



2025 Summary Report

for the

Town of Minto

HARRISTON DRINKING WATER SYSTEM

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Background.....	1
1.2	Objective	2
1.3	Description of Drinking Water System	2
2.0	SUMMARY OF UPGRADES	3
2.1	Upgrades Completed in 2025	3
2.2	Upgrades Scheduled to be Completed in 2026.....	3
3.0	OPERATION OF THE DRINKING WATER SYSTEM	3
3.1	Summary of the Quantities and Flow Rates of Water Supplied	3
3.2	Comparison of Actual Flow and Maximum Allowable Rates	7
3.3	Raw Water Quality and Required Treatment.....	9
3.4	Summary of Treatment Chemicals Used	10
4.0	COMPLIANCE	11
4.1	Assessment of Compliance	11
4.2	Summary of Compliance.....	12

LIST OF TABLES

Table 3.1	Harriston Drinking Water System – Well #1	4
Table 3.2	Harriston Drinking Water System – Well #2	5
Table 3.3	Harriston Drinking Water System – Well #3	6
Table 3.4	Harriston Drinking Water System – Well # 1 & 3 Combined	7
Table 3.5	Comparison of Flow Rates and Flow Capacities	8
Table 3.6	2025 Maximum Water Usage Per Day by Month	8
Table 3.7	2025 Annual Summary of Raw Water Turbidity.....	10
Table 3.8	2025 Annual Summary of Treatment Chemicals Used.....	10
Table 4.1	Adverse Water Quality Incidents	12
Table 4.2	Requirements the System Failed to Meet.....	12

**2025 Summary Report
for the
Town of Minto
HARRISTON DRINKING WATER SYSTEM**

1.0 INTRODUCTION

1.1 Background

In December 2002, the Safe Drinking Water Act (SDWA) was enacted. Subsequently, on June 1, 2003, under the SDWA, a new *'Drinking-Water Systems Regulation'*, Ontario Regulation 170/03 (O. Reg. 170/03), was enacted. In addition, several supporting regulations and procedures were also enacted to assist with the administration of O. Reg 170/03. The list of relevant drinking-water legislation is presented in Appendix A.

The SDWA identifies the responsibilities of owners and operating authorities of municipal drinking water systems (SDWA, Sections 11 and 19). Their duties include ensuring that:

- All water provided by the drinking-water system meets prescribed drinking-water quality standards;
- The drinking-water system is operated in accordance with the Act and regulations and is kept in a good state of repair;
- All facilities are appropriately staffed and supervised;
- All sampling, testing and monitoring requirements are complied with;
- All reporting requirements are complied with; and
- Only persons holding valid operator's certificates operate the drinking-water-system.

O. Reg. 170/03 establishes the standard for protection of drinking water. It includes sets of Schedules, specific to municipal residential systems, that define requirements for:

- Minimum treatment levels;
- Operational checks;
- Chemical and microbiological sampling and testing;
- Adverse results reporting;
- Corrective procedures; and
- Report documentation and retention.

The system's Municipal Drinking Water Licence (MDWL), Drinking Water Works Permit (DWWP) and Permit To Take Water (PTTW) imposes system specific rules and conditions applicable to the standards set out in O. Reg. 170/03.

1.2 Objective

This Harriston Drinking Water System Summary Report is being prepared in fulfillment of Schedule 22 of O. Reg. 170/03 and will be given to Members of the Municipal Council. This report covers the period from January 1, 2025 to December 31, 2025.

This Summary Report lists any requirements of the Act, the regulations, the PTTW, the MDWL, the DWWP and any order that the system failed to meet, during the period of this report. For any such failure, the measures that were taken to correct the failure are detailed. The report also includes relevant information that will assist the members of the Municipal Council for the Town, to assess the water work's capability to meet existing and future planned uses of the system.

1.3 Description of Drinking Water System

Harriston is a community with a population of approximately 2,300 people and approximately 850 residential properties, located within the Town of Minto within the northwest corner of Wellington County, at the intersection of Provincial Hwy. No. 9 and Hwy. No. 89.

Harriston is serviced by a waterworks that consists of: three drilled bedrock wells, three pumphouses, an elevated 1,915 m³ steel storage tank and a distribution network of watermains, ranging in diameter from 100 mm to 300 mm. In the event of a power outage, pump #1 & #3 is equipped with automatic back-up power supply. Well #2 has the capacity of connecting to a portable generator.

