



Town of Minto  
DWQMS  
Management Review  
2024



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## **1.0 Introduction to DWQMS Management Review**

The requirements of the management review are dictated by The Ministry of the Environment Conservation and Parks (MECP) and Drinking Water Quality Management Standard (DWQMS), element 20 “Management Review”. This standard requires that a Management Review is conducted once every calendar year to evaluate the continuing suitability, adequacy and effectiveness of the Quality Management System.

Through the management review process, Top Management shall consider the results of the management review and identify deficiencies and action items to address the deficiencies. Management will provide a record of any decisions and action items related to the management review, including the personnel responsible for delivering the action items and the proposed timelines for their implementation. The results of the management review, the identified deficiencies, decisions and action items will be reported to the Owner.

The following is a summary of the information that must be reviewed annually in accordance with the DWQMS program.

- a) incidents of regulatory non-compliance,
- b) incidents of adverse drinking-water tests,
- c) deviations from critical control point limits and response actions,
- d) the effectiveness of the risk assessment process,
- e) internal and third-party audit results,
- f) results of emergency response testing,
- g) operational performance,
- h) raw water supply and drinking water quality trends,
- i) follow-up on action items from previous management reviews,
- j) the status of management action items identified between reviews,
- k) changes that could affect the Quality Management System,
- l) consumer feedback,
- m) the resources needed to maintain the Quality Management System,
- n) the results of the infrastructure review,
- o) Operational Plan currency, content and updates, and
- p) staff suggestions.

This report provides an overview of the operational performance of our drinking water systems and our management system.

## 2.0 Minto's Quality Management System Policy

### Schedule A



### **Quality Management System Policy for the Town of Minto Water Supply and Distribution System**

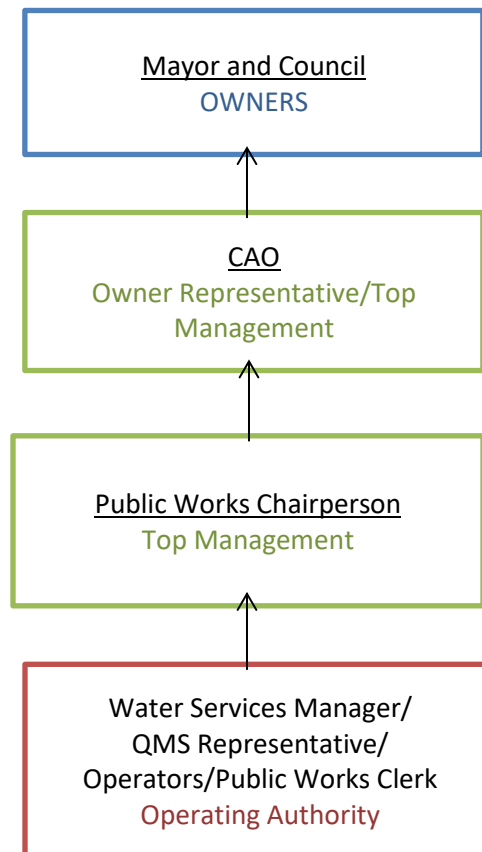
The Town of Minto is committed to supplying a consistent and safe drinking water supply which meets or exceeds all regulatory standards. We strive to achieve these goals through creating and managing a system comprised of policies and procedures which exhibit ongoing evaluations, staff competency through training, communication of pertinent information with consumers and town staff, workplace safety and contingency response measures.

The management and staff of the Town of Minto are committed to producing, maintaining and continuously improving the Quality Management System.

Endorsed by The Council of the Town of Minto  
On December 6, 2022

### 3.0 Roles and Responsibilities

Element 9 requires that you describe the organizational structure of the operating authority including respective roles, responsibilities and authorities. The chart below outlines each group that has a role in providing safe drinking water. To see specific roles and responsibilities and organizational chart for each group refer to The Town of Minto DWQMS Operational Plan Element 9.





## 4.0 Drinking Water System Performance

### 4.1 Incidents of Regulatory Non-Compliance

All of Minto's water systems are inspected annually by the MECP for regulatory compliance, below is list of the inspection dates and the resulting inspection rating:

System	Inspection Date	Final Inspection Rating
Clifford (DWS# 220000031)	May 15, 2024	100%
Harriston (DWS# 220000077)	July 11, 2024	100%
Palmerston (DWS# 220000059)	June 4, 2024	100%
Minto Pines (DWS#260007088)	July 11, 2024	96.57%

The Town of Minto also looks after and manages two facilities that are inspected by the Public Health Unit, typically once every three years. These facilities are the Drew Hall and the Municipal Office.

Both of those facilities were inspected in 2023, with Drew Hall completed on July 13<sup>th</sup> and the Municipal Office completed on October 3<sup>rd</sup>. No issues were observed and noted in the inspection reports with the water treatment system and equipment.

#### Minto Pines Inspection

**NC Item** – Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.

**Response** – On April 15, 2024 there were 34 minutes of missing data. The missing data was because the UPS (uninterrupted power supply) unit failed and therefore there was no power to the SCADA Pack. The missing data was from 7:09 am to 7:44 am and during this time there was no five minute data recorded and retained. The operator attended the site at 7:40 am and restarted the UPS unit and confirmed the treatment equipment was operating and there were no alarms. The Town reported this incident to the ministry on April 16, 2024. Minto Pines is equipped with a backup generator. The UPS unit was assessed by a contractor after this incident.

**Actions Required:** No further action is required at this time. Corrective actions were addressed at the time of the incident.

### 4.2 Incident of Adverse Drinking Water Tests

Ontario's Drinking water regulations identify several standards and indicators that result in Adverse Water Quality Incidents (AWQI). For any AWQI the Town of Minto must notify both Wellington-Dufferin-Guelph Health Unit and the MECP of the occurrence, corrective actions and final outcomes. From October 1, 2023 to September 30, 2024 there was two (2) AWQI's, between Minto's Drinking Water Systems.



### **Minto Pines**

AWQI #164921 – May 6, 2024

**Minto Pines Issue:** The new production well (#1A) being commissioned and in close proximity to the existing production well (#1) that is being de-commissioned at the same time. Therefore the Drinking Water System (DWS) was supplied & pressurized by a temporary water supply with very limited capacity. Town of Minto issued a Precautionary Boil Water Advisory for the duration of the new well #1A commissioning and the existing well #1 de-commissioning and until the new well was flushed & sampled to ensure the water is safe to resume normal water consumption. The new well was commissioned and the existing well de-commissioned with no complications. Once the new well had been flushed to remove any chlorine and excess turbidity from the commissioning process, two raw micro bacteria samples were collected from the new well 30 min apart. We received the clear results from the lab on May 10<sup>th</sup>, therefore the new well was put into service, the system back on-line and the Precautionary Boil Water Advisory was lifted.

