

SUMMARY REPORT

ONTARIO REGULATION 170/03
SCHEDULE 22

SHELBURNE DRINKING WATER SYSTEM

FOR THE PERIOD:
JANUARY 1, 2021 – DECEMBER 31, 2021

*Prepared for the Town of Shelburne
by the Ontario Clean Water Agency*



A People Place. A Change of Pace
SHELBURNE
ONTARIO, CANADA



ONTARIO CLEAN WATER AGENCY
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DRINKING-WATER SYSTEMS REGULATION O. Reg. 170/03, Schedule 22

DRINKING-WATER SYSTEM NAME:	SHELBURNE DRINKING WATER SYSTEM
DRINKING-WATER SYSTEM NUMBER:	220004695
DRINKING-WATER SYSTEM CATEGORY:	LARGE MUNICIPAL RESIDENTIAL
DRINKING-WATER WORKS PERMIT #:	109-201, Issue #7 – Issued: October 1, 2020
MUNICIPAL DRINKING WATER LICENCE #:	109-101, Issue #6 - Issued: May 31, 2021 Expiry: September 30, 2025
PERMIT TO TAKE WATER #:	P-300-1082818689 - Issued: December 10, 2020 Expiry: August 31, 2030 3677-BZMJSU – Expiry: September 30, 2021 Well 7/8 Pump Testing

REPORT:

This report is a summary of water quality information for the Shelburne Water Supply, published in accordance with Schedule 22 of Ontario's Drinking-Water System Regulation 170/03 for the reporting period of **January 1, 2021 to December 31, 2021**.

This report was prepared by the Ontario Clean Water Agency on behalf of the Town of Shelburne.

Issues of Non-Compliance

The following outlines any instances when the DWS failed to meet the requirements of the Act, Regulations, System Approval(s) and any Order during this reporting period and the measures taken to correct each failure.

Non-Compliance Description	Date Non-Compliance Issued	Corrective Action	Date Corrective Action Implemented
The owner was not maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials. With the exception of Well 8, production wells were found at the time of inspection to be equipped with screened vents, secure caps and the grading near outdoor wells was such that surface water would not pool near the well. The screened vent for Well 8 had detached from the well cap, allowing the possible entry of foreign materials into the well.	8/13/2021	Upon discovery of this issue, the operator reattached the vent as a temporary measure until the well cap is replaced. The well cap replacement had already been ordered due to recent work conducted at this well. OCWA representatives have confirmed the well cap was replaced on July 7, 2021. No further action is required at this time.	7/7/2021

*Refer to MECP Inspection Report for further details on non-compliance

The Shelburne Drinking Water System was last inspected by the Ministry of the Environment, Conservation, and Parks on June 4, 2021.

Please refer to the Section 11 Annual Report for the Shelburne Drinking Water System for information regarding Adverse Water Quality Incident(s) which may have occurred during the reporting period.

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SYSTEM PERFORMANCE:

The following tables list the quantities and flow rates of the water supplied during the reporting period covered by this report, including each raw water well and the treated water system. It includes the monthly average, maximum daily flows and a comparison to the rated capacity and flow rates specified in the system approval.

Table 1: Shelburne DWS – Maximum Allowable Volume and Flow Rate, and Rated Capacity										
Shelburne Well Supply	Raw Water Wells						Treated Water Wells			
	Well 1	Well 3	Well 5	Well 6	Well 7	Well 8	Well 1	Well 3	Well 5/6	Well 7/8
Design Capacity (m ³ /day)	1642.00	1309.00	1964.00	1964.00	1635.00	1635.00	2261.00	1309.00	1987.00	1635.00
Approved Maximum Flow Rate (L/s)	19.00	15.15	22.73	22.73	18.91	18.91	-	-	-	-
Average Day Flow (m ³ /day)	0.63	n/a	381.45	392.09	728.97	657.00	n/a	n/a	773.30	1386.78
Maximum Day Flow (m ³ /day)	84.00	n/a	1123.00	1123.00	1635.00	1635.00	n/a	n/a	1123.00	3270.00
% Average Day Flow/Design Capacity	0.04%	n/a	19.42%	19.96%	44.59%	40.18%	n/a	n/a	38.92%	84.82%
% Maximum Day Flow/Design Capacity	5.12%	n/a	57.18%	57.18%	100%	100%	n/a	n/a	56.52%	200%
Average Peak Flow Rate (L/s)	14.92	n/a	14.28	13.08	18.39	18.99	-	-	-	-
Maximum Peak Flow Rate (L/s)	20.33	n/a	19.20	15.08	19.87	24.84	-	-	-	-
% Average Peak Flow Rate/Approved	78.53%	n/a	62.82%	57.55%	97.25%	100.42%	-	-	-	-
% Maximum Peak Flow Rate/Approved	107.00%	n/a	84.47%	66.34%	105.08%	131.36%	-	-	-	-

