



Town of Minto
DWQMS
Management Review
2017

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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 and Climate Change (MOECC), Drinking Water Quality Management Standard (DWQMS), element 20 “Management Review”. This standard requires that a Management Review is conducted once every 12 months 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 actions 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.

1. incidents of regulatory non-compliance,
2. incidents of adverse drinking-water tests,
3. deviations from critical control point limits and response actions,
4. the efficacy of the risk assessment process,
5. internal and third-party audit results,
6. results of emergency response testing,
7. operational performance,
8. raw water supply and drinking water quality trends,
9. follow-up on action items from previous management reviews,
10. the status of management action items identified between reviews,
11. changes that could affect the Quality Management System,
12. consumer feedback,
13. the resources needed to maintain the Quality Management System,
14. the results of the infrastructure review,
15. Operational Plan currency, content and updates, and
16. staff suggestions.

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

2.0 Minto's Quality Management System Policy



Quality Management System Policy for The Town of Minto Water Supply and Distribution System

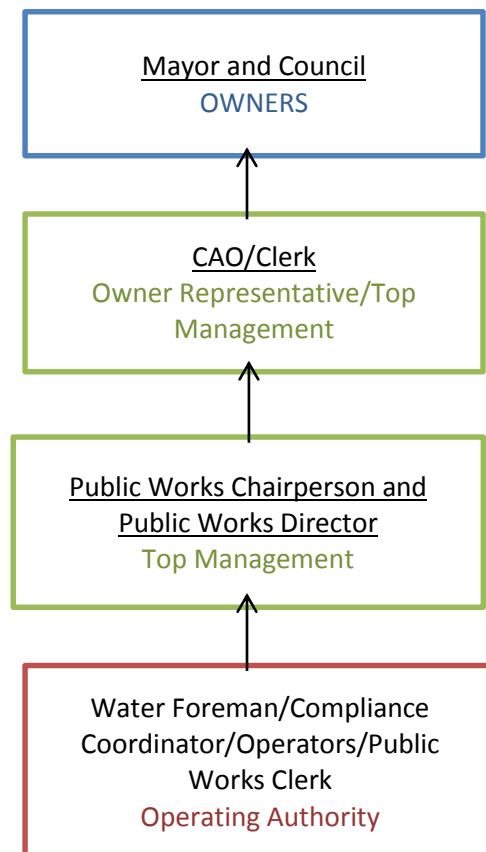
The Town of Minto is committed to supplying a consistent and safe drinking water supply which meets or exceeds all regulatory standards. We strive to achieve these goals through creating and managing a system comprised of policies and procedures which exhibit ongoing evaluations, staff competency through 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.

Passed by The Council of the Town of Minto
On May 9, 2007

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 organisational 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 MOECC 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 3/17	100%
Harriston (DWS# 220000077)	May 31/17	100%
Palmerston (DWS# 220000059)	Aug 17/17	100%
Minto Pines (DWS#260007088)	Sept 13/17	100%

There were no items of regulatory non-compliance.

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 MOECC of the occurrence, corrective actions and final outcomes. From November 2016 to November 2017 there has been five AWQI's, please see the details below.

AWQI#133081 May 16/17:

Issue: Sodium Sample Result for Well #1 Harriston 20.8mg/L, standard is 20 mg/L.

Corrective Action: Resample 7.12mg/L, this result closer to historical results.

AWQI 133576 June 23/17:

Issue: Precautionary boil water as result of severe flooding in the town of Harriston.

Corrective Action: June 27/17 the boil water advisory lifted, distribution samples show no contamination. Additional microbiological, chlorine residuals and turbidity sample were taken in the months following flood.

AWQI 134558 July 26/17:

Issue: Distribution sample showing 1 Coliform end of Allan St.

Corrective Action: Flush and resample at site, upstream and downstream. Resample results 0

AWQI 136744 Sept. 19/17:

Issue: Precautionary boil water result of planned maintenance on the Minto Pines well.

Corrective Action: Well sampled after maintenance result OK boil water lifted.