### **Palmerston**

AWQI #165516 – July 10, 2024

**Palmerston Issue:** During our regular weekly bacteriological sampling, a distribution sample location resulted in an adverse of 1 TC (Total Coliform). Operations staff re-sampled on July 10<sup>th</sup> with one sample upstream, one sample downstream and one sample at the adverse sample location as per O. Reg. 170/03 Schedule 17, sub-section 17.4. Results for the three re-samples came back as “all clear” for TC. The AWQI was closed on July 12, 2024.

### **4.3 Deviations from Critical Control Point Limits and Response Actions**

The risk assessment annual and 36-month review was completed August 28, 2024 and as part of the review all critical control points (CCP's) were reviewed. There were no deviations from CCP's in the past year that resulting in the potential for unsafe water. From time to time as a result of equipment failure there is low or high chlorine detected at the various pump houses, but built-in safety mechanisms shut down the well pumps to ensure no water outside our control limits enters the distribution system.

### **Watermain Breaks & Service Line Repairs 2023/24**

All watermain breaks were repaired following the MECP Watermain Disinfection Procedure and ANSI/AWWA C651. There were 3 watermain breaks and 1 service line leaks/repairs during this reporting period. This is down from 3 watermain breaks and 6 service line leaks/repairs during last years reporting period. All 3 watermain breaks were determined to be Category 1 breaks, which means no risk of contamination during the repairs.

October 5<sup>th</sup> 2023 – Harriston, Wellington Rd. 109 (*Service Line*)

October 19<sup>th</sup> 2023 – Minto Pines, Murray Way (*Blow Off Valve*)

November 6<sup>th</sup> 2023 – Palmerston, Main St. E (*Watermain*)

February 5<sup>th</sup> 2024 – Harriston, Thomas St. N (*Watermain*)

August 18<sup>th</sup> 2024 – Palmerston, Derby St. (*Watermain*)



#### 4.4 Operator Certification

The Town of Minto water systems are operated by certified operators at all times. Currently there are ten (10) operators employed by Minto shared between water and wastewater departments with varying levels of certification. Training requirements are closely tracked to ensure regulatory compliance and ability of operators to meet re-certification requirements.

#### 4.5 Annual and Summary Reports

O. Reg 170/03 requires the Owner and Operating Authority to prepare Annual Reports and Summary Reports for each of Minto’s water systems. The 2023 Annual Reports were completed and submitted prior to Feb. 28, 2024, as per the regulation. The Summary Reports for 2023 were endorsed by Council March 19, 2024, also required by the regulation.

#### 4.6 Water Taking Levels

Maximum daily water taking volumes never exceeded the maximum litres per day stipulated in the Permit to Take Water for any of Minto’s systems in 2023/24.

### Palmerston

Month	Wells #1 & #2					Wells #3 & #4				
	Well 1	Well 2	Permitted m <sup>3</sup> /day	Well 1	Well 2	Well 3	Well 4	Permitted m <sup>3</sup> /day	Well 3	Well 4
	Max m <sup>3</sup> /day			% of capacity		Max m <sup>3</sup> /day			% of capacity	
Oct	131.07	616.53	1964	6.7	31.4	455.90	142.01	2291	19.9	6.2
Nov	187.76	583.47	1964	9.6	29.7	643.94	134.42	2291	28.1	5.9
Dec	149.70	369.90	1964	7.6	18.8	477.35	158.52	2291	20.8	6.9
Jan	146.82	323.36	1964	7.5	16.5	375.34	137.41	2291	16.4	6.0
Feb	138.40	370.26	1964	7.1	18.9	458.18	158.07	2291	20.0	6.9
Mar	265.59	374.39	1964	13.5	19.1	519.34	137.58	2291	22.7	6.0
Apr	472.38	380.89	1964	24.1	19.4	633.93	368.55	2291	27.7	16.1
May	134.60	502.44	1964	6.9	25.6	473.01	158.93	2291	20.7	6.9
Jun	131.24	469.79	1964	6.7	23.9	644.44	169.41	2291	28.1	7.4
Jul	142.91	852.04	1964	7.3	43.4	542.68	251.64	2291	23.7	11.0
Aug	149.78	948.83	1964	7.6	48.3	1032.15	166.00	2291	45.1	7.3
Sept	140.55	603.05	1964	7.2	30.7	675.69	199.63	2291	29.5	8.7

**Note:** Higher “Max Day” flow in April for well #1 & #4 due to an electrical issue with well #2 pump.

**Note:** Higher “Max Day” flow in August for well #3 due to a watermain break.





**Harriston**

Month	Well#1			Well#2			Well #3		
	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity
Oct	111.59	979	11.4	329.37	2065	16.0	749.93	1634	45.9
Nov	97.35	979	9.9	299.58	2065	14.5	725.66	1634	44.4
Dec	210.25	979	21.5	302.37	2065	14.6	738.30	1634	45.2
Jan	238.69	979	24.4	410.36	2065	19.9	650.24	1634	39.8
Feb	96.95	979	9.9	428.41	2065	20.8	668.32	1634	40.9
Mar	93.89	979	9.6	522.24	2065	25.3	680.16	1634	41.6
Apr	88.68	979	9.1	573.30	2065	27.8	634.94	1634	38.9
May	396.72	979	40.5	327.35	2065	15.9	764.46	1634	46.8
June	64.62	979	6.6	321.99	2065	15.6	827.78	1634	50.7
July	75.70	979	7.7	482.33	2065	23.4	812.70	1634	49.7
Aug	76.35	979	7.8	339.23	2065	16.4	710.58	1634	43.5
Sept	85.03	979	8.7	512.75	2065	24.8	837.68	1634	51.3

**Note:** Higher “Max Day” flow in May for well #1 due to being used to supply temp water to Minto Pines during well commissioning.

