L | No |
| Cadmium | June 29/21 | ND | ug/L | No |
| Chromium | June 29/21 | ND | ug/L | No |
| *Lead | N/A | N/A | N/A | N/A |
| Mercury | June 29/21 | ND | ug/L | No |
| Selenium | June 29/21 | ND | ug/L | No |
| Sodium | June 29/21 | 5.6 | mg/L | No |
| Uranium | June 29/21 | 0.32 | ug/L | No |
| Fluoride | May 23/18 | 0.1 | mg/L | No |
| Nitrite | Dec 08/22 | ND | mg/L | No |
| Nitrate | Dec 08/22 | 1.78 | 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 (min#)–(max #) | Unit of Measure | Number of Exceedances |
|---------------|-------------------|--------------------------------------|-----------------|-----------------------|
| Plumbing | N/A | N/A | N/A | N/A |
| Distribution | 1 | ND | Ug/L | 0 |

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 | June 29/21 | ND | ug/L | No |
| Atrazine + N-dealkylated metabolites | June 29/21 | ND | ug/L | No |
| Azinphos-methyl | June 29/21 | ND | ug/L | No |
| Benzene | June 29/21 | ND | ug/L | No |
| Benzo(a)pyrene | June 29/21 | ND | ug/L | No |
| Bromoxynil | June 29/21 | ND | ug/L | No |
| Carbaryl | June 29/21 | ND | ug/L | No |
| Carbofuran | June 29/21 | ND | ug/L | No |
| CarbonTetrachloride | June 29/21 | ND | ug/L | No |
| Chlorpyrifos | June 29/21 | ND | ug/L | No |
| Diazinon | June 29/21 | ND | ug/L | No |
| Dicamba | June 29/21 | ND | ug/L | No |
| 1,2-Dichlorobenzene | June 29/21 | ND | ug/L | No |
| 1,4-Dichlorobenzene | June 29/21 | ND | ug/L | No |
| 1,2-Dichloroethane | June 29/21 | ND | ug/L | No |
| 1,1-Dichloroethylene(vinylidenechloride) | June 29/21 | ND | ug/L | No |
| Dichloromethane | June 29/21 | ND | ug/L | No |
| 2,4-Dichlorophenol | June 29/21 | ND | ug/L | No |
| 2,4-Dichlorophenoxyacetic acid(2,4-D) | June 29/21 | ND | ug/L | No |
| Diclofop-methyl | June 29/21 | ND | ug/L | No |
| Dimethoate | June 29/21 | ND | ug/L | No |
| Diquat | June 29/21 | ND | ug/L | No |
| Diuron | June 29/21 | ND | ug/L | No |
| Glyphosate | June 29/21 | ND | ug/L | No |
| HAAs(Note: show latest running annual average) | 2022 | ND | ug/L | NO |
| Lindane(Total) | June 29/21 | ND | ug/L | No |
| Malathion | June 29/21 | ND | ug/L | No |
| Metolachlor | June 29/21 | ND | ug/L | No |
| Metribuzin | June 29/21 | ND | ug/L | No |
| Monochlorobenzene | June 29/21 | ND | ug/L | No |

| | | | | |
|--|------------|-------|------|----|
| Paraquat | June 29/21 | ND | ug/L | No |
| Pentachlorophenol | June 29/21 | ND | ug/L | No |
| Phorate | June 29/21 | ND | ug/L | No |
| Picloram | June 29/21 | ND | ug/L | No |
| Polychlorinated Biphenyls (PCB) | June 29/21 | ND | ug/L | No |
| Prometryne | June 29/21 | ND | ug/L | No |
| Simazine | June 29/21 | ND | ug/L | No |
| Terbufos | June 29/21 | ND | ug/L | No |
| Tetrachloroethylene (perchloroethylene) | June 29/21 | ND | ug/L | No |
| 2,3,4,6-Tetrachlorophenol | June 29/21 | ND | ug/L | No |
| THMs (Note: show latest running annual average) | 2022 | 10.32 | ug/L | NO |
| Triallate | June 29/21 | ND | ug/L | No |
| Trichloroethylene | June 29/21 | ND | ug/L | No |
| 2,4,6-Trichlorophenol | June 29/21 | ND | ug/L | No |
| Trifluralin | June 29/21 | ND | ug/L | No |
| Vinyl Chloride | June 29/21 | ND | ug/L | No |
| MCPA | June 29/21 | 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 |
|-----------|--------------|-----------------|----------------|
| | | | |
| | | | |

