



# 2024 SCHEDULE 22 SUMMARY REPORT

THORNTON (GLEN AVENUE)  
DRINKING WATER SYSTEM

For the period of  
January 1<sup>st</sup>, 2024 to December 31<sup>st</sup>, 2024

Prepared for the Corporation of the Township of Essa by the Ontario Clean Water Agency





This report was prepared in accordance with the requirements of [O.Reg 170/03, Schedule 22, Summary Reports for Municipalities](#) for the following system and reporting period:

<b>Drinking-Water System Number:</b>	220006945
<b>Drinking-Water System Name:</b>	Thornton (Glen Avenue) Drinking Water System
<b>Drinking-Water System Owner:</b>	The Corporation of the Township of Essa
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2024 – December 31, 2024

## 1. Issue(s) of Non-Compliance

A Ministry of Environment, Conservation and Parks (MECP) Drinking Water System Inspection was conducted on April 25, 2024 for the period covering May 11, 2023 to April 25, 2024. On August 30, 2024, the Inspection Report was issued and an Inspection Summary Rating Record (IRR) of 100% was received.

The following is a summary of non-compliances noted in the MECP Inspection Report, as well as the duration and the measures that were taken to correct the non-compliance. If any self-reported non-compliances were included in the inspection report, they will be noted in Table 1.

**Table 1. Non-Compliances and Corrective Actions noted in the 2023/2024 MECP Inspection Report**

Non-Compliance(s)	Duration	Required Actions & Corrective Actions
N/A	N/A	N/A

The following table (Table 2) is a summary of any incidents that the Operating Authority interpreted as instances where any requirements of the Act, the regulations, the system's approval, drinking water works permit (DWWP), municipal drinking water licence (MDWL), and any orders applicable were not met. The Operating Authority reported the following incidents to the MECP and confirmation of whether the incidents are considered non-compliances are noted in the MECP Inspection Report and included in Table 1.

**Table 2. Self-Reported Incidents and Corrective Actions for the Reporting Period**

Incident	Duration	Corrective Actions
N/A	N/A	N/A

For information on any Adverse Water Quality Incident(s) that may have occurred during the reporting period, please refer to the Thornton (Glen Avenue) Drinking Water System Annual Report (Section 11).

## 2. Assessment of Flowrates and Quantity of Water Supplied

The following tables (Table 3 to 13) summarize the quantities and flowrates of water supplied during the reporting period, including monthly averages and maximum daily flows as well as a comparison to the rated capacity and flowrates approved in the system's approval, DWWP or MDWL.

As required by the MDWL, regulatory flow measuring devices are checked/verified and where necessary calibrated. These checks/verifications/calibrations are performed annually by a third party to ensure the flow measuring devices are within acceptable deviation limits.

### 2.1 Treated Water

<b>Municipal Drinking Water License (MDWL):</b>	118-101 (Issue Number: 4)
<b>Allowable Rated Capacity:</b>	1,540 m <sup>3</sup> /day
<b>Allowable Flowrate into Treatment System:</b>	17.82 L/s

As per the MDWL, the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed the listed rated capacity. However, the MDWL allows a system to be operated temporarily at a maximum daily volume and/or a maximum flowrate above the values set out in the MDWL for the purposes of fighting a large fire or for the maintenance of the drinking water system.

**Table 3. Treated Water Annual and Monthly Average and Maximum Flows with Comparison to Rated Capacity and Total Volume for 2024**

Treated Water Flow					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Rated Capacity	Maximum Flow (m <sup>3</sup> /day)	Percent of Rated Capacity	Total Volume (m <sup>3</sup> )
January	360.76	23.43%	422.51	27.44%	11,183.70
February	361.03	23.44%	444.27	28.85%	10,469.89
March	310.95	20.19%	366.47	23.80%	9,639.60
April	307.57	19.97%	348.15	22.61%	9,227.26
May	413.28	26.84%	744.56	48.35%	12,811.97
June	466.75	30.31%	635.74	41.28%	14,002.49
July	576.68	37.45%	778.03	50.52%	17,877.12
August	575.14	37.35%	802.73	52.13%	17,829.56
September	479.39	31.13%	624.42	40.55%	14,381.87
October	385.27	25.02%	821.05	53.31%	11,943.63
November	318.93	20.71%	368.96	23.96%	9,568.17
December	331.47	21.52%	378.92	24.61%	10,275.62
<b>2024</b>	<b>410.68</b>	<b>26.67%</b>	<b>821.05</b>	<b>53.31%</b>	<b>149,210.88</b>

A review of flow information for the reporting period indicates that the Thornton drinking water system operated within the rated capacity specified in the MDWL (1,540 m<sup>3</sup>/day), for the maximum treated volume of treated water that flows from the treatment subsystem to the distribution system.