The bedrock wells are equipped with submersible pumps. Water from Wells #1 and #3 discharge into pumphouse #3, and water from Well #2 discharges into pumphouse #2, respectively, for flow measurement and treatment. In the pumphouse, the raw water supply is injected with 12% sodium hypochlorite for disinfection and the chemical PW1680, for iron sequestering. The treated water leaves the pumphouse and enters an underground contact pipe and is discharged into the distribution system after adequate contact time is achieved.

The wells are controlled (*start/stop*) automatically based on elevated storage tank liquid levels and pressures in the distribution system. Each pumphouse is equipped with alarms for high & low free chlorine residuals (*and corresponding lockout of well pumps*), low water level and intrusion. Each wellhouse has a continuous monitoring analyzer for POE free chlorine with lockouts and alarms.

SCADA provides continuous monitoring for the Harriston Drinking Water System.

The Harriston Drinking Water System operates under the MDWL 106-102 Issue 3 and DWWP 106-202 Issue 5 and PTTW #3012-A8QRPF.

2.0 SUMMARY OF UPGRADES

2.1 Upgrades Completed in 2025

The disinfection treatment system in the Harriston Drinking Water System meets all of the standards imposed by O. Reg. 170/03 and the MECP's "*Procedures for Disinfection of Drinking Water in Ontario*".

Typically, maintaining the system includes repairs and/or replacement of individual components as necessary. In 2025 \$18,340 was spent on watermain upgrades on King Street North, \$13,650 on engineering to replace the watermain on Webb Street, \$42,625 was spent on Well Exploration, \$17,405 to replace the Well #3 pump motor, \$11,015 for the VFD upgrades, \$4,045 for internal tower inspection and \$3,590 for a DICE chlorine dosing board.

The following purchases were made to be shared between all of Minto's water systems. \$13,605 on water meters, \$490 on tablet replacements, \$3,770 on the SCADA system and \$12,730 on the Rate Study and Financial Plan.

Preventative maintenance measures are being followed to ensure proper operation of the Drinking Water System.

All routine maintenance throughout the year and planned maintenance during the monthly scheduled maintenance programs was completed by Minto Operations Staff.

2.2 Upgrades Scheduled to be Completed in 2026

In 2026, the Town of Minto is planning to spend \$18,400 on the King Street North watermain upgrades, \$380,000 on well construction and \$100,000 to replace watermain on Arthur Street West.

The following will also be purchased to be shared within the water department. \$28,500 for the Studies and Data Loggers. \$110,000 on the SCADA monitoring system, \$20,000 for water meters, \$15,000 on pumps and or valves and \$10,000 for chloring dosing boards.

3.0 OPERATION OF THE DRINKING WATER SYSTEM

3.1 Summary of the Quantities and Flow Rates of Water Supplied

O. Reg. 170/03 stipulates that a summary of the quantities and flow rates of the water supplied from each of Harriston's wells be included in the Summary Report. Tables 3.1, 3.2 and 3.3 provide a summary of quantities and flow rates supplied during 2025 for Wells #1, #2 and #3 respectively, on a monthly basis. Wells #1 & #3 are treated in the King Street wellhouse, and Well #2 is treated in the John Street wellhouse.

Table 3.1
Harriston Drinking Water System – Well #1
Treated Water Flow, Turbidity, and Disinfectant Residual
January 1, 2025 – December 31, 2025

	Raw Water Flow (Max Flow Rate = 11.3 L/s)			Chlorine	Monthly Averages				Distribution System Disinfectant
	Operator Observed Peak Flow (L/s)	Maximum Day Flow (m ³ /day)	Monthly Total (m ³)		Monthly Total (L)	Treated Water Turbidity		Treated Water Disinfectant Point of Entry	
No. of Samples Collected				Monthly Average Turbidity (NTU)		No. of Treated Samples Collected	Monthly Average Residual (mg/L)	No. of Samples Collected	
January	9.7	541	9,743	229	4	0.51	31	1.19	See Harriston Well #3 Data
February	9.7	403	2,870	63	4	0.66	28	1.42	
March	9.7	136	1,717	0	5	0.36	31	1.21	
April	9.7	190	1,624	31	5	0.30	30	1.23	
May	9.8	395	2,787	82	4	0.42	30	1.26	
June	9.6	88	1,341	35	5	0.54	30	1.27	
July	9.7	99	1,508	23	4	0.47	31	1.40	
August	9.7	59	1,315	33	4	0.45	31	1.29	
September	9.7	81	1,412	30	5	0.31	30	1.24	
October	9.7	90	1,609	44	4	0.42	31	1.37	
November	9.8	120	1,706	48	4	0.48	30	1.40	
December	9.6	97	1,707	38	5	0.37	31	1.32	
Total			29,338	656	53		364		
Average			2,445			0.44		1.30	
Maximum	9.8	541							