AWQI 136626 Sept. 13/17:

Issue: Distribution sample showing 2 Coliform end of Allan St.

Corrective Action: Flush and resample at site, upstream and downstream. Resample results 0

Reportable Spill May 9/17:

Issue: Harriston water tower overflowed discharging a large volume of water into the storm water system.

Corrective Action: Reviewed operation procedures with operators. Tested high level alarms at all of Minto's towers and adjusted as needed.

4.3 Deviations from Critical Control Point Limits and Response Actions

The risk assessment annual review was completed March 9/17 and as part of the review all CCP's were reviewed. There were no deviations from critical control points (CCP's) in 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.

Water Main Breaks 2017

All watermain breaks were repaired following the MOECC Watermain Disinfection Procedure and ANSI/AWWAC651. There have been three breaks this year to date,

Jan 11/17, Clifford, John St. (between Clarke St. and Ann St.)

Feb 4/17, Harriston, Arthur St. (at Lawrence St.)

Nov 7/17, Harriston, Webb St. (at 31 Webb St.)

Flood 2017

June 23, 2017 Harriston experienced a severe flood event that resulted in a boil water advisory for the Harriston drinking water system. No production wells were compromised by the flood water, but the monitor well casings located outside of well #3 on King St. were submerged. As a precaution the system was placed on a boil water until microbiological testing result verified there had been no contamination. The boil water was lifted June 27/17. Well #3 was not put back online until July 6th as precaution because of low coliform levels in the raw water samples. Although not regulated in raw water supply the result were unusual for this well so extra testing and flushing was completed to ensure the source water was safe. Additional sampling above Minto's normal regulated sampling was completed in weeks and months following the flood to ensure there was no adverse effect on the drinking water system. All activities, sampling and results were communicated to both the Ministry of Health and the Ministry of the Environment and Climate Control.



May 8/17 the Water and Waste Water departments completed an emergency scenario specific to the possibility of flooding in Harriston and the possible outcomes. This training exercise proved invaluable in the actual event.

During the event the SCADA system had to be removed from the Harriston works shop as a result of the flooding and lack of power. Now the SCADA system has will be located in the office on HWY 89 to eliminate this risk.

As a result of the flood backup power for the SCADA system and increasing the height of the monitor well casings have been identified as items that need to be addressed.

4.4 Operator Certification

The Town of Minto water systems are operated by certified operators at all times. Currently there are eight operators employed by Minto shared between waste water and water departments with varying levels of certification. Training requirement are closely tracked to ensure regulatory compliance and ability of operators to meet recertification 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 2016 Annual Report was completed and submitted prior to Feb. 28, 2017, as per the regulation. The Summary Report for 2016 was endorsed by Council March 21, 2017, 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 2017.

Harriston

2017	Well#1			Well#2			Well #3		
Month	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity
Jan	70	979	7.2	510	2065	24.7	691	1634	42.3
Feb	125	979	12.8	331	2065	16	679	1634	41.6
Mar	111	979	11.3	332	2065	16.1	716	1634	43.8
Apr	76	979	7.8	292	2065	14.1	640	1634	39.2
May	91	979	9.3	643.5	2065	31.2	1322	1634	80.9
Jun	688	979	70.3	773	2065	37.4	913	1634	55.9
July	614	979	62.7	412	2065	19.9	748	1634	45.8
Aug	83	979	8.5	483	2065	23.4	831	1634	50.9
Sept	79	979	8.1	404	2065	19.6	681	1634	41.7

Clifford

2017	Well#1			Well#3			Well #4		
Month	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity
Jan	165	1310	12.6	106	655	16.2	70	1310	5.3
Feb	193	1310	14.7	108	655	16.5	78	1310	5.9
Mar	161	1310	12.3	126	655	19.2	53	1310	4
Apr	138	1310	10.5	85	655	13	66	1310	5
May	140	1310	10.7	152	655	23	78	1310	5.9
Jun	141	1310	10.8	120	655	18.3	55	1310	4.2
July	150	1310	11.4	93	655	14.2	48	1310	3.7
Aug	154	1310	11.8	103	655	15.7	65	1310	5
Sept	196	1310	15	150	655	22.9	50	1310	3.8