**Table 4. Treated Water Annual and Monthly Maximum Flowrates for 2024**

<b>Treated Water Maximum Flowrate</b>	
<b>Timeframe</b>	<b>Maximum Flowrate (L/sec)</b>
January	46.3
February	55.4
March	19.5
April	56.0
May	36.9
June	46.3
July	74.8
August	55.4
September	51.2
October	58.1
November	50.8
December	52.4
<b>2024</b>	<b>74.8</b>

A summary of flowrates of water that flows out of the Thornton treatment subsystem to the distribution system can be found in the above table. A summary of flowrates of water that flows into the Thornton treatment subsystem can be found in Tables 6, 8, 10 and 12.

## 2.2 Raw Water

<b>Permit to Take Water Number (PTTW):</b>	0113-A4LMPV
<b>Allowable Maximum Raw Water Volume - Well #1:</b>	522.72 m <sup>3</sup> /day
<b>Allowable Maximum Raw Water Flowrate - Well #1:</b>	363 L/min (6.05 L/sec)
<b>Allowable Maximum Volume of Raw Water - Well #2:</b>	522.72 m <sup>3</sup> /day
<b>Allowable Maximum Raw Water Flowrate – Well #2:</b>	363 L/Min (6.05 L/sec)
<b>Allowable Maximum Volume of Raw Water - Well #3:</b>	492.48 m <sup>3</sup> /day
<b>Allowable Maximum Raw Water Flowrate – Well #3:</b>	342 L/min (5.70 L/sec)
<b>Allowable Maximum Volume of Raw Water - Well #4:</b>	328.32 m <sup>3</sup> /day
<b>Allowable Maximum Raw Water Flowrate – Well #4:</b>	228 L/min (3.80 L/sec)
<b>Allowable Maximum Combined Raw Water Volume from Well #1, Well #2, Well #3 and Well #4</b>	1,540.00 m <sup>3</sup> /day

As per the PTTW, water shall only be taken from the specified source(s) and at the rates and amounts taken as specified in the permit. Notwithstanding the totals identified above for each well, the maximum combined taking per day from Well #1, #2, #3 and #4 is limited to 1,540,000 litres (1,540.0 m<sup>3</sup>/day). The PTTW also stipulates that Wells #3 and #4 shall not be operated simultaneously. The system is design so that Well #3 and Well #4 cannot physical run at the same time, an internal lockout mechanism has been installed to lock out one well when the other well is running.

**Table 5. Raw Water (Well #1) Monthly Average, Maximum Flow and Total Volume for 2024**

Raw Water Flow – Well #1					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
January	110.10	21.06%	233.67	44.70%	3,413.02
February	115.65	22.12%	254.29	48.65%	3,353.91
March	97.96	18.74%	198.41	37.96%	3,036.77
April	67.52	12.92%	192.21	36.77%	2,025.73
May	135.43	25.91%	377.56	72.23%	4,198.22
June	111.69	21.37%	354.67	67.85%	3,350.79
July	225.93	43.22%	360.09	68.89%	7,003.82
August	191.43	36.62%	440.37	84.25%	5,934.46
September	148.41	28.39%	331.65	63.45%	4,452.34
October	159.59	30.53%	370.45	70.87%	4,947.29
November	78.35	14.99%	198.65	38.00%	2,350.48
December	88.53	16.94%	196.71	37.63%	2,744.54
<b>2024</b>	<b>127.55</b>	<b>24.40%</b>	<b>440.37</b>	<b>84.25%</b>	<b>46,811.37</b>

A review of flow information for the reporting period indicates that the system operated within the PTTW maximum allowable daily raw water volume for Well #1 (522.72 m<sup>3</sup>/day).

**Table 6. Raw Water (Well #1) Annual and Monthly Average and Maximum Flowrates for 2024**

Raw Water Flowrate – Well #1		
Timeframe	Average Flowrate (L/sec)	Maximum Flowrate (L/sec)
January	3.16	6.30 <sup>6A</sup>
February	3.38	6.30 <sup>6A</sup>
March	3.17	6.40 <sup>6A</sup>
April	2.31	6.30 <sup>6A</sup>
May	3.75	6.40 <sup>6A</sup>
June	3.65	6.40 <sup>6A</sup>

Raw Water Flowrate – Well #1		
Timeframe	Average Flowrate (L/sec)	Maximum Flowrate (L/sec)
July	5.39	6.40 <sup>6A</sup>
August	3.34	6.30 <sup>6A</sup>
September	3.43	6.30 <sup>6A</sup>
October	4.65	6.40 <sup>6A</sup>
November	3.77	6.30 <sup>6A</sup>
December	3.35	6.40 <sup>6A</sup>
<b>2024</b>	<b>3.62</b>	<b>6.50<sup>6A</sup></b>

A review of flow information for the reporting period indicates:

- <sup>6A</sup>January to December - flowrate exceedances were a result of instantaneous well pump starts. Maximum flowrates exceedances for all months were 0.25 to 0.45 L/sec higher than the allowable flowrates (6.05 L/sec). The average monthly flowrate for each reporting month was below the allowable maximum rate.