Disinfectant Compound Used: **12% Sodium Hypochlorite**
 Form of Residual Displayed: **Free**
 Quantity of Disinfectant Used During 2025: **656 L**
 Distribution System Minimum Target Residual: **0.2 mg/L**

Table 3.2
Harriston Drinking Water System – Well #2
Treated Water Flow, Turbidity, and Disinfectant Residual
January 1, 2025 – December 31, 2025

	Raw Water Flow (Max Flow Rate = 23.9 L/s)			Chlorine	Monthly Averages				Distribution System Disinfectant
	Operator Observed Peak Flow (L/s)	Maximum Day Flow (m ³ /day)	Monthly Total (m ³)		Monthly Total (L)	Treated Water Turbidity		Treated Water Disinfectant Point of Entry	
Month					No. of Samples Collected	Monthly Average Turbidity (NTU)	No. of Treated Samples Collected	Monthly Average Residual (mg/L)	No. of Samples Collected
January	16.5	376	7,895	235	4	0.72	31	1.34	See Harriston Well #3 Data
February	16.6	349	6,921	214	4	0.85	28	1.33	
March	16.5	336	6,433	162	5	0.86	31	1.24	
April	16.6	556	6,959	235	4	0.68	30	1.30	
May	16.5	672	7,417	191	4	0.79	31	1.26	
June	16.5	289	5,912	166	5	0.64	30	1.12	
July	16.4	375	6,625	168	4	0.79	31	1.17	
August	16.3	758	7,193	224	4	0.64	31	1.26	
September	16.3	704	7,968	227	5	0.57	30	1.35	
October	16.3	276	5,706	204	4	0.59	31	1.29	
November	16.3	348	5,889	176	4	0.43	30	1.35	
December	16.4	348	6,783	213	5	0.49	31	1.33	
Total			81,700	2,415	52		365		
Average			6,808			0.67		1.28	
Maximum	16.6	758							

Disinfectant Compound Used: **12% Sodium Hypochlorite**
 Form of Residual Displayed: **Free**
 Quantity of Disinfectant Used During 2025: **2,415 L**
 Distribution System Minimum Target Residual: **0.2 mg/L**

Table 3.3
Harriston Drinking Water System – Well #3
Treated Water Flow, Turbidity, and Disinfectant Residual
January 1, 2025 – December 31, 2025

	Raw Water Flow (Max Flow Rate = 18.9 L/s)			Chlorine	Monthly Averages				Distribution System Disinfectant
	Operator Observed Peak Flow (L/s)	Maximum Day Flow (m ³ /day)	Monthly Total (m ³)		Monthly Total (L)	Treated Water Turbidity		Treated Water Disinfectant Point of Entry	
Month					No. of Samples Collected	Monthly Average Turbidity (NTU)	No. of Treated Samples Collected	Monthly Average Residual (mg/L)	No. of Samples Collected
January	16.0	400	4,145	108	4	0.36	31	1.29	49
February	16.1	659	10,107	276	4	0.51	28	1.44	43
March	15.9	709	13,209	300	5	0.27	31	1.23	49
April	16.8	697	12,878	320	4	0.40	30	1.34	44
May	16.5	686	11,981	275	4	0.26	27	1.30	48
June	16.3	753	14,830	400	5	0.35	30	1.41	48
July	16.6	698	14,903	340	5	0.37	31	1.36	47
August	16.6	821	13,763	330	4	0.41	31	1.34	47
September	16.6	647	11,678	294	5	0.36	30	1.36	48
October	16.5	760	14,984	371	4	0.37	31	1.31	49
November	16.5	652	13,766	336	4	0.55	30	1.39	43
December	16.6	653	13,930	394	5	0.42	31	1.38	48
Total			150,173	3,744	53		361		563
Average			12,514			0.39		1.35	
Maximum	16.8	821							

Disinfectant Compound Used: **12% Sodium Hypochlorite**
 Form of Residual Displayed: **Free**
 Quantity of Disinfectant Used During 2025: **3,744 L**
 Distribution System Minimum Target Residual: **0.2 mg/L**