**Clifford**

Month	Well #1			Well #3			Well #4		
	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity
Oct	174.54	1310	13.3	227.74	655	34.8	67.09	1310	5.1
Nov	109.71	1310	8.4	163.73	655	25.0	84.11	1310	6.4
Dec	103.86	1310	7.9	157.38	655	24.0	79.89	1310	6.1
Jan	124.49	1310	9.5	147.03	655	22.5	52.40	1310	4.0
Feb	132.66	1310	10.1	150.38	655	23.0	66.12	1310	5.1
Mar	109.89	1310	8.4	163.90	655	25.0	50.21	1310	3.8
Apr	115.10	1310	8.8	239.93	655	36.6	70.87	1310	5.4
May	132.02	1310	10.1	180.33	655	27.5	47.00	1310	3.6
Jun	138.67	1310	10.6	173.88	655	26.6	51.58	1310	3.9
Jul	159.89	1310	12.2	170.20	655	26.0	60.17	1310	4.6
Aug	127.26	1310	9.7	220.83	655	33.7	68.92	1310	5.3
Sept	135.02	1310	10.3	212.06	655	32.4	83.90	1310	6.4



### Minto Pines

Month	Production Well 1 (old)		
	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity
Oct	33.71	326.8	10.3
Nov	23.61	326.8	7.2
Dec	21.80	326.8	6.7
Jan	20.78	326.8	6.4
Feb	20.70	326.8	6.3
Mar	24.76	326.8	7.6
Apr	34.40	326.8	10.5
May (6 <sup>th</sup> )	33.59	326.8	10.3
Jun			
Jul			
Aug			
Sept			

Month	Production Well 1A (new)		
	Max m <sup>3</sup> /day	Permitted m <sup>3</sup> /day	% of capacity
Oct			
Nov			
Dec			
Jan			
Feb			
Mar			
Apr			
May (10 <sup>th</sup> )	29.08	326.8	8.9
Jun	33.46	326.8	10.2
Jul	35.46	326.8	10.9
Aug	24.14	326.8	7.4
Sept	35.39	326.8	10.8

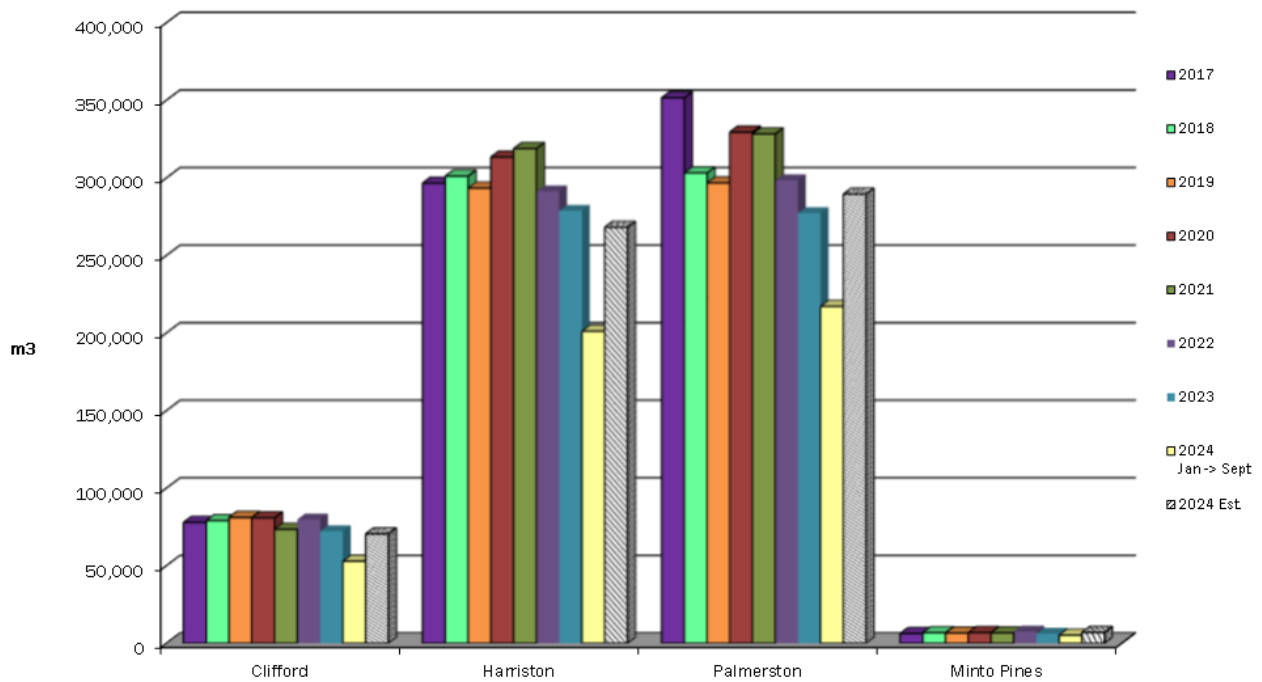
**Note:** Production Well #1 (old) was De-commissioned during the commissioning of Production Well #1A (new), between May 6 – 10, 2024). Well #1 was taken offline on May 6<sup>th</sup> and Well #1A was put online on May 10<sup>th</sup>.



## 5.0 Raw Water Supply and Drinking Water Quality Trends

### 5.1 Consumption

	2017	2018	2019	2020	2021	2022	2023	2024 Jan -> Sept	2024 Est.
Clifford	77,880	79,012	81,099	80,801	73,443	79,797	72,179	52,851	70,469
Harriston	296,572	301,119	293,369	313,365	318,831	291,311	278,718	201,077	268,103
Palmerston	351,595	303,138	296,723	329,447	328,237	298,438	277,234	217,113	289,484
Minto Pines	6,225	6,789	6,593	6,906	6,686	7,516	6,197	5,210	6,947



\*\* 2024 Est. is equal to Total to September 30, 2024 / 9 months x 12 months \*\*

### 5.2 Sampling

#### Microbiological Testing to September 30, 2024

Microbiological testing for E. Coli, Total Coliform, heterotrophic plate count (HPC) is completed weekly at each well in Minto’s water systems.

Drew Hall & Town of Minto office wells are tested monthly.

#### Total Microbiological Samples Oct. 1<sup>st</sup> 2023 -> Sept. 30<sup>th</sup> 2024

Location	Raw & Treated Micro Samples	Distribution Micro Samples
Clifford	312	156
Harriston	312	156
Palmerston	414	211
Minto Pines	52	52
Drew Hall	18 (Raw Only)	18 (DW / Treated)
Town Office	12 (Raw Only)	12 (DW / Treated)

**Distribution Chlorine Residuals**

Chlorine residuals are continuously monitored by inline chlorine analyzers at each well site. These analyzers are equipped to automatically shut off well pumps if chlorine residuals are outside regulated control limits. Operators verify the chlorine residual within the well houses and at various locations throughout the distribution systems daily through the week. The following table shows the minimum and maximum values for chlorine residuals collected in the distribution systems this year. Chlorine residual must never be below 0.05 ppm in the distribution system.

**Distribution Chlorine Residuals Oct. 1<sup>st</sup> 2023 -> Sept. 30<sup>th</sup> 2024**

Location	# of Samples	Min	Max
Clifford	562	0.56	1.35
Harriston	562	0.56	1.80
Palmerston	565	0.55	1.60
Minto Pines	250	0.79	1.49

**Lead**

Minto's Water systems have completed two rounds of full sampling (plumbing & distribution) ending in 2011 with no more than 10% of plumbing results exceeding 10 ug/L. Now the systems are exempt from lead sampling from plumbing according to O. Reg. 170/03. Sampling in the distribution system is still required in the winter and summer periods for pH and alkalinity yearly and for lead every three years. Winter and Summer period distribution alkalinity & pH samples were taken in 2024, all results were within acceptable limits. Reg. 243/07 requires daycares to perform lead sampling annually. Since the completion of the new Wellington County childcare centre, the County would be looking after the sampling for 2024. Although there is still nothing official from the MECP, during conference presentations and inspections the Ministry has indicated the lead standard is under review and will most likely be lowered from 10 ug/L to 5 ug/L. Review of distribution sampling shows no samples above the proposed 5 ug/L but there were several plumbing results above this level.