A review of flow information for the period of January 1, 2021 to December 31, 2021 indicates that:

- The maximum daily volume specified in the PTTW was not exceeded on any well.
- The drinking water system did not exceed the rated capacity for the maximum treated volume of treated water that flows from the treatment subsystem to the distribution system as specified in the MDWL.
- There was 1 instance where the maximum peak flow rate was exceeded for Well 1 within the drinking water system
 - March 3, 2021 – exceedance occurred during testing, flow was running to waste.
- There were 3 instances where the maximum peak flow rate was exceeded for Well 7 within the drinking water system.
 - March 25, 2021 – exceedance occurred for 50 seconds during testing of new VFD drive after installing new well pump by contractor, flow was running to waste.
 - March 30, 2021 – exceedance occurred for 28 seconds on initial startup when running to waste in hand for raw water sampling.
 - May 13-18, 2021 – Well 7/8 Pump Testing Temporary PTTW – Maximum Flow Rate 25 L/sec - 4320 m³/day
- There were 3 instances where the maximum peak flow rate was exceeded for Well 8 within the drinking water system.
 - April 14, 2021 – exceedance occurred for 27 seconds on initial startup after well turned on and pipe was empty from new pump installation for pump upsizing project
 - April 16, 2021 – exceedance occurred for 28 seconds due to power surge while the pump was midway through pump cycle
 - May 13-18, 2021 – Well 7/8 Pump Testing Temporary PTTW – Maximum Flow Rate 25 L/sec - 4320 m³/day

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The following tables outline the detailed flow summary for each Raw Water Well:

Table 2: Facility Flow Summary for Raw Water Source W1						
Well #1						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	0.00	0.00	0.00	0.00	0.00	0
February	0.00	0.00	0.00	0.00	0.00	0
March	6.00	0.19	6.00	0.37	20.33	1
April	0.00	0.00	0.00	0.00	0.00	0
May	0.00	0.00	0.00	0.00	0.00	0
June	0.00	0.00	0.00	0.00	0.00	0
July	139.00	4.48	84.00	5.12	17.40	3
August	12.00	0.39	7.00	0.43	11.20	2
September	38.00	1.27	38.00	2.31	10.76	1
October	0.00	0.00	0.00	0.00	0.00	0
November	0.00	0.00	0.00	0.00	0.00	0
December	0.00	0.00	0.00	0.00	0.00	0
Total	195.00					7
Avg		0.63			14.92	
Max			84.00	5.12	20.33	

*All flow volume recorded above was ran to waste – Well 1 was offline during the period January 1, 2021-December 31, 2021

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Well #3						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	0.00	0.00	0.00	0.00	0.00	0
February	0.00	0.00	0.00	0.00	0.00	0
March	0.00	0.00	0.00	0.00	0.00	0
April	0.00	0.00	0.00	0.00	0.00	0
May	0.00	0.00	0.00	0.00	0.00	0
June	0.00	0.00	0.00	0.00	0.00	0
July	0.00	0.00	0.00	0.00	0.00	0
August	0.00	0.00	0.00	0.00	0.00	0
September	0.00	0.00	0.00	0.00	0.00	0
October	0.00	0.00	0.00	0.00	0.00	0
November	0.00	0.00	0.00	0.00	0.00	0
December	0.00	0.00	0.00	0.00	0.00	0
Total	0.00					0
Avg		0.00			0.00	
Max			0.00	0.00	0.00	

*Well 1 was out of service during the period January 1, 2021-December 31, 2021

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Table 4: Facility Flow Summary for Raw Water Source W5						
Well #5						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	11234.00	362.39	765.00	38.95	12.61	25
February	9691.00	346.11	789.00	40.17	12.70	23
March	12272.00	395.87	819.00	41.70	16.02	26
April	10815.00	360.50	929.00	47.30	16.18	28
May	8216.00	265.03	1123.00	57.18	13.42	15
June	16030.00	534.33	1037.00	52.80	13.35	26
July	13762.00	443.94	1037.00	52.80	12.38	30
August	9644.00	311.10	896.00	45.62	19.20	22
September	12068.00	402.27	1037.00	52.80	18.29	27
October	11183.00	360.74	834.00	42.46	12.32	27
November	10344.00	344.80	791.00	40.27	12.79	28
December	13961.77	450.38	1027.51	52.32	12.05	30
Total	139220.77					307
Avg		381.45			14.28	
Max			1123.00	57.18	19.20	