Table 3.4
Harriston Drinking Water System – Well #1 & 3 Combined
Treated Water Flow
January 1, 2025 – December 31, 2025

Month	Treated Water Flow (Well #1 Max Flow Rate = 11.3 L/s) (Well #3 Max Flow Rate = 18.9 L/s) (Max Daily Volume = 2,613 m ³ /d)				Chlorine
	Operator Observed Peak Flow Well #1	Operator Observed Peak Flow Well #3	Maximum Day Flow	Monthly Total	Monthly Total
	(L/s)	(L/s)	(m ³ /day)	(m ³)	(L)
January	9.7	16.0	541	13,888	337
February	9.7	16.1	659	12,977	339
March	9.7	15.9	709	14,926	300
April	9.7	16.8	697	14,502	351
May	9.8	16.5	686	14,769	357
June	9.6	16.3	753	16,172	435
July	9.7	16.6	698	16,410	363
August	9.7	16.6	821	15,078	363
September	9.7	16.6	647	13,089	324
October	9.7	16.5	760	16,592	415
November	9.8	16.5	652	15,472	384
December	9.6	16.6	653	15,637	432
Total				179,512	4,400
Average				14,959	
Maximum	9.8	16.8	821		

3.2 Comparison of Actual Flow and Maximum Allowable Rates

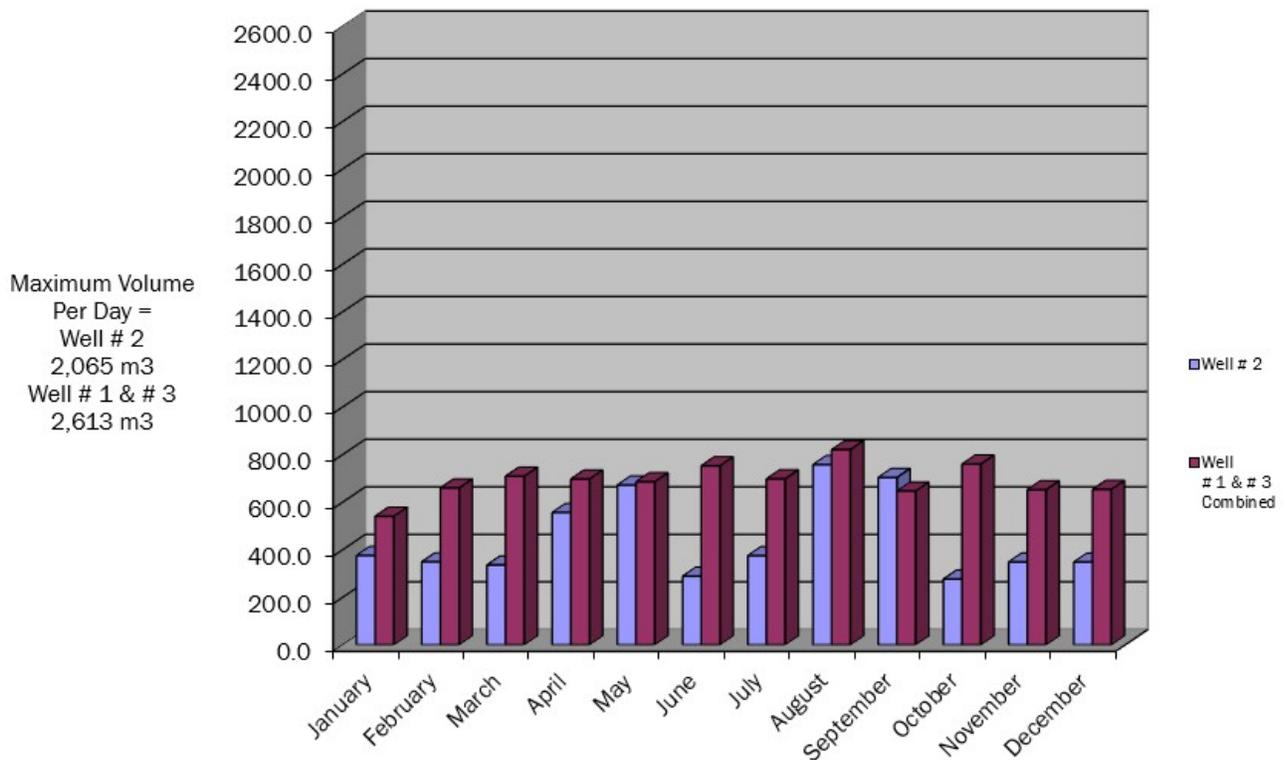
O. Reg. 170/03 stipulates that a summary of the quantities and flow rates of the water supplied from each of Harriston’s wells be included in the Summary Report and compared against the rated capacity and flow rate for the system. As such, a comparison of the instantaneous peak flow to the PTTW’s rated capacity is included and a comparison of the maximum daily flow to the MDWL’s rated capacity is included in Table 3.5. Table 3.4 reflects the comparisons between the PTTW and MDWL.