**Quarterly Sampling**

Nitrate/Nitrite

Nitrate and Nitrite sample were collected as required and all results were beneath the regulated standards.

**Total Haloacetic Acid (HAA)**

Haloacetic acids are a disinfection by-product formed when chlorine reacts with organic material in water, with higher concentrations usually found just after the chlorination process in the distribution system. The standard is 80 ug/L and must be calculated as a running annual average.

**HAA Running Annual Average**

	4 <sup>th</sup> Quarter 2023	1 <sup>st</sup> Quarter 2024	2 <sup>nd</sup> Quarter 2024	3 <sup>rd</sup> Quarter 2024	Average ug/L
Clifford	< 5.3	< 5.3	< 5.3	< 5.3	< 5.3
Harriston	15.3	10.2	14.2	11.7	12.9
Palmerston	< 5.3	< 5.3	< 5.3	< 5.3	< 5.3
Minto Pines	< 5.3	< 5.3	< 5.3	< 5.3	< 5.3

**Trihalomethanes (THM's)**

Trihalomethanes are a disinfection by-product that can be formed when chlorine reacts with organic material in water with higher concentrations usually found near the ends of the distribution system. The standard is 100 ug/L and must be calculated as a running annual average.

**THM Running Annual Average**

	4 <sup>th</sup> Quarter 2023	1 <sup>st</sup> Quarter 2024	2 <sup>nd</sup> Quarter 2024	3 <sup>rd</sup> Quarter 2024	Average ug/L
Clifford	19	14	19	22	18.5
Harriston	15	20	22	15	18.0
Palmerston	12	11	17	28	17.0
Minto Pines	9.3	7.8	7.9	12	9.25

**Schedule 23 & 24 Sampling**

Schedule 23 & 24 parameters (metals, pesticides & volatile organics) were tested at Minto Pines May 2022 as per Reg. 170/03, all results were within acceptable limits. Samples for Harriston, Palmerston and Clifford systems for Schedule 23 and 24 were collected in May 2022. All results were within acceptable limits, except for Clifford Well #1 had an Arsenic exceedance of 12.3 ug/L however after resampling the result was 6.9 ug/L which is within acceptable limits.

**Sodium/Fluoride Sampling**

The Guidelines for Canadian Drinking Water Quality and Ontario Drinking Water Standards set an aesthetic objective of 200 mg/L sodium. Sodium concentrations above 200 mg/L may alter the taste of water.

The Ontario Drinking Water Systems Regulation 170/03 under the Safe Drinking Water Act requires reporting to the local Medical Officer of Health when sodium levels in public drinking water supplies exceed 20 mg/L or more. At this point, the local Medical Officer of Health requires the Town of Minto to inform the public via a posting on the Town of Minto's website, as such information is intended to help persons on sodium-restricted diets to control their sodium intake.

Due to increasing Sodium results across Wellington County, Wellington County Source Water Protection has been offering a "Smart about Salt" training for roads & facilities operators, through social media posts a winter maintenance/salt awareness campaign from December – March, which Minto will be re-posting on their social media platforms. They have also been conducting inspections of parking lots within 100 m of municipal wells to establish baseline data and have been providing comments through planning applications in the WHPAs (Wellhead Protection Areas) for salt management plans as a condition of site plan approval.

Town of Minto water operations staff have been collecting more frequent samples for Sodium to try and establish trending on a year-to-year basis, instead of the once every 5 years, as per regulatory requirement from O. Reg. 170/03. Operations staff are going to be collecting additional Sodium samples again in 2025.



**Sodium and Fluoride Results (most recent)**

Well	Sodium Results (Standard 20 mg/L)			Fluoride Results (Standard 1.5 mg/L)	
	2024 May	2023 Nov.	2022 May	2022	2017
Clifford #1	22.7	16.7	22.3	0.52	1.13
Clifford #3	17.8	16.4	20.5	0.30	0.64
Clifford #4	11.8	11.4	17.0	0.31	1.04
Harriston #1	5.66	4.86	7.92	1.12	0.57
Harriston #2	9.21	8.01	13.7	0.73	0.28
Harriston #3	7.50	7.59	9.86	1.14	0.28
Palmerston #1	21.3	19.1	23.5	0.27	0.23
Palmerston #2	21.4	19.4	24.5	0.26	0.21
Palmerston #3	17.5	14.9	19.9	0.24	0.21
Palmerston #4	14.0	12.4	17.6	0.27	0.21
Minto Pines (#1)	19.7	17.4	17.9	0.06	< 0.10

**Arsenic Sampling**

January 2019, the standard for arsenic was lowered to 0.010 mg/L or 10 ug/L. Reg. 170/03 states if a test result obtained is half or exceeds half of the standard prescribed for the parameter in Schedule 2 of the Ontario Drinking Water Quality Standards, the frequency of sampling and testing for that parameter under that section shall be increased so that at least one water sample is taken and tested every three months.

**Arsenic Results (from most recent sample: May 2022)**

Well	Arsenic Result	Arsenic Standard
Harriston #1	< 0.2 ug/L	10 ug/L
Harriston #2	0.4 ug/L	10 ug/L
Harriston #3	0.6 ug/L	10 ug/L
Palmerston #1	4.6 ug/L	10 ug/L
Palmerston #2	3.9 ug/L	10 ug/L
Palmerston #3	1.5 ug/L	10 ug/L
Palmerston #4	0.8 ug/L	10 ug/L
Minto Pines	< 0.2 ug/L	10 ug/L

Clifford wells #1 and #4 both exceed half the standard and will require additional sampling on a quarterly basis (once every 3 months).

Minto water operations staff are working to manage the water production in Clifford to minimize the concentration of arsenic in the water supply. In October and November of 2020, during regular well maintenance on all Clifford wells (1, 3 & 4), variable rate pumping tests (step tests) were completed before and after the maintenance at wells 1 & 4. Raw samples were taken to assess the arsenic concentration during different pumping rates and time periods, before and after the well maintenance. The results of this additional testing and



sampling provided an additional understanding of the arsenic concentrations dissolved in the water and in sediment in the water produced from Clifford wells 1 and 4.