Palmerston

2017	Well#1			Well#2			Well #3		
Month	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity	Max m ³ /day	Permitted m ³ /day	% of capacity
Jan	99	1964	5.0	343.1	1964	17.5	563	2291	24.6
Feb	110	1964	5.6	360	1964	18.3	556	2291	24.3
Mar	94	1964	4.8	388	1964	19.8	554	2291	24.2
Apr	89	1964	4.5	604	1964	30.8	734	2291	32.0
May	108	1964	5.5	423	1964	21.5	755	2291	33.0
Jun	98	1964	5.0	431	1964	21.9	815	2291	35.6
July	98	1964	5.0	439	1964	22.4	611	2291	26.7
Aug	132	1964	6.7	386	1964	19.7	679	2291	29.6
Sept	120	1964	6.1	588	1964	29.9	791	2291	34.5

2017	Well#4		
Month	Max m ³ /day	Permitted m ³ /day	% of capacity
Jan	133	2291	5.8
Feb	166	2291	7.2
Mar	331	2291	14.4
Apr	120	2291	5.2
May	126	2291	5.5
Jun	154	2291	6.7
July	123	2291	5.4
Aug	139	2291	6.1
Sept	154	2291	6.7

Minto Pines

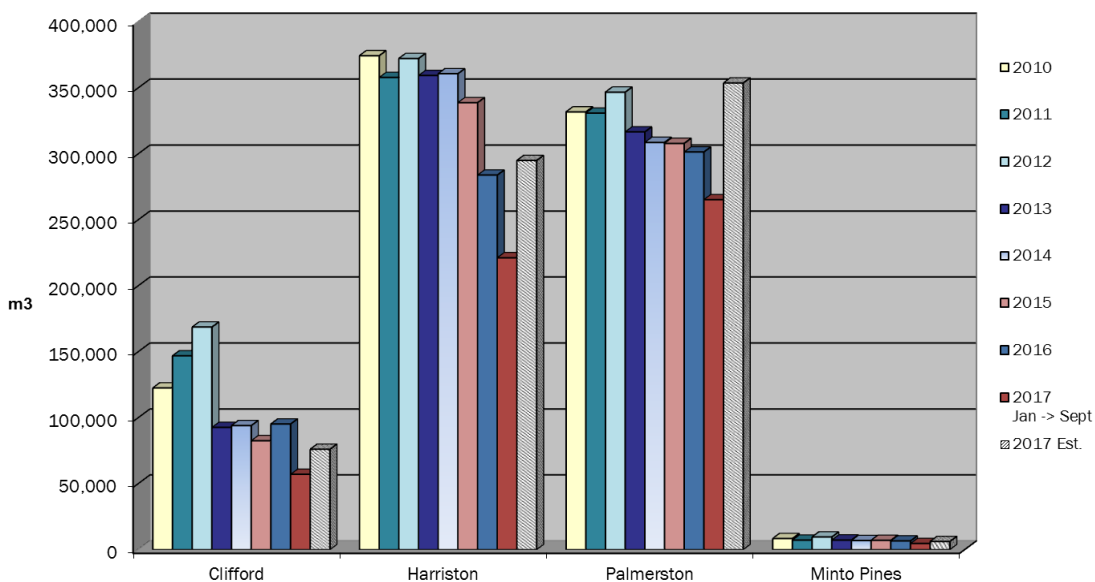
2017	Well#4		
Month	Max m ³ /day	Permitted m ³ /day	% of capacity
Jan	18	326.8	5.5
Feb	16	326.8	4.9
Mar	18	326.8	5.5
Apr	23	326.8	7.0
May	19	326.8	5.8
Jun	23	326.8	7.0
July	20	326.8	6.1
Aug	23	326.8	7.0
Sept	17	326.8	5.2

