
# Tiverton Drinking Water System

## 2021 Annual Water Summary Report

# 1. INTRODUCTION AND BACKGROUND

The municipality owns and operates drinking water systems to provide residents with safe, potable water. These municipal drinking water systems are regulated under various legislation and legal documents including the Safe Drinking Water Act and Ontario Regulation 170/03 Drinking Water Systems. O. Reg. 170 requires that the municipality complete an annual water report (Section 11) and an annual summary report (Schedule 22). The information required for each of these reports has been combined into this one report.

The reports are available free of charge on the municipal website at www.kincardine.ca or by contacting the Environmental Services Department at waterservice@kincardine.ca. Requests will also be received in person or by telephone at the Municipal Administration Centre (1475 Concession 5, 519-396-3468) or the Environmental Services Office (155 Durham Street, Kincardine, 519-396-4660).

## 1.1. System Description

| | |
|---|---|
| **Drinking-Water System Number:** | 220002609 |
| **Drinking-Water System Name:** | Tiverton Drinking Water System |
| **Drinking-Water System Owner:** | Municipality of Kincardine |
| **Drinking-Water System Category:** | Large Municipal Residential |
| **Period being reported:** | Year 2021 |

The Tiverton Drinking Water System (DWS) is a non-GUDI groundwater supply (which means that it is a secure well and not under the influence of surface water) consisting of 3 active wells, Briar Hill Well #1, Briar Hill Well #2 and Dent Well #2. The newest well, Briar Hill Well #2, went on-line August 2007 and is a 220 diameter 93 m deep drilled well with a maximum water taking of 8.3 L/s or 720 $m^3$/d. Briar Hill Well #1 is a 150 mm diameter 93 m deep groundwater well rated at 6.1 L/s or 524.16 $m^3$/d. The third active well is Dent Well #2. This well was put in service on July 15, 2005 and replaced the original Dent Well. Dent Well #2 is an approximately 87 m deep drilled well with a 200 mm diameter steel casing. The flow rate is restricted to a maximum of 4.6 L/s and a maximum taking of 250.5 $m^3$/d. Both pumphouses are equipped with raw and treated flow meters, a disinfection system consisting of 2 sodium hypochlorite metering pumps with auto switchover capabilities and interlocked well shutdown, and a polyphosphate (Carus 1200) iron sequestering system. The sodium hypochlorite and Carus 1200 are NSF certified. Additional contact time is provided at both pumphouses by 600 mm diameter feeder watermain immediately leaving the pumphouse and prior to the first consumer. The water system is equipped with a 1500 $m^3$ standpipe. Both pumphouses are equipped with a standby generator.

## 1.2. Major Expenses

The system incurred expenses necessary to install, repair or replace required equipment as follows:

Standpipe Upgrades ($309,738.00)

Treatment Equipment ($3,611.00)

Distribution Infrastructure Repairs and Replacements ($135,610.00)

## 2. WATER QUALITY MONITORING

Each municipal drinking water system is required to do testing to ensure that the water supplied to consumers is safe for consumption. Some of these tests such as chlorine residuals are done on site while others, like microbiological testing, must be performed by a licenced laboratory.

### 2.1. Microbiological Testing

O. Reg. 170 Schedule 10, requires the Tiverton DWS to take a minimum of one sample per week of raw and treated water from each well. A minimum of one sample must be taken every week of distribution water with a total of eight required every month. All raw, treated and distribution samples must be tested for Escherichia coli (E. coli) and total coliforms (TC). All the treated samples and twenty five percent of the distribution samples must also be tested for heterotrophic plate count (HPC). Our internal sampling schedule exceeds the minimum requirements by having operations staff collect three raw, three treated and two distribution sample every week and have them tested for E. coli, total coliform and HPC. Dent well was off-line briefly for repairs to plumbing and could not be run for sampling one week.

Any E. coli or total coliform results above zero (0) in treated or distribution water must be reported to the Ministry of the Environment, Conservation and Parks (MECP) Spills Action Centre (SAC) and Medical Officer of Health (MOH).

Heterotrophic plate count is a colony count of general bacteria population. There is no adverse limit for HPC samples. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water.