Minto was asked to collect distribution Arsenic samples during the 2023 Annual MECP Inspection. These samples show how dilution within the distribution system affects the Arsenic levels. The results are as follows: End of Allan St. – 2.1 ug/L and Water Tower – 3.4 ug/L.

**Most Recent Arsenic Results for Clifford  
August 11, 2023**

Well	Arsenic Result Nov. 10, 2023	Arsenic Result Feb. 9, 2024	Arsenic Result May 31, 2024	Arsenic Result Aug. 26, 2024	Arsenic Standard
Clifford #1	6.5	8.1	6.7	6.4	10ug/L
Clifford #3	0.7	0.9	0.8	0.8	10ug/L
Clifford #4	7.4	7.8	7.1	6.6	10ug/L

**Manganese**

In May 2019, a proposal for Health Canada to lower the guideline on manganese was adopted by Ontario. The new aesthetic objective (AO) is 0.02 mg/L (20 ug/L) from previous AO of 0.05 mg/L (50 ug/L). The maximum acceptable concentration (MAC) is 0.12 mg/L (120 ug/L) for total manganese in drinking water.

**Manganese Results**

Well	Manganese Results (A.O. Standard 50 ug/L)		
	2024 May	2023 Nov.	2022 Feb.
Clifford #1	23.1	16.7	18.6
Clifford #3	24.5	27.5	28.8
Clifford #4	29.5	30.8	31.0
Harriston #1	1.14	0.94	1.22
Harriston #2	2.79	2.51	2.71
Harriston #3	1.05	0.91	1.16
Palmerston #1	44.1	44.5	45.9
Palmerston #2	49.1	50.3	49.4
Palmerston #3	36.6	34.8	48.3
Palmerston #4	47.8	45.9	48.3
Minto Pines #1	9.92	8.33	10.4

If the results of past manganese testing remained constant, some of Minto’s wells would exceed half the MAC and could possibly result in extra sampling. Currently no extra sampling is required at this time.

Operations staff are going to be collecting additional Manganese samples again in 2025.



### Strontium

Health Canada has proposed a maximum acceptable concentration (MAC) of 7.0 mg/l for strontium. This is not something the Town of Minto tested for in the past. However, it was identified as part of the sampling conducted during the 2016 upgrade at #2 Harriston. To be proactive all of Minto’s wells were sampled October 22, 2018 and again in 2024, the following table shows the results.

#### Strontium Results

Well	Strontium Result (mg/l) (No A.O. Standard)	
	2024	2018
Clifford #1	11.6	12.1
Clifford #3	3.33	3.3
Clifford #4	5.13	4.99
Harriston #1	26.2	23.8
Harriston #2	23.7	23.9
Harriston #3	25.2	22.9
Palmerston #1	3.63	3.31
Palmerston #2	3.66	3.4
Palmerston #3	4.17	4.0
Palmerston #4	4.35	3.91
Minto Pines #1	0.129	0.119

Clifford Well #1 and Harriston Wells #1, #2, #3 all exceed the proposed limit and the remaining wells excluding Minto Pines are above or very close to half the proposed (MAC). The MECP has advised that Calcium levels should be sampled in the wells showing elevated strontium levels.

### 5.3 Consumer Feedback

All water complaints are dealt with properly and tracked. From Oct. 1, 2023 to Sept. 30, 2024 there was a total of 39 complaints received between all systems. The breakdown is as follows:

#### Summary of Water Complaints 2023/24 Review

Issue	Number of Complaints 2023 Man. Review	Number of Complaints 2024 Man. Review
Water Quality (taste/colour)	10	3
Billing/High Bills/Data Log Requested	46	20
Curb Stops	4	6
Water Meter Problem	4	0
Pressure	0	3
Service Problem	1	3
Frozen Water Line	0	0
Construction Related	2	2
Hydrant/Watermain Valve	0	2
Misc. not water related	4	0
<b>Total</b>	<b>71</b>	<b>39</b>





**Summary of Sold Meter Reads 2023/24 Review**

<b>Issue</b>	<b>Number of Sold Meter Reads 2023 Man. Review</b>	<b>Number of Sold Meter Reads 2024 Man. Review</b>
Clifford	25	31
Harriston	61	50
Palmerston	88	60
Minto Pines	0	0
<b>Total</b>	<b>174</b>	<b>141</b>

**6.0 DWQMS Management System Performance**

**6.1 Efficacy of the Risk Assessment Process**

Element 7 risk assessment process identifies potential hazardous events and associated hazards. The assessed risks associated with the occurrence of hazardous events are ranked according to the risk. Control measures to address the potential hazards and hazardous events and critical control points must be identified. At least once a year the risk assessment must be reviewed for currency and validity and at least once every 36 months a full risk assessment must be conducted. The risk assessment must also consider the reliability and redundancy of equipment.

The last 36-month full Risk Assessment review and the Annual review was completed on August 28, 2024 with Operators, QMS Rep. and Water Services Manager.

After the completion of the 36-month/annual review, the Risk Assessment Outcomes were revised with; additional “Control Measures” to some hazards, new stand-by natural gas generators @ each water tower and revised rankings & “Total CCP Threshold” rankings for some hazards.

**6.2 Operational Plan Currency, Content and Updates**

The Operational Plan is reviewed and updated regularly to ensure the plan is both accurate and effective. In 2023/24 the Operational plan underwent several changes and updates to reflect updated population & household numbers, updated fire hydrant counts per DWS, Risk Assessment Outcomes updates, revisions to some procedures, Minto Pines new well info, Essential Supplier Package revisions, role clarification for OIT Operators and many other smaller revisions. Some revisions/updates were completed to reflect OFI’s identified in the 2023 External Audit as well as the 2024 Internal Audit.



### 6.3 Infrastructure Review

An annual infrastructure review was completed Oct. 23, 2024. Below is a list of the current status of capital budget items for 2024.