5.0 Raw Water Supply and Drinking Water Quality Trends

5.1 Consumption

	M3 used by System each Year							2017	
	2010	2011	2012	2013	2014	2015	2016	Jan - Sept	2017 Est.
Clifford	122,525	146,880	168,662	92,619	93,995	82,547	95,217	57,057	76,076
Harriston	374,359	357,877	372,237	359,357	360,719	338,778	283,877	221,211	294,948
Palmerston	331,769	330,818	346,739	316,635	308,637	307,909	301,400	265,261	353,681
Minto Pines	8,393	7,144	9,560	7,250	6,877	7,040	6,593	4,606	6,141

m3 used by System each Year



** 2017 Est. is equal to Total at September 2017 / 9 months x 12 months **

5.2 Sampling

Microbiological Testing to September 30, 2017

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 Jan. -> Sept. 2017

Location	Raw & Treated Micro Samples	Distribution Micro Samples
Clifford	230	120
Harriston	260	119
Palmerston	228	152
Minto Pines	38	38
Drew Hall	18	N/A
Town Office	18	N/A

Distribution Chlorine Residuals

Chlorine residual 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 0.05ppm in the distribution system.

Distribution Chlorine Residuals Jan. -> Sept. 2017

Location	# of Samples	Min	Max
Clifford	430	0.51	1.93
Harriston	472	0.42	1.42
Palmerston	430	0.67	1.39
Minto Pines	195	0.69	1.32

Lead

Minto's Water systems have completed two rounds of reduced sampling and not more than 10% of plumbing results exceeded 10 ug/L. Now the systems are exempt from lead sampling in 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 lead sampling was completed in all of Minto's distribution systems along with alkalinity and pH, all results were within acceptable limits. Reg. 243/07 requires daycares to perform lead sampling annually, we performed the sampling for the 1 daycare site William St. Palmerston and the results were within acceptable limits. .

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 Cl_2 reacts with organic material in water. This is a new parameter required for 2017 so currently only three samples results are available. The standard is 80ug/L and must be calculated as a running annual average.

HAA Running Annual Average

	1st Quarter 2017	2nd Quarter 2017	3rd Quarter 2017	4th Quarter 2017	Average ug/L
Minto Pines	1.4	< 1.4	2.2	pending	1.80
Palmerston	3.1	< 1.4	4.9	pending	4.00
Harriston	2.8	6.6	10.2	pending	6.53
Clifford	4.1	3.9	6.3	pending	4.77

Trihalomethanes (THM's)

Trihalomethanes are a disinfection by-product that can be formed when Cl_2 reacts with organic material in water. The standard is 100 ug/L and must be calculated as a running annual average.

THM Running Annual Average

	1st Quarter 2017	2nd Quarter 2017	3rd Quarter 2017	4rd Quarter 2017	Average ug/L
Minto Pines	9.6	5.2	5.9	6.1	6.70
Palmerston	10.7	6.6	9.6	9.9	9.20
Harriston	16.8	11.9	14.9	16.7	15.08
Clifford	22.8	12.9	12.7	7.5	13.98

Schedule 23 & 24 Sampling

Schedule 23 & 24 parameters (metals, pesticides & volatile organics) were tested at Minto Pines May 2017 as per Reg. 170/03, all results were within acceptable limits. The rest of the Minto systems were tested for schedule 23 & 24 parameters in 2016.

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 informs local physicians, as such information is intended to help persons on sodium-restricted diets control their sodium intake.

Harriston #1 initial sample was 20.8mg/L (AWQI #133081), but the resample was below 7.12mg/L and closer to historic values for that well. The sodium level in several of the wells is 15-20mg/L and may require reporting in the future. All fluoride results were under the standard. The next set of sodium/fluoride testing will occur in May 2022.