The results from the 2021 sampling program are shown in the table below.

| Water Source | Number of EC/TC Samples | Range of Total Coliform Results (#-#) | Range of E. coli Results (#-#) | Number of HPC Samples | Range of HPC Results (#-#) |
|---|---|---|---|---|---|
| **Raw** | 156 | 0 – 0 | 0 – 0 | 156 | 0 – 980 |
| **Treated** | 156 | 0 – 0 | 0 – 0 | 156 | 0 – 68 |
| **Distribution** | 104 | 0 – 0 | 0 – 0 | 104 | 0 – 70 |

### 2.2. Chemical Testing

The Safe Drinking Water Act Reg 170 Schedule 13 requires periodic testing of the water for chemical parameters. The Tiverton DWS is required to test for nitrite/nitrate, trihalomethanes and haloacetic acids on a quarterly basis. The tables below outline these as well as other inorganic and organic parameters that are required to be tested for every three years and include the date and result of the most recent test. Any result displayed as less than (<) are below the method detection limit of the lab.

Sodium and fluoride levels exceed the Ontario Drinking Water Quality Standards, but they are naturally occurring in the groundwater and do not need to be tested more frequently than every five years.

If the concentration of a parameter is above half of the Maximum Acceptable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by O. Regulation 170. Historically, arsenic levels at Dent Well have been around the half MAC and the frequency has been increased to quarterly.

Briar Hill Well #1

| Inorganic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Antimony** | July 12/21 | < 0.9 | µg/L | No |
| **Arsenic** | July 12/21 | 2.6 | µg/L | No |
| **Barium** | July 12/21 | 11.2 | µg/L | No |
| **Boron** | July 12/21 | 193 | µg/L | No |
| **Cadmium** | July 12/21 | 0.009 | µg/L | No |
| **Chromium** | July 12/21 | 0.18 | µg/L | No |
| **Mercury** | July 12/21 | < 0.01 | µg/L | No |
| **Selenium** | July 12/21 | < 0.04 | µg/L | No |
| **Sodium** | October 16/17<br>October 25/17 | 45.8<br>35.2 | mg/L | Yes |
| **Uranium** | July 12/21 | 0.531 | µg/L | No |
| **Fluoride** | April 9/18<br>April 17/18 | 2.02<br>1.96 | mg/L | Yes |
| **Nitrite** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.003<br>< 0.003<br>< 0.003<br>< 0.003 | mg/L | No |
| **Nitrate** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.006<br>0.007<br>< 0.006<br>0.006 | mg/L | No |

Briar Hill Well #2

| Inorganic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Antimony** | July 15/19 | <0.09 | µg/L | No |
| **Arsenic** | July 15/19 | 2.1 | µg/L | No |
| **Barium** | July 15/19 | 10.7 | µg/L | No |
| **Boron** | July 15/19 | 163 | µg/L | No |
| **Cadmium** | July 15/19 | 0.004 | µg/L | No |
| **Chromium** | July 15/19 | 0.13 | µg/L | No |
| **Mercury** | July 15/19 | <0.01 | µg/L | No |
| **Selenium** | July 15/19 | < 0.06 | µg/L | No |
| **Sodium** | October 16/17<br>October 25/17 | 44.4<br>34.4 | mg/L | Yes |
| **Uranium** | July 15/19 | 0.558 | µg/L | No |
| **Fluoride** | April 9/18<br>April 17/18 | 2.02<br>2.01 | mg/L | Yes |
| **Nitrite** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.003<br>< 0.003<br>< 0.003<br>< 0.003 | mg/L | No |
| **Nitrate** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.006<br>0.008<br>2.40<br>0.006 | mg/L | No |