**Table 7. Raw Water (Well #2) Monthly Average, Maximum Flow and Total Volume for 2024**

Raw Water Flow – Well #2					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
January	101.81	19.48%	251.23	48.06%	3,156.14
February	106.8	20.43%	281.33	53.82%	3,097.06
March	91.32	17.47%	233.31	44.63%	2,831.04
April	110.86	21.21%	219.99	42.09%	3,325.94
May	101.95	19.50%	307.07	58.74%	3,160.30
June	235.42	45.04%	474.01	90.68%	7,062.64
July	209.89	40.15%	451.20	86.32%	6,506.60
August	137.13	26.23%	388.47	74.32%	4,251.02
September	124.32	23.78%	359.95	68.86%	3,729.64
October	72.93	13.95%	355.11	67.94%	2,260.85
November	99.36	19.01%	227.69	43.56%	2,980.77
December	100.95	19.31%	238.51	45.63%	3,129.32
<b>2024</b>	<b>124.39</b>	<b>23.80%</b>	<b>474.01</b>	<b>90.68%</b>	<b>45,491.32</b>

A review of flow information for the reporting period indicates that the system operated within the PTTW maximum allowable daily raw water volume for Well #2 (522.72 m<sup>3</sup>/day).

**Table 8. Raw Water (Well #2) Annual and Monthly Average and Maximum Flowrates for 2024**

Raw Water Flowrate – Well #2		
Timeframe	Average Flowrate (L/sec)	Maximum Flowrate (L/sec)
January	2.44	6.40 <sup>8A</sup>
February	2.22	6.40 <sup>8A</sup>
March	2.44	6.10 <sup>8A</sup>
April	3.26	6.40 <sup>8A</sup>
May	2.61	6.40 <sup>8A</sup>
June	3.78	6.30 <sup>8A</sup>
July	3.61	6.40 <sup>8A</sup>
August	2.58	6.30 <sup>8A</sup>
September	2.65	6.30 <sup>8A</sup>
October	3.15	6.40 <sup>8A</sup>
November	2.66	6.40 <sup>8A</sup>
December	2.28	6.30 <sup>8A</sup>
<b>2024</b>	<b>2.81</b>	<b>6.40<sup>8A</sup></b>

A review of flow information for the reporting period indicates:

- <sup>8A</sup>January to December - flowrate exceedances were a result of instantaneous well pump starts. Maximum flowrates exceedances for all months were 0.25 to 0.40 L/sec higher than the allowable flowrates (6.05 L/sec). The average monthly flowrate for each reporting month was below the allowable maximum rate.

**Table 9. Raw Water (Well #3) Monthly Average, Maximum Flow and Total Volume for 2024**

Raw Water Flow – Well #3					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
January	82.00	16.65%	173.73	35.28%	2,541.97
February	86.66	17.60%	189.10	38.40%	2,513.01
March	73.58	14.94%	148.95	30.24%	2,280.86
April	51.04	10.36%	145.05	29.45%	1,531.16
May	101.81	20.67%	282.32	57.33%	3,156.03
June	62.56	12.70%	265.12	53.83%	1,876.83
July	72.57	14.74%	269.42	54.71%	2,249.65
August	143.86	29.21%	329.26	66.86%	4,459.69
September	113.10	22.97%	252.13	51.20%	3,392.88
October	82.08	16.67%	336.82	68.39%	2,544.48

Raw Water Flow – Well #3					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
November	58.98	11.98%	150.00	30.46%	1,769.41
December	68.17	13.84%	150.89	30.64%	2,113.34
<b>2024</b>	<b>83.03</b>	<b>16.86%</b>	<b>336.82</b>	<b>68.39%</b>	<b>30,429.31</b>

A review of flow information for the reporting period indicates that the system operated within the PTTW maximum allowable daily raw water volume for Well #3 (492.48 m<sup>3</sup>/day)

**Table 10. Raw Water (Well #3) Annual and Monthly Average and Maximum Flowrates for 2024**

Raw Water Flowrate – Well #3		
Timeframe	Average Flowrate (L/sec)	Maximum Flowrate (L/sec)
January	2.424	5.60
February	2.601	5.60
March	2.557	5.60
April	1.789	5.70
May	2.548	5.80 <sup>10A</sup>
June	1.384	5.70
July	1.444	5.80 <sup>10A</sup>
August	2.546	5.80 <sup>10A</sup>
September	2.658	5.80 <sup>10A</sup>
October	2.255	5.70
November	2.218	5.70
December	2.235	5.90 <sup>10A</sup>
<b>2024</b>	<b>2.22</b>	<b>5.90<sup>10A</sup></b>