Sodium/Fluoride Results

Well	Sodium Result	Sodium Standard	Fluoride Result	Fluoride Standard
Harriston #1	20.8 mg/L Resample 7.12mg/L	20 mg/L	0.57 mg/L	1.5 mg/L
Harriston #2	17.1 mg/L	20 mg/L	0.28 mg/L	1.5 mg/L
Harriston #3	12.0 mg/L	20 mg/L	0.28 mg/L	1.5 mg/L
Clifford #1	7.27 mg/L	20 mg/L	1.13 mg/L	1.5 mg/L
Clifford #3	12.3 mg/L	20 mg/L	0.64 mg/L	1.5 mg/L
Clifford #4	9.18 mg/L	20 mg/L	1.04 mg/L	1.5 mg/L
Palmerston #1	17.4 mg/L	20 mg/L	0.23 mg/L	1.5 mg/L
Palmerston #2	19.6 mg/L	20 mg/L	0.21 mg/L	1.5 mg/L
Palmerston #3	15.0 mg/L	20 mg/L	0.21 mg/L	1.5 mg/L
Palmerston #4	12.7 mg/L	20 mg/L	0.21 mg/L	1.5 mg/L
Minto Pines	16.8 mg/L	20 mg/L	<0.10 mg/L	1.5 mg/L

Arsenic Sampling

The current regulation allows for 0.025mg/L of arsenic. January 2018 the standard will be lowered to 0.010mg/L. Reg. 170/03 states if a test result obtained is 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.

Most Recent Arsenic Results

Well	Arsenic Result	Arsenic Standard
Harriston #1	<1.0ug/L	10ug/L
Harriston #2	<1.0ug/L	10ug/L
Harriston #3	<1.0ug/L	10ug/L
Clifford #1	6.5ug/L	10ug/L
Clifford #3	<1.0ug/L	10ug/L
Clifford #4	8.1ug/L	10ug/L
Palmerston #1	3.5ug/L	10ug/L
Palmerston #2	2.4ug/L	10ug/L
Palmerston #3	1.3ug/L	10ug/L
Palmerston #4	<1.0ug/L	10ug/L
Minto Pines	<1.0ug/L	10ug/L

Clifford wells #1 and #4 both exceed half the standard and will require additional sampling. In consultation with the MOECC extra arsenic samples were taken in the distribution system to see if mixing of the wells lowered the values in the distribution system. The levels were lower but some locations still showed values higher than 5ug/L.

Manganese

Health Canada has proposed the existing guideline on manganese be lowered. Currently aesthetic objective (AO) of 0.05 mg/L (50 µg/L) to a maximum acceptable concentration (MAC) of 0.1mg/L (100ug/L) and an aesthetic objective of 0.02mg/L (20ug/L) for total manganese in drinking water.

In the past Ontario has followed the Federal governments lead in regards to drinking water standards. This proposal although not at the provincial level yet has been a topic of discussion at many recent water conferences and could lead to considerable cost at the municipal level.

Manganese Results

Well	Manganese
Harriston #1	0.006mg/L
Harriston #2	0.0064mg/L
Harriston #3	0.005mg/L
Clifford #1	0.045mg/L
Clifford #3	0.017mg/L
Clifford #4	0.040mg/L
Palmerston #1	0.038mg/L
Palmerston #2	0.060mg/L
Palmerston #3	0.041mg/L
Palmerston #4	0.05mg/L
Minto Pines	0.01mg/L

If the results of past manganese testing remained constant some of Minto's wells would exceed half the MAC and likely result in extra sampling.

5.3 Consumer Feedback

All water complaints are dealt with propyl and tracked. In 2017 there was a total of 50 complaints were received between all systems. The breakdown is as follows:

Summary of Water Complaints 2017

Issue	Number of Complaints
Construction related	7
Billing/Water Meter	18
Leaks	4
Flushing (colour)	6
Curb Stops	7
Misc. not water related	2
Water Quality	6
Total	50

The six water quality complaints are related to rusty water on George N (5 complaints from one resident). Increased flushing of this main and working with the service line to the residence seems to be helping with the issue.

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 the hazardous events according to the associated 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 annual review was completed March 9/17 and the 36 month full risk assessment was completed July 5/16.