Dent Well #2

| Inorganic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Antimony** | July 13/20 | <0.09 | µg/L | No |
| **Arsenic** | January 11/21<br>April 26/20<br>July 12/21<br>October 18/21 | 6.2<br>4.6<br>6.9<br>5.5 | µg/L | No |
| **Barium** | July 13/20 | 9.79 | µg/L | No |
| **Boron** | July 13/20 | 189 | µg/L | No |
| **Cadmium** | July 13/20 | <0.003 | µg/L | No |
| **Chromium** | July 13/20 | 0.12 | µg/L | No |
| **Mercury** | July 13/20 | <0.01 | µg/L | No |
| **Selenium** | July 13/20 | <0.04 | µg/L | No |
| **Sodium** | Oct 16/17<br>Oct 25/17 | 46.2<br>36.8 | mg/L | Yes |
| **Uranium** | July 13/20 | 0.841 | µg/L | No |
| **Fluoride** | April 9/18<br>April 17/18 | 2.07<br>2.13 | mg/L | Yes |
| **Nitrite** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.003<br>< 0.003<br>< 0.003<br>< 0.003 | mg/L | No |
| **Nitrate** | January 11/21<br>April 26/21<br>July 12/21<br>October 18/21 | < 0.006<br>< 0.006<br>0.577<br>< 0.006 | mg/L | No |

Briar Hill Well #1

| Organic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Alachlor** | July 12/21 | < 0.02 | µg/L | No |
| **Atrazine + N-dealkylated metabolites** | July 12/21 | < 0.01 | µg/L | No |
| **Azinphos-methyl** | July 12/21 | < 0.05 | µg/L | No |
| **Benzene** | July 12/21 | < 0.32 | µg/L | No |
| **Benzo(a)pyrene** | July 12/21 | < 0.004 | µg/L | No |
| **Bromoxynil** | July 12/21 | < 0.33 | µg/L | No |
| **Carbaryl** | July 12/21 | < 0.05 | µg/L | No |
| **Carbofuran** | July 12/21 | < 0.01 | µg/L | No |
| **Carbon Tetrachloride** | July 12/21 | < 0.17 | µg/L | No |
| **Chlorpyrifos** | July 12/21 | < 0.02 | µg/L | No |
| **Diazinon** | July 12/21 | < 0.02 | µg/L | No |
| **Dicamba** | July 12/21 | < 0.20 | µg/L | No |
| **1,4-Dichlorobenzene** | July 12/21 | < 0.36 | µg/L | No |
| **1,2-Dichlorobenzene** | July 12/21 | < 0.41 | µg/L | No |
| **1,2-Dichloroethane** | July 12/21 | < 0.35 | µg/L | No |
| **1,1-Dichloroethylene** | July 12/21 | < 0.33 | µg/L | No |
| **Dichloromethane** | July 12/21 | < 0.35 | µg/L | No |
| **2-4 Dichlorophenol** | July 12/21 | < 0.15 | µg/L | No |
| **2,4-Dichlorophenoxy acetic acid (2,4-D)** | July 12/21 | < 0.19 | µg/L | No |
| **Diclofop-methyl** | July 12/21 | < 0.40 | µg/L | No |
| **Dimethoate** | July 12/21 | < 0.06 | µg/L | No |
| **Diquat** | July 12/21 | < 1 | µg/L | No |
| **Diuron** | July 12/21 | < 0.03 | µg/L | No |
| **Glyphosate** | July 12/21 | < 1 | µg/L | No |
| **Malathion** | July 12/21 | < 0.02 | µg/L | No |
| **2 methyl-4-chlorophenoxyacetic acid** | July 12/21 | <0.00012 | µg/L | No |
| **Metolachlor** | July 12/21 | < 0.01 | µg/L | No |
| **Metribuzin** | July 12/21 | < 0.02 | µg/L | No |
| **Monochlorobenzene** | July 12/21 | < 0.3 | µg/L | No |
| **Paraquat** | July 12/21 | < 1 | µg/L | No |
| **Pentachlorophenol** | July 12/21 | < 0.15 | µg/L | No |
| **Phorate** | July 12/21 | < 0.01 | µg/L | No |
| **Picloram** | July 12/21 | < 1 | µg/L | No |
| **Polychlorinated Biphenyls (PCB)** | July 12/21 | < 0.04 | µg/L | No |
| **Prometryne** | July 12/21 | < 0.03 | µg/L | No |
| **Simazine** | July 12/21 | < 0.01 | µg/L | No |
| **Terbufos** | July 12/21 | < 0.01 | µg/L | No |
| **Tetrachloroethylene** | July 12/21 | < 0.35 | µg/L | No |
| **2,3,4,6-Tetrachlorophenol** | July 12/21 | < 0.20 | µg/L | No |
| **Triallate** | July 12/21 | < 0.01 | µg/L | No |
| **Trichloroethylene** | July 12/21 | < 0.44 | µg/L | No |
| **2,4,6-Trichlorophenol** | July 12/21 | < 0.25 | µg/L | No |
| **Trifluralin** | July 12/21 | < 0.02 | µg/L | No |
| **Vinyl Chloride** | July 12/21 | < 0.17 | µg/L | No |