A review of flow information for the reporting period indicates that the system operated within the PTTW maximum allowable raw water flowrate for Well #3 (5.70 L/sec), with the exception of:

- <sup>10A</sup>May, July, August, and September 2024 - flowrate exceedances were a result of instantaneous at well pump starts. Maximum flowrate exceedances were only 0.10 to 0.20 L/sec higher than the allowable flowrates (5.70 L/sec). The average monthly flowrates for each reporting month were below the allowable maximum rate.



**Table 11. Raw Water (Well #4) Monthly Average, Maximum Flow and Total Volume for 2024**

Raw Water Flow – Well #4					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
January	53.69	16.35%	133.36	40.62%	1,664.38
February	55.37	16.86%	151.24	46.06%	1,605.83
March	49.32	15.02%	124.95	38.06%	1,529.03
April	60.37	18.39%	119.82	36.49%	1,811.24
May	54.77	16.68%	167.44	51.00%	1,697.76
June	42.23	12.86%	188.01	57.26%	1,266.89
July	46.03	14.02%	246.24	75.00%	1,426.94
August	75.56	23.01%	215.40	65.61%	2,342.42
September	67.17	20.46%	193.45	58.92%	2,015.07
October	48.35	14.73%	250.63	76.34%	1,498.93
November	53.40	16.26%	122.50	37.31%	1,601.97
December	55.47	16.90%	131.02	39.91%	1,719.70
<b>2024</b>	<b>55.15</b>	<b>16.80%</b>	<b>250.63</b>	<b>76.34%</b>	<b>20,180.16</b>

A review of flow information for the reporting period indicates that the system operated within the PTTW maximum allowable daily raw water volume for Well #4 (328.32 m<sup>3</sup>/day).

**Table 12. Raw Water (Well #4) Annual and Monthly Average and Maximum Flowrates for 2024**

Raw Water Flowrate – Well #4		
Timeframe	Average Flowrate (L/sec)	Maximum Flowrate (L/sec)
January	1.54	4.70 <sup>12A</sup>
February	1.34	4.50 <sup>12A</sup>
March	1.23	4.30 <sup>12A</sup>
April	1.33	4.20 <sup>12A</sup>
May	1.80	3.90 <sup>12A</sup>
June	1.30	7.50 <sup>12A</sup>
July	0.90	4.20 <sup>12A</sup>
August	0.68	4.00 <sup>12A</sup>
September	1.25	4.10 <sup>12A</sup>
October	1.18	4.10 <sup>12A</sup>
November	1.16	4.10 <sup>12A</sup>
December	1.48	4.10 <sup>12A</sup>
<b>2024</b>	<b>1.26</b>	<b>7.50<sup>12A</sup></b>

A review of flow information for the reporting period indicates:

- <sup>12A</sup>January – December 2024 – maximum flowrate exceedances were a result of instantaneous at well pump starts. The average monthly flowrates for each reporting month were below the allowable maximum flow rate (3.80 L/sec) for Well #4.

**Table 13. Combined Well (Well #1, Well #2, Well #3 and Well #4) Annual and Monthly Flow and Annual Volume for 2024**

Combined Well Flow (Well #1, Well #2, Well #3 and Well #4)					
Timeframe	Average Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Maximum Flow (m <sup>3</sup> /day)	Percent of Allowable Volume	Total Volume (m <sup>3</sup> )
January	347.60	22.57%	407.40	26.45%	10,775.51
February	364.48	23.67%	487.61	31.66%	10,569.81
March	312.18	20.27%	358.26	23.26%	9,677.70
April	289.80	18.82%	339.81	22.07%	8,694.07
May	393.95	25.58%	703.82	45.70%	12,212.31
June	451.91	29.34%	619.79	40.25%	13,557.15
July	554.42	36.00%	740.05	48.06%	17,187.01
August	547.99	35.58%	769.63	49.98%	16,987.59
September	453.00	29.42%	583.78	37.91%	13,589.93
October	362.95	23.57%	856.48	55.62%	11,251.55
November	290.08	18.84%	356.49	23.15%	8,702.63
December	313.13	20.33%	369.53	24.00%	9,706.90
<b>2024</b>	<b>390.47</b>	<b>25.36%</b>	<b>856.488</b>	<b>55.62%</b>	<b>142,912.16</b>

A review of the flow information for the reporting period indicates that the system operated within the PTTW maximum allowable daily taking of water from the taking of water from all wells identified (1,540 m<sup>3</sup>/day).