A full Risk Assessment must be completed in 2018 to meet the new requirements of DWQMS version 2.0 (DWQMS 2.0 pg. 20). The new standard requires Minto to consider the following hazards:

Long Term Impacts of Climate Change

Water Supply Shortfall

Extreme Weather Events (e.g. tornado, ice storm)

Sustained Extreme Temperatures (eg. heat wave, deep freeze)

Chemical Spill Impacting Source

Terrorist and Vandalism Actions

Sustained Pressure Loss

Backflow

At the time of this risk assessment we will also address the opportunities for improvement in element 7 and 8 identified during our external accreditation audit.

6.2 Operational Plan Currency, Content and Updates

The Operational is reviewed and updated regularly to ensure the plan is both accurate and effective. In 2018 the Operational plan will undergo several changes and updates to reflect the new standard DWQMS 2.0. The requirements of the new standard are discussed later in this review.

6.3 Infrastructure Review

An annual infrastructure review was completed Oct 2017. Below is a list of capital budget items for 2017.

2017 Town of Minto Capital Water

Project	Budget	Year to Date	Complete
Clifford Well 4 Motor	\$8,361.98	\$8,361.98	Yes
Clifford Ann St Main from Allan to Nelson	\$112,000	\$11,0073	No
Well 2 Harriston upgrade	\$17,000	0	No
George St S. water main Young St to Arthur St	\$450,000	\$17,8027	No
Well #1 & #2 Palmerston Heater	\$6,000	0	No
Palmerston Jane St & Inkerman St	\$260,000	\$18,5243	No
Minto Pines Well Maintenance	\$15,000	\$19,530	Yes
William St Palmerston	\$70,000	\$7,015	No
Water Meters	\$20,000	\$17,128	N/A
Water Equipment	\$12,000	\$3,625	N/A

6.4 Projected Water Main Works

2018

Palmerston

- William St-Tower loop from Tower to Queen St main. (2017 move to 2018)
- Industrial park -on Noble Rd from Minto Rd to East end.
- Queen St from King St to the south end.

Harriston

- Lawrence St from Arthur St to William St. (pending development)
- Williams St from George St to Lawrence St.

Clifford

- Elora St From James St to north end and Park St to James St.

2019

Palmerston

- Whites Rd from Nelson St to Well #3

- Minto Rd to the North

Harriston

- Queen St from Arthur St to North end

Clifford

- Allan St east from Elora St to William St and in to well#1.

2020

Palmerston

- Nelson St from Whites d to Brunswick St

- Brunswick St from Nelson St to Dufferin St
Harriston
- William St East from Elora St to George St
- Thomas St from Arthur St to William ST.

6.5 Internal and Third-Party Audit Results

The internal audit was completed April 24/17 – May 5/17 by Stacey Pennington. In October of 2014 Stacey went to Walkerton Clean Water Centre to complete the “Internal Auditing for the DWQMS” course. There were no non-conformances identified during this audit, but several opportunities for improvement. The OFI’s included tracking of customer complaints, work orders, inventory as well as documentation regarding staffing changes. In time the implementation of CityWide Works will satisfy this OFI.

The external 3 year accreditation audit was completed (onsite Nov. 2) Nov. 7/17 By SAI Global. There was no non-conformance so the Town of Minto received accreditation expiring December 31, 2019. There was seven opportunities for improvement identified, all will be considered and implemented in the near future. The new accreditation expires Dec. 31, 2019, so there will only be a 2 year window, this will need to be captured in budget the accreditation audits are considerably more expensive than the annual table audits (\$1500 vs \$4500).

6.6 Results of Emergency Response Testing

On May 8/17, an Emergency exercise was conducted with the water and waste water department. The scenario was response to severe flooding in Harriston. The exercise was a key to the quick response and handling of the actual event that occurred the following month.

Findings of the exercise included:

1. On-Call phones contact numbers need to be reviewed and updated.
2. Testing of the SCADA 2 computer in Palmerston
3. Consider the requirement of licensed operators when dealing with the emergency and how to best use them to have around the clock coverage.
4. Ensure SOP’s and Contingency plans are used early in event.

6.7 Follow-up on Action Items from Previous Management Reviews

CAR 08-14 Water main abandonment Clifford

Update: With the construction being completed this year will allow the main between Nelson St and Geddes St, west of Clarke St to be abandoned in 2018.