Briar Hill Well #2

| Organic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Alachlor** | July 15/19 | < 0.02 | µg/L | No |
| **Atrazine + N-dealkylated metabolites** | July 15/19 | < 0.01 | µg/L | No |
| **Azinphos-methyl** | July 15/19 | < 0.05 | µg/L | No |
| **Benzene** | July 15/19 | < 0.32 | µg/L | No |
| **Benzo(a)pyrene** | July 15/19 | < 0.004 | µg/L | No |
| **Bromoxynil** | July 15/19 | < 0.33 | µg/L | No |
| **Carbaryl** | July 15/19 | < 0.05 | µg/L | No |
| **Carbofuran** | July 15/19 | < 0.01 | µg/L | No |
| **Carbon Tetrachloride** | July 15/19 | < 0.17 | µg/L | No |
| **Chlorpyrifos** | July 15/19 | < 0.02 | µg/L | No |
| **Diazinon** | July 15/19 | < 0.02 | µg/L | No |
| **Dicamba** | July 15/19 | < 0.20 | µg/L | No |
| **1,2-Dichlorobenzene** | July 15/19 | < 0.41 | µg/L | No |
| **1,4-Dichlorobenzene** | July 15/19 | < 0.36 | µg/L | No |
| **1,2-Dichloroethane** | July 15/19 | < 0.35 | µg/L | No |
| **1,1-Dichloroethylene** | July 15/19 | < 0.33 | µg/L | No |
| **Dichloromethane** | July 15/19 | < 0.35 | µg/L | No |
| **2-4 Dichlorophenol** | July 15/19 | < 0.15 | µg/L | No |
| **2,4-Dichlorophenoxy acetic acid (2,4-D)** | July 15/19 | < 0.19 | µg/L | No |
| **Diclofop-methyl** | July 15/19 | < 0.40 | µg/L | No |
| **Dimethoate** | July 15/19 | < 0.06 | µg/L | No |
| **Diquat** | July 15/19 | < 1 | µg/L | No |
| **Diuron** | July 15/19 | < 0.03 | µg/L | No |
| **Glyphosate** | July 15/19 | < 1 | µg/L | No |
| **Malathion** | July 15/19 | < 0.02 | µg/L | No |
| **2 methyl-4-chlorophenoxyacetic acid** | July 15/19 | < 0.00012 | µg/L | No |
| **Metolachlor** | July 15/19 | < 0.01 | µg/L | No |
| **Metribuzin** | July 15/19 | < 0.02 | µg/L | No |
| **Monochlorobenzene** | July 15/19 | < 0.3 | µg/L | No |
| **Paraquat** | July 15/19 | < 1 | µg/L | No |
| **Pentachlorophenol** | July 15/19 | < 0.15 | µg/L | No |
| **Phorate** | July 15/19 | < 0.01 | µg/L | No |
| **Picloram** | July 15/19 | < 1 | µg/L | No |
| **Polychlorinated Biphenyls (PCB)** | July 15/19 | < 0.04 | µg/L | No |
| **Prometryne** | July 15/19 | < 0.03 | µg/L | No |
| **Simazine** | July 15/19 | < 0.01 | µg/L | No |
| **Terbufos** | July 15/19 | < 0.01 | µg/L | No |
| **Tetrachloroethylene** | July 15/19 | < 0.35 | µg/L | No |
| **2,3,4,6-Tetrachlorophenol** | July 15/19 | < 0.20 | µg/L | No |
| **Triallate** | July 15/19 | < 0.01 | µg/L | No |
| **Trichloroethylene** | July 15/19 | < 0.44 | µg/L | No |
| **2,4,6-Trichlorophenol** | July 15/19 | < 0.25 | µg/L | No |
| **Trifluralin** | July 15/19 | < 0.02 | µg/L | No |
| **Vinyl Chloride** | July 15/19 | < 0.17 | µg/L | No |