#### 2024 Town of Minto Capital Water Budget Items

Project	2024 Budget Incl. Previous Carry-Overs	Year to Date Nov. 29, 2024	Complete
<b>CLIFFORD</b>			
Arsenic Monitoring & Mitigation	\$15,000	\$ 0	Ongoing
<b>HARRISTON</b>			
Well Exploration	\$350,000	\$186,650	Ongoing
King St. N	\$18,400	\$18,400	Ongoing
Well #3 VFD	\$28,500	\$13,600	Ongoing
<b>PALMERSTON</b>			
Well Exploration	\$160,000	\$35,500	Ongoing
Building Maintenance	\$11,000	\$9,900	Ongoing
Main St. - Planned for 2026	\$35,000	\$ 0	Ongoing
Derby St.	\$625,000	\$372,830	Ongoing
<b>MINTO PINES</b>			
New Well	\$350,000	\$244,515	Yes
<b>OTHER</b>			
Engineering	\$95,000	\$51,800	Ongoing
Watermain Replacement	\$115,000	\$0	Ongoing
Equipment	\$45,000	\$24,000	Ongoing
Computer Hardware/Software	\$25,000	\$4,041	Ongoing
SCADA	\$380,000	\$250,405	Ongoing
Water Meters (since 2020) *Selling to New Builds Revenue \$71,360	\$105,000	\$103,630	Ongoing
Pumps (since 2020)	\$45,000	\$45,700	Ongoing

### 6.4 Projected Water Works Projects/Items for 2025

#### All Systems

- Consulting Financial Plan \$20,000
- SCADA \$10,000
- Water Meters \$20,000
- Pumps & Valves \$15,000

#### Clifford

- Chlorine Analyzer \$10,000

#### Harriston

- Tower Inspection, Interior Repairs & Painting \$70,000
- Webb Street Engineering \$50,000
- New Well Exploration – SWP Ground Water Modeling for Harr. & Palm. \$165,000
- New Well Exploration – Complete EA for Harriston & Palmerston \$50,000
- New Chlorine Pumping Board \$4,000
- King Street \$18,400

## Palmerston

- Main Street \$100,000
- New Well Exploration – Test Well, Testing & PTTW for Palmerston \$100,000

### 6.5 Internal and Third-Party Audit Results

The 2023 External Audit was completed October 23<sup>rd</sup> and November 2<sup>nd</sup> 2023 by Intertek SAI Global. There was one Minor Non-Conformance and two Opportunities for Improvement identified. Once the Minor Non-Conformance was resolved and signed off on by the Auditor, the outcome of the audit was successful for Re-Accreditation, therefore the Town of Minto is able to continue to operate and manage the drinking water systems.

- **Minor Non-Conformance** – HACH standard set Lot #A1214R was noted to be expired as of August 2023 but continued to be used for weekly verification checks.
  - **UPDATE: Nov. 3, 2023** – The new standards were located and placed into service along with a Revised Form #105 Hand Held Meter Accuracy Checks with new columns for Turbidity STD Expiry Date and DPD STD Expiry Date (chlorine). The operators are to record the STD expiry date when completing their units verification.  
**Nov. 8, 2023** – A training session was held with all operators to go over the revised Form #105 and to explain the new requirements for completing the unit's verification. The required resolution paperwork was submitted to the Auditor for their review.  
**Nov. 10, 2023** – Auditor has reviewed Minto's Corrective Action Plan and has deemed it to be acceptable with the Re-Accreditation to be processed over the next few weeks.  
**Jan. 3, 2024** – Minto received the Renewed Re-Accreditation Certificate.  
**July 24, 2024** – Ordered new DPD STD standards.  
**Aug. 19, 2024** – New standards put into use with revised Form #105 due to new standard levels and provided training to operators, New DPD STD expiry June 2026.  
**CAR EA-01 CLOSED**
- **OFI** – Consider establishing a formal receiving process for chemicals and parts in order to determine that certifications are being met (e.g. NSF/ANSI where applicable).
  - **UPDATE: Dec. 13, 2023** - Revised page 2 of the Essential Suppliers & Services package that is sent out to all companies on the ESS list requiring a signature of acknowledgement to provide applicable documentation to the supply or service that is provided by each company. **CAR EA-02 ONGOING**
- **OFI** – Consider including a comment in the Management Review that all required planned maintenance activities have been completed.
  - **UPDATE** – A statement has been added to the 2023 Management Review, under a new heading of "Routine and Planned System Maintenance" informing Top Management and the Owner that all routine & planned maintenance was completed by Minto Operations Staff through-out the year. The 2023 Management Review was presented to the Man. Review Committee and Council. **CAR EA-03 CLOSED**

The 2024 External Audit was completed October 1<sup>st</sup> 2024 by Intertek SAI Global. There was no Minor or Major Non-Conformances and no Opportunities for Improvement were identified.

The Internal Audit was completed May 28<sup>th</sup> – July 24<sup>th</sup>, 2024 by Mike Doucette, Todd Rogers, Clarke Richardson and Nicole Clelland. Each auditor has completed the Walkerton Clean Water Centre’s Internal Auditing for the Drinking Water Quality Management Standard course. There were no non-conformances identified during this audit, however two “Opportunities for Improvement” were noted. The OFI’s include; documenting review of elements and procedures reviewed within a 36 month period and revisions to the Management Review to reflect items to be covered within the Management Review.

- **OFI** – It is evident from forms 001, 140 and 141 that reviews and updates are occurring but difficult to prove that all procedures have been at least reviewed in the past 36 months. Consider documenting a review of all procedures within a 36 month period.
  - **UPDATE:** Revised 5.7 procedure to reference documenting elements & procedures reviewed prior to an Operational Plan being updated. Completed a Form #107 for documenting Elements & Procedures reviewed prior to the OP being updated.  
**CAR IA 24-01 CLOSED**
- **OFI** – Consider making all the items under 4.2 match the order and wording of the standard. All items are covered in the existing list but would be easier to verify if it matched the standard.
  - **UPDATE:** Revised 4.2 list of items to be summarized within the Management Review report. Changed items listed in numbers to letters in the Management Review report.  
**CAR IA 24-02 ONGOING**

## 6.6 Results of Emergency Response Testing

In 2024 the Town of Minto decided to complete a tabletop discussion regarding the upcoming Harriston Water Tower being temporarily taken out of service for some short & long term maintenance. The short-term shutdown would be to complete an interior cleaning and some minor repairs due to ice. The long-term shutdown would be to complete an exterior coating overcoat, which could take up to 2 – 3 months to complete. It is important that all operators know the responsibilities, expectations, operational challenges and how to respond to abnormal situations during the shutdown periods of time. The emergency exercise was completed on November 21, 2024.

Findings of the exercise included:

- Notify businesses and facilities with Fire Suppression systems to avoid any testing during tower outages.
- Pressure Relief valves out and tested before outages begin.
- Ensure generator transfer switch @ wells #1 & #3 is working correctly.
- Additional supplies of chlorine and de-chlor pucks ordered and on hand.
- Operating the wells at a slightly higher operating Free Chlorine level.
- Restock and order extra parts and supplies prior to the outage.

## 6.7 Follow-up on Action Items from Previous Management Reviews

### Corrective Action Request (CAR)

#### CAR MR15-02 Inventory Control

**UPDATE 2024:** Please see the most recent update under the CityWide heading on page 22 for "Update 2024".

#### CAR IA19-07 CityWide Asset Management/Infrastructure Updates

**UPDATE 2024:** Please see the most recent update under the CityWide heading on page 22 for "Update 2024".

#### CAR IA21-01 Equipment, Operational and Training Manuals Library

**UPDATE 2024:** Plan to continue with this project in late 2024 & early 2025.

### Additional Action Items

#### Long Term Capital Asset Management Plan (Gord)

- **UPDATE 2024:** The updated Asset Management Plan required under O. Reg 588/17 was adopted by the Council of the Town of Minto on September 6, 2022.