CAR 09-14 Back flow prevention

Update: Currently under review by the CAO/Clerk before it is presented to Council

CAR MR15-02 Inventory Control

Update: Inventory is currently be input and tracked in an excel spreadsheet, City Wide may be utilised in the future.

CAR MR16-02 Review of Data Entry and use of SCADA

Update: Currently tracking using both SCADA and manual data will review closely for this years annual reporting.

Ontario One Call

In the 2016 Management Review locate volume was discussed as an extra demand placed on the water department. The volume of locates continues to climb, but the department has been able continue to deliver locates within five business days as required. The addition of a cooperative education student to the staff through the construction season has helped. The student did not complete locates but was able to take over duties to free up an operator for locating.

<u>Date</u>	<u># of Locate Request</u>
Jan 1 st - Dec 31 st 2013	145
Jan 1 st - May 6 th 2014	46 – Pre On1Call
May 6 th -Dec 31 st 2014	397 – Post On1Call
Jan 1 st - Dec 31 st 2015	514
Jan 1 st – Dec 31 st 2016	555
Jan 1 st – Nov. 27 th	624 (66 relocates)

6.8 Changes That Could Affect the Quality Management System**Staffing**

2017 the position of Public Works Director is currently vacant and the responsibilities of this position were spread between the CAO/Clerk and various department foreman. The DWQMS program is very specific in roles and responsibilities, if it is determined the Public Works Position will not be filled then there is considerable changes to both the DWQMS operational plan and Standard Operating Procedure (SOP's) will need to be implemented.

CityWide Works

During Spring of 2017 the Town implemented the CityWide Works program.

We already have and use the TA module which holds all of the Town's Assets, so we decided the Works program would be best as it can be used to link complaints as Service Requests and Work Orders to the customer, property and if applicable the Asset that is in need of repair as well as the parts and equipment used to make the repair.

We have been running our Complaints parallel to the Form 002 since implementation.

As staff becomes more familiar using this software and it is set up to create beneficial reports, we will make the necessary changes to our procedures and utilize the reporting functions of this new program.

DWQMS 2.0

DWQMS standard has been under review since 2013, 2015-2016 the standard was revised and QWQMS 2.0 was released February 2017. The new standard must be implemented prior to the first audit of 2019. Also Minto internal audit and management review must be completed using the new standard prior to the next accreditation audit.

Some of the highlights of the new standard include:

- Revised definitions and modified wording
- Requirements listed as “once every 12 months” revised to “once every calendar year”
- Minor revisions made to the following elements: element 2 (Quality Management System Policy), Element 6 (Drinking Water System), Element 10 (competencies), Element 12 (Communications), Element 16 (Sampling, Testing and Monitoring), Element 20 (Management Review).
- Element 7 (Risk Assessment), the MOECC has provide the following list of potential risks must be included with risk mitigation strategies in the risk assessment:
 - Long Term Impacts of Climate Change
 - Water Supply Short Fall
 - Extreme Weather Events
 - Sustained extreme temperatures
 - Chemical Spill Impacting Source Water
 - Terrorist and Vandalism Actions
 - Sustained Pressure Loss
 - Backflow
- Element 14 (Review and Provision of Infrastructure), addition requiring the outcomes of the risk assessment to be considered in the procedure for reviewing adequacy of the infrastructure necessary to operate and maintain the system.
- Element 15 (Infrastructure Maintenance, Rehabilitation and Renewal), requires the preparation of a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities.
- Element 21 (Continual Improvement), Additions review and consider applicable best management practices, including any published by the MOECC. Document a process for identifying and implementing preventive actions to eliminate the occurrence of potential non-conformities.

7.0 Water System Requirements

Metered Water Rates

The Town of Minto implemented full metered rate billing in mid-2015. At the time the fixed and consumption rates were based upon consumption projections provided by our consultants. The intention was to maintain our policy of full cost recovery. Unfortunately, consumption and corresponding revenue fell below projections and a second rate adjustment was required to maintain cash flow and full cost recovery.