Dent Well #2

| Organic Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|---|---|---|---|---|
| **Alachlor** | July 13/20 | < 0.02 | µg/L | No |
| **Atrazine + N-dealkylated metabolites** | July 13/20 | < 0.01 | µg/L | No |
| **Azinphos-methyl** | July 13/20 | < 0.05 | µg/L | No |
| **Benzene** | July 13/20 | < 0.32 | µg/L | No |
| **Benzo(a)pyrene** | July 13/20 | < 0.004 | µg/L | No |
| **Bromoxynil** | July 13/20 | < 0.33 | µg/L | No |
| **Carbaryl** | July 13/20 | < 0.05 | µg/L | No |
| **Carbofuran** | July 13/20 | < 0.01 | µg/L | No |
| **Carbon Tetrachloride** | July 13/20 | < 0.17 | µg/L | No |
| **Chlorpyrifos** | July 13/20 | < 0.02 | µg/L | No |
| **Diazinon** | July 13/20 | < 0.02 | µg/L | No |
| **Dicamba** | July 13/20 | < 0.20 | µg/L | No |
| **1,2-Dichlorobenzene** | July 13/20 | < 0.41 | µg/L | No |
| **1,4-Dichlorobenzene** | July 13/20 | < 0.36 | µg/L | No |
| **1,2-Dichloroethane** | July 13/20 | < 0.35 | µg/L | No |
| **1,1-Dichloroethylene** | July 13/20 | < 0.33 | µg/L | No |
| **Dichloromethane** | July 13/20 | < 0.35 | µg/L | No |
| **2-4 Dichlorophenol** | July 13/20 | < 0.15 | µg/L | No |
| **2,4-Dichlorophenoxy acetic acid (2,4-D)** | July 13/20 | < 0.19 | µg/L | No |
| **Diclofop-methyl** | July 13/20 | < 0.40 | µg/L | No |
| **Dimethoate** | July 13/20 | < 0.06 | µg/L | No |
| **Diquat** | July 13/20 | < 1 | µg/L | No |
| **Diuron** | July 13/20 | < 0.03 | µg/L | No |
| **Glyphosate** | July 13/20 | < 1 | µg/L | No |
| **Malathion** | July 13/20 | <0.02 | µg/L | No |
| **2 methyl-4-chlorophenoxyacetic acid** | July 13/20 | < 0.00012 | µg/L | No |
| **Metolachlor** | July 13/20 | < 0.01 | µg/L | No |
| **Metribuzin** | July 13/20 | < 0.02 | µg/L | No |
| **Monochlorobenzene** | July 13/20 | < 0.3 | µg/L | No |
| **Paraquat** | July 13/20 | < 1 | µg/L | No |
| **Pentachlorophenol** | July 13/20 | < 0.15 | µg/L | No |
| **Phorate** | July 13/20 | < 0.01 | µg/L | No |
| **Picloram** | July 13/20 | < 1 | µg/L | No |
| **Polychlorinated Biphenyls (PCB)** | July 13/20 | < 0.04 | µg/L | No |
| **Prometryne** | July 13/20 | < 0.03 | µg/L | No |
| **Simazine** | July 13/20 | < 0.01 | µg/L | No |
| **Terbufos** | July 13/20 | < 0.01 | µg/L | No |
| **Tetrachloroethylene** | July 13/20 | < 0.35 | µg/L | No |
| **2,3,4,6-Tetrachlorophenol** | July 13/20 | < 0.20 | µg/L | No |
| **Triallate** | July 13/20 | < 0.01 | µg/L | No |
| **Trichloroethylene** | July 13/20 | < 0.44 | µg/L | No |
| **2,4,6-Trichlorophenol** | July 13/20 | < 0.25 | µg/L | No |
| **Trifluralin** | July 13/20 | < 0.02 | µg/L | No |
| **Vinyl Chloride** | July 13/20 | < 0.17 | µg/L | No |