Table 3.5
Comparison of Flow Rates and Flow Capacities
To
Rated Flow Rate (PTTW) and Rated Capacity (MDWL)

Well Supply	PTTW Max. Flow Rate	Operator Observed Peak Flow	Percent of Maximum Allowable	MDWL Schedule C Maximum Daily Quantity	Maximum Daily Flow	Percent of Maximum Allowable
	L/s	L/s	%	m ³ /day	m ³ /day	%
Well #1	11.3	9.8	86	979	541	55
Well #2	23.9	16.6	70	2,065	758	37
Well #3	18.9	16.8	89	1,634	821	50

The MDWL stipulates, “The maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed the value identified as the rated capacity in Schedule C Table 1.”

Table 3.6
Maximum Water Usage Per Day by Month



Short-term peaks, in excess of permitted values, may occur at pump start up, while doing specific maintenance procedures or during emergency demand situations.

The time and duration of any flow exceedance is recorded for each event along with the reason for the occurrence. There were no extended exceedances or exceedances over the daily permitted rate in the Harriston Drinking Water System.

3.3 Raw Water Quality and Required Treatment

The Harriston Drinking Water System has no chemical parameters that exceed MAC (maximum acceptable concentration) or IMAC (interim maximum acceptable concentration). The Harriston Drinking Water System uses PW1680 to improve the water quality.

The Harriston Drinking Water System utilizes continuous monitoring analyzers for free chlorine residual. The chlorine analyzer is equipped with an alarm for high and low free chlorine. In the event of a high and/or low chlorine residual reading, a signal is sent to the SCADA system, which in turn, shuts down the respective well pump. The average monthly turbidity and free chlorine residual measurements for treated water are presented in Tables 3.1, 3.2 and 3.3 for Well #1, Well #2 and Well #3, respectively.

There were no turbidity readings exceeding 1.0 NTU during 2025. The minimum, maximum and average turbidity readings for raw water from each well are presented in Table 3.7.

12% sodium hypochlorite is the disinfectant used. Free chlorine residual is monitored continuously at the “*Point of Entry*” (POE) into the distribution system. Additional “*grab samples*” are taken daily (*excluding weekends and holidays*) within the distribution system and tested for the free chlorine residual. The minimum, maximum and average values of free chlorine residual at the POE are presented Table 3.7.

The free chlorine residual in the distribution system ranged between 0.56 mg/L and 1.58 mg/L. O. Reg. 170/03, Schedule 1-2 stipulates that the free chlorine residual can never be less than 0.05 mg/L. In addition, O. Reg. 170-03, Schedule 1-4 stipulates that the water treatment equipment must be “...*capable of achieving, at all locations within the distribution system, a free chlorine residual of 0.2 mg/L ...*”. The Harriston Drinking Water System meets both of these requirements.

Table 3.7
2025 Annual Summary of
Raw Water Turbidity and Free Chlorine Residual
for Harriston Drinking Water System

Location	Range	Raw Water Turbidity	Free Chlorine Residual at POE
		NTU	mg/L
Well #1	Minimum	0.13	0.81
	Maximum	0.82	1.79
	Average	0.37	1.30
Well #2	Minimum	0.11	0.92
	Maximum	0.72	1.67
	Average	0.37	1.28
Well #3	Minimum	0.13	0.84
	Maximum	0.68	1.71
	Average	0.37	1.35

3.4 Summary of Treatment Chemicals Used

The disinfectant chemical used in the Harriston Drinking Water System is 12% Sodium Hypochlorite. Measurements of free chlorine are recorded on a continuous basis. In 2025, 6,815 L of 12% Sodium Hypochlorite was used. The average dosage rates are presented in Table 3.8.

In 2025, 1,240 L of PW1680 was used for the sequestering of iron. Wells #1 and #3 share a common tank of PW1680. The average dosage rates are presented in Table 3.8.