On staff's recommendation, Council took swift action and the rates, both fixed and variable were adjusted in mid-2016. This greatly improved the situation and brought the system closer to a sustainable basis. Contributions to lifecycle reserves were deferred until the situation improved. As rates were adjusted in the summer of 2016, it was decided to keep these rates in effect for all of 2017, delaying the schedule of rate increase set out in By-Law 2017-19. A review of total system revenue for the first three billing cycles of 2017 indicates that the gross revenue of \$1,554,314 is approximately 95% of the gross revenue of \$1,632,683 which was raised during the last three billing cycles under the flat fee regime.

Therefore, staff recommends that the rate adjustments set out in the Water and Sewer Charges be implemented with those amounts originally scheduled for 2017 be implemented in the first billing cycles of 2018, as attached.

SCADA Pump House Operator Interface Terminal

Eramosa our SCADA supplier provided the following information:

2 out of 3 of your existing Panelview 600 units have dead batteries or re-starting issues, and recommend replacing all of them with the Schneider Magelis units. This would create consistency at all sites, and one OIT program to maintain etc. Currently Minto uses two different styles of OIT's.

1. Allen Bradley Panelview 600. This unit/version is no longer available from the manufacturer. You can purchase a newer style called the Panelview Plus (ALB2711PT6C20D8) for apx. \$3000 per unit, but you would also need a new program developed to download to that unit.
2. Schneider Magelis OITs (HMISTU855). This unit is currently available and has an up-to-date program developed and deployed. This unit is approximately \$800 per unit.

SCADA Backup Power

The SCADA systems new location at the office requires the generator to manually be turned on to restore power. This means either the SCADA system and Wightman communication equipment must have enough battery backup to allow for someone to respond and start the generator or alternatively the generator needs to be equipped with an automatic switch. Currently Wightman is adding a power outage alarm to the alarm system. This will allow for

someone to be notified and respond to afterhours outages. The office sump pumps also need to be operational during a power outage so this will help with that issue.

Monitor Well Automatic Data Loggers

Data loggers used for monitoring water levels in various monitor wells around Minto are reaching the end of or have passed their life expectancy. The data collected by these units is used for compliance and permit renewal. It is the recommendation of Burnside engineering that Minto start replacing these units or risk the chance of data loss.

Monitor Well Casing Height

During the flood June 23/17 the monitor well casing at well #3 Harriston became submerged, resulting in the possibility of contamination of the aquifer. As a result of this risk it has been suggested we raise the casing levels to above the flood level experienced.

Resources Needed to Maintain QMS.

The majority of the resources required are in the form of time commitments by the Compliance Coordinator/QMS rep and the Public Works Clerk. Budget decisions and preparations for the water dept. are the responsibility of the CAO/Clerk and Water Foreman. The Water Foreman is formally involved & encouraged to participate in the decision making process involved in budgeting.

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. There is a need for training on the new DWQMS standard 2.0 and auditor training. Stacey Pennington is off on maternity leave so will not be available for this year's internal audit. Clarke Richardson has completed the auditor training on the old standard but could use some practical auditing experience. It may be possible for Clarke to shadow an auditor during another municipality's internal audit.

8.0 Communication/Staff Suggestions

Staff Suggestions are always encouraged by the QMS Rep., ORO and management. The importance of operator input is communicated through scheduled water operator meetings and communication memos, e-mails. Information from QMS Rep, ORO is channeled through the water lead hand who then passes the information on to the water operators.

Daily morning "Tailgate" meetings are held with all Public Works departments. This is an opportunity for everyone to be informed of what the day's activities are and also to discuss safety, any concerns or important information. Public Works meetings are held weekly to keep all public works departments up to date on projects and discuss current issues and goals to achieve, once a month the Public Works Council Chairman attends this meeting. Minutes are taken at these meetings and are available for review. A memo was sent to all operators relating specifically to staff suggestions they would like included in the management review and there was none at this time.

9.0 Next Management Review Meeting

The next Management Review will be scheduled for final quarter of 2018. Consideration should be given to performing it earlier before budget season.