Trihalomethane (THM) distribution sampling is required quarterly and must also be expressed as a running annual average. The limit as set in the Ontario Drinking Water Quality Standards is 100 ug/L. Trihalomethanes are a by-product of the disinfection process.

| Date Sampled | THM Result Value (µg/L) | Running Annual Average (µg/L) | Exceedance |
|---|---|---|---|
| January 11/21 | 49 | 45.0 | No |
| April 26/21 | 27 | 36.5 | No |
| July 12/21 | 39 | 35.3 | No |
| October 18/21 | 18 | 33.3 | No |

Sampling and testing for haloacetic acids (HAA) in the distribution system is a new requirement in 2017. The limit as set in the Ontario Drinking Water Quality Standards is 80 ug/L and starting in 2020 must also be expressed as a running annual average. Haloacetic acids are a by-product of the disinfection process.

| Date Sampled | HAA Result Value (µg/L) | Running Annual Average (µg/L) | Exceedance |
|---|---|---|---|
| January 11/21 | < 5.3 | 5.6 | No |
| April 26/21 | < 5.3 | 5.6 | No |
| July 12/21 | < 5.3 | 5.6 | No |
| October 18 | < 5.3 | 5.3 | No |

The Tiverton DWS does not have significant levels of lead and so is currently under a reduced-sampling program. Under this sampling program, O. Reg 170 Schedule 15.1 requires sampling for lead every three years and lead-related parameters (pH and alkalinity) every year. Lead sampling was performed in 2021, below are the results.

| Date Sampled | Location Type | Number of Samples | Parameter | Range of Results |
|---|---|---|---|---|
| March 15, 2021 | Distribution | 2 | pH | 7.78 – 7.84 |
| | | | Alkalinity (mg/L) | 91 - 109 |
| | | | Lead (ug/L) | 0.31 – 0.35 |
| August 23, 2021 | Distribution | 2 | pH | 8.00 – 8.10 |
| | | | Alkalinity (mg/L) | 88 - 89 |
| | | | Lead (ug/L) | 0.20 – 0.42 |

## 2.3. Operational Monitoring

Sodium hypochlorite is used for primary and secondary disinfection. The free chlorine residual is monitored continuously on the treated water and seven grab samples are taken each week in the distribution system. In addition, free chlorine levels are monitored continuously at one location in the distribution system. Due to upgrades at the standpipe the cl2 analyzer was out of service from January to mid-August 2021. The Ministry of the Environment, Conservation and Parks *Procedure for Disinfection of Drinking Water in Ontario* outlines the minimum chlorine residual for adequate treatment.

| Free Chlorine Residual | Number of Grab Samples | Range of Results (#-#) |
|---|---|---|
| **Briar Hill Well #1 & #2 Treated Water** | Continuous Monitoring | 0.30 – 4.96 |
| **Dent Well #2 Treated Water** | Continuous Monitoring | 0.23 – 2.00 |
| **Distribution Water** | 365 | 0.29 – 1.58 |
| **Distribution Water** | Continuous Monitoring | 0.33 – 1.60 |

O. Reg 170 Schedule 7 requires that turbidity in the raw water is tested at least once every month. Consistent turbidity results greater than 5 NTU could indicate surface water influence on the well.

| Raw Water Turbidity | Number of Grab Samples | Range of Results (#-#) |
|---|---|---|
| **Briar Hill Well #1** | 50 | 0.12 – 0.69 |
| **Briar Hill Well #2** | 50 | 0.06 – 0.46 |
| **Dent Well #2** | 49 | 0.08 – 0.68 |

## 3. WATER QUANTITY

The following tables list the quantities and flow rates of the water supplied to the distribution system during the reporting period covered by this report, including monthly average and maximum daily flows and a comparison to the rated capacity specified in the system Municipal Drinking Water Licence.