The 2024 Asset Management Plan shows a replacement cost of \$46 million for Water Tangible Capital Assets. It forecasts spending of \$12.4 million will be needed to maintain and replace existing water system assets over the next ten years. The Average Condition Rating for water assets is Good. Watermains comprise over \$28 million of the \$46 million for all water assets. The average age of the existing assets is 25 years. Equipment, vehicles and SCADA assets are noted as the most urgent need for replacement. More detailed information is available on Pages 53 to 58 of the 2024 Asset Management Plan including approaches to determining Condition Ratings, Levels of Service, Risk Assessments and Recommendations for future Asset Management Strategies.

#### DWQMS 2.0 Training for Operators

- **UPDATE 2024:** Virtual courses are still available, however more & more training providers have returned to in person training courses. There is a need for training related to the DWQMS as a general overview and for operators and/or other staff members outside of water operations to be trained on completing Internal DWQMS Audits.

Due to staffing turnover, there was no training completed related to the DWQMS and DWQMS Internal Auditing. Additional staff willing to complete the DWQMS Internal Auditor training would be a benefit to the Water Department and to the DWQMS.

Water operations staff will be looking into dates of courses related to DWQMS 21 Elements Overview and DWQMS Internal Auditor to be scheduled in 2025.



**Ontario One Call**

The volume of locates is high, but the department has been able continue to deliver locates within five business days as required.

<u>Date</u>	<u># of Locate Request</u>
Jan. 1 <sup>st</sup> – Dec. 31 <sup>st</sup> 2020	563 (80 relocates)
Jan. 1 <sup>st</sup> – Dec. 31 <sup>st</sup> 2021	701 (48 Relocates)
Jan. 1 <sup>st</sup> – Dec. 31 <sup>st</sup> 2022	585 (80 Relocates)
Jan. 1 <sup>st</sup> – Dec. 31 <sup>st</sup> 2023	467 (48 Relocates)
Jan. 1 <sup>st</sup> – Sept. 30 <sup>th</sup> 2024	354 (16 Relocates)

**6.8 Changes Affecting the Quality Management System**

**Staffing**

2021/22 the position of Public Works Director remained vacant and the responsibilities of this position were continued to be spread between the CAO and Interim CAO’s and the various Public Works department’s Service Managers.

In 2023/24 the total number of licensed Water and Wastewater Operators is ten (10), shared between the two departments. Included in those ten operators are the Water & Wastewater Service Managers and DWQMS Representative.

**CityWide Works**

**UPDATE 2024:** Collected – Water Hydrants, Hydrant Valves, Manholes and Catch Basins (Harr, Cliff & Palm) and Watermain Valves (Harriston & Clifford) except for the main streets due to traffic control being required. Water service valves have started to be collected in Harriston. MINTO PINES – Almost all service valves have been collected, however some service valves are needing located and collected.

There is a large amount of data/info for each asset that is needing to be entered before or after the upload of collected assets is completed to CityWide Asset Manager. There is a link between the CityWide GIS Viewer and the GIS Collection software that is used to upload the collected assets to CityWide, therefore as assets are uploaded to the collection software, they are visible on the CityWide GIS Viewer.

A meeting was held on Nov. 7<sup>th</sup> with CityWide to discuss the next steps for uploading and linking the collected assets between CityWide Asset Manager & GIS viewer with the hope for this process to go as smoothly as possible and as little impact on the financial side of things.

**New Equipment Purchased**

In 2023/2024 there was some new equipment purchased to replace aging equipment, with the goal of preventing a possible problem/adverse operating condition.

Minto Pines

- New production well (#1A) commissioned and old existing well (#1) de-commissioned including associated equipment, parts and materials.

Harriston

- New Back-up Chlorine Chemical Feed Pump
- New Hydro Service into well #2

Palmerston

- Upgraded SCADA PLC for wells #3 & #4
- Electrical upgrades @ wells #1 & #2





General (for all systems)

- New DR300 Pocket Colorimeter
- Replacement parts/valves for chlorine chemical feed pumps
- Replacement parts for Chlorine Analyzers (different types)
- Reagents used for low and high range Free & Total Cl testing
- New equipment used during locating of services
- Water Meters for residential services
- Subscriptions (Annual & Monthly) for Infrastructure Asset GPS and Data Collection

**7.0 Water System Requirements**

**Metered Water Rates and Financial Plan**

In 2020/21 the Town of Minto, with aid from Watson & Associates completed an updated Water/Sewer Rate Study as well as a new Financial Plan. The rate study and financial plan was approved by Council on March 12, 2021. The new Water/Sewer rates took affect on the first full billing cycle of 2022.

2024 Update: The Financial Plan & Metered Water Rates are going to be undergoing some revisions/updates in the near future due to the Financial Plan time frame being updated to meet the requirement of the Municipal Drinking Water License/Drinking Water Works Permit needing renewed with an expiry date of May 25, 2026 and the information/documentation with application submitted by November 25, 2025.

**Servicing Strategy**

The Water and Sanitary Servicing Strategy has been completed with the assistance of Triton Engineering and has since been approved by Council. This Strategy is a living document that will need to be continual updated to reflect most recent data and reflect current population growth forecasts and the effects on service capacities. The Strategy points out priority infrastructure assets that are due for replacement according to age and condition ratings as well as provide an approach that the Town can use in planning for upgrades, expansions and/or operation changes to its water and sanitary systems.

2024 Update: The Servicing Strategy is going to be undergoing some revisions in the near future due to the Financial Plan being updated to meet the requirement of the Municipal Drinking Water License/Drinking Water Works Permit needing renewed with an expiry date of May 25, 2026 and the information/documentation with application submitted by November 25, 2025.

**Water Treatment Chemical Price Increase**

2022 Price Increases:

- **Chlorine** (per 20L pail) Jan. = \$24.80, Dec. = \$41.00
- **PW 1680** (per 280kg drum) Jan. = \$1050.00, Dec. = \$1134.00

2023 Prices:

- **Chlorine** (per 20L pail) Jan. – Dec. = \$51.00 (no increase)
- **PW 1680** (per 280 kg drum) Jan. – Dec. = \$1274.00 (no increase)

2024 Prices:

- **Chlorine** (per 20L pail) Jan. – Dec. = \$51.00 (no increase)
- **PW 1680** (per 280 kg drum) Jan. – Dec. = \$1274.00 (no increase)
- **Sodium Silicate** (per 290 kg drum) Jan. – Dec. = \$536.50 (no increase)



## SCADA

The SCADA Road Map Report has been completed and was presented to Council on March 22<sup>nd</sup> 2022. The report has also been reviewed by Centre Wellington's I.T. & SCADA department. Minto water operations staff have started work on projects/upgrades that were listed in the report.