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Dufferin Water Co. LTD
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23 February 2023

Township of Mulmur
RR #2
Lisle, ON
L0M 1M0

Attn: John Wimetts, Director of Public Works

Re: Mansfield Water System – Annual Summary Report for 2022

Dear John:

Attached is the 2022 Summary Report for the Mansfield Water System. This report was prepared by Dufferin Water Co. Ltd on behalf of the Township of Mulmur in accordance with Schedule 22 of O. Reg 170/03 filed under the Safe Drinking Water Act (SDWA).

The summary report is required to be prepared, not later than March 31 of each year for the preceding calendar year and given to the members of the municipal council; please ensure this distribution.

Also attached to this letter is a copy of the 2022 Annual Report for the Mansfield Water Supply System. This report should be made available to the public at the Municipal office and if possible on the township website.

If you have any questions regarding either report please call.

Regards,



Joe Miedema P. Eng.
General Manager

Mansfield Water System

Large Municipal Residential Drinking Water System

Schedule 22

Summary Report

For the Period:
January 01, 2022 to December 31, 2022

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.

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 | 63 | 19% | 110 | 34% |
| February | 61 | 19% | 124 | 38% |
| March | 68 | 21% | 100 | 31% |
| April | 76 | 23% | 126 | 39% |
| May | 97 | 30% | 164 | 50% |
| June | 116 | 36% | 191 | 58% |
| July | 133 | 41% | 248 | 76% |
| August | 113 | 35% | 235 | 72% |
| September | 76 | 23% | 166 | 51% |
| October | 62 | 19% | 96 | 29% |
| November | 58 | 18% | 129 | 39% |
| December | 58 | 18% | 132 | 40% |

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.

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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 | 15 | 6% | 28 | 11% |
| February | 13 | 5% | 23 | 9% |
| March | 1 | 0% | 14 | 5% |
| April | 0 | 0% | 8 | 3% |
| May | 0 | 0% | 0 | 0% |
| June | 0 | 0% | 2 | 1% |
| July | 0 | 0% | 1 | 0% |
| August | 0 | 0% | 1 | 0% |
| September | 11 | 4% | 33 | 13% |
| October | 16 | 6% | 26 | 10% |
| November | 15 | 6% | 26 | 10% |
| December | 14 | 5% | 33 | 13% |

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 | 1 | 0% | 5 | 1% |
| February | 1 | 0% | 5 | 1% |
| March | 1 | 0% | 6 | 2% |
| April | 1 | 0% | 7 | 2% |
| May | 12 | 3% | 341 | 94% |
| June | 1 | 0% | 7 | 2% |
| July | 1 | 0% | 7 | 2% |
| August | 1 | 0% | 5 | 1% |
| September | 1 | 0% | 7 | 2% |
| October | 1 | 0% | 4 | 1% |
| November | 0 | 0% | 0 | 0% |
| December | 1 | 0% | 8 | 2% |

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 | 79 | 8% | 175 | 18% |
| February | 73 | 8% | 115 | 12% |
| March | 70 | 7% | 128 | 13% |
| April | 75 | 8% | 121 | 13% |
| May | 101 | 11% | 184 | 19% |
| June | 125 | 13% | 264 | 28% |
| July | 156 | 16% | 266 | 28% |
| August | 120 | 13% | 253 | 27% |
| September | 85 | 9% | 145 | 15% |
| October | 80 | 8% | 118 | 12% |
| November | 74 | 8% | 120 | 13% |
| December | 73 | 8% | 123 | 13% |

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.