Briar Hill Wells #1 and #2

The rated capacity from the Briar Hill Pumphouse is 717.12 $m^3$/day. There is no maximum flow rate specified for water supplied to the distribution system.

| Month | Average Daily Flow ($m^3$/day) | % Average Day Flow/ Rated Capacity | Maximum Daily Flow ($m^3$/day) | % Maximum Day Flow/ Rated Capacity |
|---|---|---|---|---|
| **January** | 130 | 18% | 189 | 26% |
| **February** | 136 | 19% | 287 | 40% |
| **March** | 120 | 17% | 173 | 24% |
| **April** | 133 | 19% | 269 | 37% |
| **May** | 140 | 20% | 320 | 45% |
| **June** | 142 | 20% | 220 | 31% |
| **July** | 122 | 17% | 187 | 26% |
| **August** | 137 | 19% | 243 | 34% |
| **September** | 124 | 17% | 172 | 24% |
| **October** | 125 | 17% | 169 | 24% |
| **November** | 123 | 17% | 170 | 24% |
| **December** | 116 | 16% | 176 | 25% |
| **Annual** | 128.9 | 18% | 320 | 45% |

| Month | Average Daily Flow Rate (L/s) | Maximum Daily Flow Rate (L/s) |
|---|---|---|
| **January** | 1.5 | 6.9 |
| **February** | 1.6 | 6.9 |
| **March** | 1.4 | 7.0 |
| **April** | 1.5 | 7.0 |
| **May** | 1.6 | 6.9 |
| **June** | 1.6 | 10.3 |
| **July** | 1.4 | 6.9 |
| **August** | 1.6 | 7.0 |
| **September** | 1.4 | 10.1 |
| **October** | 1.4 | 9.2 |
| **November** | 1.4 | 6.8 |
| **December** | 1.3 | 9.5 |
| **Annual** | 1.49 | 10.29 |

Dent Well #2

The rated capacity from the Dent Pumphouse is 397.44 $m^3$/day. There is no maximum flow rate specified for water supplied to the distribution system. (It should be noted that the Permit to Take Water limit for water taking from the Dent Well is 250.5 $m^3$/d.)

| Month | Average Daily Flow ($m^3$/day) | % Average Day Flow/ Rated Capacity | Maximum Daily Flow ($m^3$/day) | % Maximum Day Flow/ Rated Capacity |
|---|---|---|---|---|
| **January** | 58 | 15% | 85 | 21% |
| **February** | 67 | 17% | 129 | 32% |
| **March** | 93 | 23% | 182 | 46% |
| **April** | 92 | 23% | 189 | 48% |
| **May** | 92 | 23% | 161 | 41% |
| **June** | 95 | 24% | 150 | 38% |
| **July** | 83 | 21% | 127 | 32% |
| **August** | 93 | 23% | 166 | 42% |
| **September** | 80 | 20% | 112 | 28% |
| **October** | 81 | 21% | 104 | 26% |
| **November** | 81 | 20% | 109 | 27% |
| **December** | 78 | 20% | 118 | 30% |
| **Annual** | 82.9 | 21% | 189 | 48% |

| Month | Average Daily Flow Rate (L/s) | Maximum Daily Flow Rate (L/s) |
|---|---|---|
| **January** | 0.7 | 5.1 |
| **February** | 0.8 | 5.1 |
| **March** | 1.1 | 5.0 |
| **April** | 1.1 | 10.1 |
| **May** | 1.1 | 10.3 |
| **June** | 1.1 | 10.0 |
| **July** | 1.0 | 9.8 |
| **August** | 1.1 | 5.1 |
| **September** | 0.9 | 10.3 |
| **October** | 0.9 | 10.2 |
| **November** | 0.9 | 5.1 |
| **December** | 0.9 | 9.6 |
| **Annual** | 0.96 | 10.31 |

## 4. ADVERSE WATER QUALITY INCIDENTS AND NON-COMPLIANCE FINDINGS

Any adverse results from microbiological samples, chemical samples or observations of operational conditions that indicate adverse water quality are reported to the Spills Action Centre (SAC) of the Ministry of the Environment, Conservation and Parks and the Medical Officer of Health (MOH). All adverse conditions are responded to immediately and corrective actions taken. There were no reportable incidents in 2021.

The annual Ministry of the Environment, Conservation and Parks Inspection took place on June 23, 2021. The inspection report did not identify any non-compliance issues.

O. Reg 170 Schedule 22 requires the municipality to identify any requirements of the Safe Drinking Water Act, Regulations, Drinking Water Works Permit, Municipal Drinking Water Licence and any Order that the system failed to meet during the reporting period. All requirements were met in 2021.