SCADAPack is the current PLC used at all the towns SCADA monitored water sites. These PLC's are no longer supported and now must be phased out. Since July 2019 the control panels at Harriston Well #2, Palmerston Wells #1 & #2, Clifford Wells #3 & #4, Harriston Wells #1 & #3 and Palmerston Wells #3 & #4 have been replaced with new panels using Allen Bradley CompactLogix PLC. Two more well sites and two water towers (Harriston & Palmerston) contain SCADAPack PLC's and will need to be upgraded in the coming years. The recent upgrade at Harriston Wells #1 & #3 cost approximately \$50,000, this value can be expected to vary based on the complexity of the site.

2024 Update: We have implemented numerous cyber security measures to improve our system. These measures include internet access from all sites have been blocked, a secured VPN access to SCADA via 2 factor verification and limiting access to SCADA resources. The new SCADA Server was installed in October 2023. On September 24 - 26, 2024 the SCADA PLC @ Palmerston wells #3 & #4 was completed with Belwood Electric, Eramosa and Minto operations staff.

### Minto Pines 2<sup>nd</sup> Well

On September 22, 2011, a well video log was completed. As the result of that video log and an additional video log in 2017, it was strongly recommended that a 2<sup>nd</sup> production well at the site be installed. This is due to deterioration of the existing well casing and the casing being 38 years old.

2022 UPDATE: The Town of Minto was awarded the funding applied for under the ICIP-Green Stream funding program for the amount of \$147,576. The project is expected to begin in the spring of 2023.

2023 UPDATE: The new well has been drilled and all testing completed, with Minto receiving the amended PTTW on Sept. 27<sup>th</sup> 2023. Source Water Protection's component is in the process of being completed and once that documentation has been received, the application to amend the MDWL & DWWP will be submitted to the MECP. Upon Minto receiving the amended MDWL & DWWP, operations staff will make the necessary arrangements to de-commission the existing well #1 and make the final connections to put the new production well 1A on-line once clean sample results have been received. De-commissioning of the existing well and commissioning of the new well with final connections will take place in spring 2024 (weather permitting).

2024 UPDATE: The Amended Schedule C of the DWWP was received by Minto operations staff on May 1, 2024. The new production well #1A was commissioned and put into service on May 10, 2024 with the old existing well #1 de-commissioned prior to the new well being put into service. Well #1A has been operating without incident since it was put into service.



### **Derby St. Road and Infrastructure Project (Palmerston)**

Replacement of approximately 530 m of existing watermain with new 150 mm dia. DR-18 Class 235 PVC watermain and appurtenances on Derby St. between Cumberland St. to Toronto St., including tie-in's to existing watermain at Derby/York St. intersection and the Derby/Cumberland St. intersection.

### **New Well Exploration for Harriston & Palmerston (as of Nov. 11, 2024)**

Harriston & Palmerston: Triton Engineering is in the process of completing MCEA (Municipal Class Environmental Assessment). Triton will prepare & circulate the remaining necessary MCEA notice letters including: *Notice of Public Information Centre (PIC)* and *Notice of Completion*.

Alternatives identified will continue to be evaluated under various aspects to determine their feasibility to address the Problem Statement. Assuming a groundwater well option is preferred, a detailed evaluation of the sites will be undertaken which is expected to include the following: *Topographic Survey, Archaeological Assessment (desktop), Cultural Heritage Assessment (desktop), Environmental Impact Assessment/Natural Heritage Study (desktop)* and *Preliminary Site Plan*.

The MCEA process requires that the first two phases of the MCEA be carried out and documented in the form of a "Project File Report" for review and approval purposes. The first two phases are as follows:

- Phase 1 – Identify and Describe the Problem / Opportunity
- Phase 2 – Alternative Solutions

Triton will prepare & provide findings and recommendations in a final document for consideration by the MECP and Town of Minto, incorporating comments received from applicable agencies, utilities, Minto and any potentially affected stakeholders.

The report will be placed on public record for a minimum 30-calendar day review period in accordance with the requirements of the MCEA.

### **Water Towers (all towns)**

Harriston: On September 30, 2024 Landmark Municipal Services completed an R.O.V. (Remotely Operated Vehicle) inspection on the interior of the tower and an exterior coating pull test. The results of the exterior coating inspection/testing are within the recommended requirements for an overcoating. Any work to be completed identified in the inspection report will be completed in spring or early summer of 2025.

Palmerston: No work was completed on the tower during this reporting period.

Clifford & Harriston: A review of the proposed antenna installation by Xplore Communications was completed by Landmark for the Harriston & Clifford Water Towers. Both tank roof structures were analyzed for the factored load combination (self-weight & snow load). Permissible stresses in roof stiffeners are exceeded by 23% - 28%. The roof structure is not capable of supporting any additional loads.

Suggested solutions may include the following:

1. Reinforcement of the roof stiffeners.
2. Relocation of the antennas to a structure not supported by the roof span like a centre antenna base or mounts attached to the top of the pedestal wall.

All Water Towers: With the recent exterior coatings adhesion tests been completed, it was determined that all of the exterior coatings meet the requirements for an overcoat, with Palmerston's tower overcoating completed in 2021.



Town	Year of Construction	Next Scheduled Inspection Year
Harriston	2001	2025
Palmerston	2003	2026
Clifford	2005	2027

**Routine and Planned System Maintenance**

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

**Resources Needed to Maintain QMS.**

The majority of the resources required are in the form of time commitments by the QMS Representative and the Public Works Clerk. Budget decisions and preparations for the water department are the responsibility of the CAO and Water Services Manager. The Water Services Manager is formally involved in the decision-making process involved in budgeting with input from the Infrastructure Review and the QMS Representative.

Water operators must continue to be provided with both practical on the job training and training with CEU’s to maintain their licenses, this is an ongoing and necessary expense.

During the completion and presentation of the Management Review, BMP’s were considered and discussed.

**8.0 Communication/Staff Suggestions**

Staff Suggestions are always encouraged by the QMS Representative, Water Services Manager and management. The importance of operator input is communicated through water operator meetings and communication e-mails. Public Works meetings are held twice a month to keep all public works departments up to date on projects and discuss current issues and goals to achieve. Once every three months, the Public Works Council Chairperson attends these meetings (depending on scheduling). An e-mail was sent to all operators relating specifically to any staff suggestions they would like included in the management review and there was none at this time.

**9.0 Next Management Review Meeting**

The 2024 Management Review was completed under DWQMS 2.0. The next Management Review will be scheduled around the final quarter of 2025. This review may be prior to the next external audit in the fall of 2025.