Table 3.8
2025 Annual Summary of
Treatment Chemicals Used
for Harriston Drinking Water System

Treatment Chemical	Well	Volume Used	Mass Used	Annual Flow	Dosage Rate
		L	kg	m ³	mg/L
12 % Sodium Hypochlorite (NaOCl)	Well #1	656	78.7	29,338	2.68
	Well # 2	2,415	289.8	81,700	3.55
	Well # 3	3,744	449.3	150,173	2.99
	Total	6,815	817.8	261,212	3.13

Treatment Chemical	Well	Volume Used	Mass Used	Annual Flow	Dosage Rate
		L	kg	m ³	mg/L
PW1680	Well #1 & Well #3	419	586.6	179,512	3.27
	Well # 2	821	1,149	81,700	14.07
	Total	1,240	1,736	261,212	6.65

Note: • 12% Sodium Hypochlorite = 120,000 mg/L = 120 kg/m³
 • PW1680 has a specific gravity = 1.4

4.0 COMPLIANCE

4.1 Assessment of Compliance

The objective of the Summary Report is to list any requirements of the Act, the regulations, the PTTW, the MDWL, the DWWP and any MECP order that the system failed to meet from January 1, 2025 to December 31, 2025, and the corresponding corrective measure(s) taken. Compliance was assessed as follows:

- MECP Completed Inspection of the Harriston DWS was completed July 8, 2025. Final inspection rating 94.64%
- There was a Regulatory Non-compliance issue noted for Clifford, Harriston, Palmerston and Minto Pines due to a sampling issue where the required samples were collected outside the 120 day window for sample collection of quarterly samples. The samples were collected on March 19th 2025 once the sampling issue had been discovered. The issue was resolved by operator training and calendar reminders for all water staff.
- There were **No MECP Orders** issued to the Harriston Drinking Water System in 2025.
- The MDWL imposes the specific rules and conditions governing the standards set out in O. Reg. 170/03. It is an important instrument in defining the requirements of compliance of a Drinking Water System.
- O. Reg. 170/03 establishes the standard for protection of drinking water; specifically, through 12 schedules that municipal residential drinking systems must follow to meet the requirements of the regulation.
- The SDWA identifies the responsibilities of owners and operating authorities of municipal drinking water systems. It places a recommended statutory standard of care on those who have oversight of municipal drinking water systems. In essence, the standard of care has two themes: be informed and exercise diligent oversight.
- Adverse Test Results reported under the Safe Drinking Water Act, 18(1) or O Reg.170/03, Schedule 16-4
 - a) Adverse Water Quality Incidents (AWQI) refer to any unusual test results that do not meet provincial water quality standard or situation where the disinfection of the drinking water may be compromised.

**Table 4.1
 Adverse Water Quality Incidents**

AWQI #	Date	Parameter	Result	Corrective Action
N/A				

4.2 Summary of Compliance

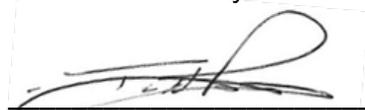
The Town of Minto works diligently to maintain compliance with all the requirements of the SDWA, O. Reg. 170/03, as well as the Harriston Water Work's MDWL 106-102 Issue 3, DWWP 106-202 Issue 5 and PTTW #3012-A8QRPF.

Table 4.2 identifies any non-compliances related to the following: SDWA, O. Reg. 170/03, the MDWL, the DWWP and the PTTW.

**Table 4.2
 HARRISTON DRINKING WATER SYSTEM
 Requirements the System Failed to Meet**

Compliance With	Description of Item the System Failed to Meet	Correction of This Situation How/When
MDWL # 106-102 Issue 3	<i>Harriston Drinking Water System is in compliance with all of the requirements of the MDWL.</i>	
DWWP # 106-202 Issue 5	<i>Harriston Drinking Water System is in compliance with all of the requirements of the DWWP.</i>	
O. Reg. 170/03	<i>Harriston Drinking Water System was in non-compliance with the 1st Quarter Sampling requirements, the issue was resolved with no further actions required per MECP. The Harriston DWS is in compliance will all other requirements of O. Reg. 170/03.</i>	
SDWA	<i>Harriston Drinking Water System is in compliance with all of the requirements of the SDWA.</i>	
PTTW #3012-A8QRPF	<i>Harriston Drinking Water System is in compliance with all of the requirements of the PTTW.</i>	

Dated this 5th day of March 2026



Todd Rogers
 Water Services Manager