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Table 5: Facility Flow Summary for Raw Water Source W6						
Well #6						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	12083.00	389.77	777.00	39.56	12.16	26
February	11519.00	411.39	845.00	43.02	12.46	24
March	11444.00	369.16	1037.00	52.80	14.80	27
April	11951.00	398.37	890.00	45.32	12.25	27
May	12860.00	414.84	1123.00	57.18	13.10	20
June	13779.00	459.30	1037.00	52.80	12.45	21
July	10368.00	334.45	785.00	39.97	12.44	28
August	16836.00	543.10	1037.00	52.80	15.08	29
September	11851.00	395.03	1037.00	52.80	12.44	24
October	10461.00	337.45	755.00	38.44	12.18	23
November	10085.00	336.17	821.00	41.80	13.03	27
December	9797.08	316.03	736.53	37.50	14.54	28
Total	143034.08					304
Avg		392.09			13.08	
Max			1123.00	57.18	15.08	

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Table 6: Facility Flow Summary for Raw Water Source W7						
Well #7						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	19573.00	631.39	1487.00	90.95	17.63	28
February	13101.00	467.89	1320.00	80.73	17.64	22
March	20316.00	655.35	1487.00	90.95	19.87	22
April	25044.00	834.80	1487.00	90.95	17.71	26
May	24783.00	799.45	1635.00	100.00	19.69	24
June	23796.00	793.20	1555.00	95.11	18.38	20
July	22725.00	733.06	1555.00	95.11	18.31	27
August	17543.00	565.90	1554.00	95.05	18.36	22
September	29521.00	984.03	1555.00	95.11	18.33	28
October	25021.00	807.13	1516.00	92.72	18.24	29
November	24219.00	807.30	1555.00	95.11	18.37	30
December	20713.19	668.17	1553.51	95.02	18.13	26
Total	266355.19					304
Avg		728.97			18.39	
Max			1635.00	100.00	19.87	

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Table 7: Facility Flow Summary for Raw Water Source W8						
Well #8						
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Water Taking Limits (%)	Daily Flow Peak Flow Rate (L/sec)	Number of Days of Water Taking
January	18839.00	607.71	1230.00	75.23	17.50	29
February	23057.00	823.46	1468.00	89.79	18.04	27
March	21048.00	678.97	1539.00	94.13	18.23	23
April	12881.00	429.37	1305.00	79.82	24.84	20
May	30920.00	997.42	1635.00	100.00	19.87	27
June	22249.00	741.63	1555.00	95.11	18.71	20
July	19883.00	641.39	1555.00	95.11	18.25	23
August	26384.00	851.10	1555.00	95.11	18.35	27
September	12489.00	416.30	1382.00	84.53	18.28	20
October	14583.00	470.42	1253.00	76.64	18.90	21
November	15875.00	529.17	1329.00	81.28	18.80	26
December	21610.12	697.10	1553.45	95.01	18.14	26
Total	239818.12					289
Avg		657.00			18.99	
Max			1635.00	100.00	24.84	

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The following table outlines the detailed flow summary for Treated Water

Treated – Well 5/6				
Month	Monthly Flow Total (m³/month)	Daily Flow Average (m³/day)	Daily Flow Maximum (m³/day)	Max Percent Rated Capacity (%)
January	23317.00	752.16	845.00	42.53
February	21210.00	757.50	846.00	42.58
March	23716.00	765.03	1037.00	52.19
April	22766.00	758.87	929.00	46.75
May	21076.00	679.87	1123.00	56.52
June	29809.00	993.63	1037.00	52.19
July	24130.00	778.39	1037.00	52.19
August	26480.00	854.19	1037.00	52.19
September	23919.00	797.30	1037.00	52.19
October	21644.00	698.19	870.00	43.78
November	20429.00	680.97	858.00	43.18
December	23758.86	766.41	1027.51	51.71
Total	282254.90			
Avg		773.30		
Max			1123.00	56.52

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Table 9: Facility Flow Summary for Treated Water Well 7/8				
Treated – Well 7/8				
Month	Monthly Flow Total (m ³ /month)	Daily Flow Average (m ³ /day)	Daily Flow Maximum (m ³ /day)	Max Percent Rated Capacity (%)
January	38412.00	1239.10	1487.00	90.95
February	36158.00	1291.36	1468.00	89.79
March	41364.00	1334.32	1539.00	94.13
April	37925.00	1264.17	1487.00	90.95
May	55703.00	1796.97	3270.00	200.00
June	46045.00	1534.83	1555.00	95.11
July	42608.00	1374.45	1555.00	95.11
August	43927.00	1417.00	1555.00	95.11
September	42010.00	1400.33	1555.00	95.11
October	39604.00	1277.55	1516.00	92.72
November	40094.00	1336.47	1555.00	95.11
December	42323.32	1365.27	1553.51	95.02
Total	506173.00			
Avg		1386.78		
Max			3270.00	200.00