

1. Incidents of Regulatory Non-Compliance: Water

The following Incidents of Regulatory Non-Compliance with the terms and conditions of the Drinking Water Works Permit or the Municipal Drinking Water License, O.Reg 170/03 – Drinking Water Systems and O.Reg 169/03 – Ontario Drinking Water Quality Standards are noted:

Inspections of the Ministry of the Environment, Conservation & Parks

Chatham Drinking Water System (including Dover, North Kent & Thamesville)

1. Records did not confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.

There was one instance over the inspection review period where a chlorine residual taken from the distribution system at a dead end located at 5667 Rivard Line was below 0.05 mg/L, with a reported result of 0.04 mg/L.

The low residual was observed following 30 minutes of flushing at the sample location.

Corrective actions were completed as per the requirements of O.Reg 170/03. Disinfection was restored through flushing and bacteriological samples were collected as a precaution by the operating authority. No further direction was provided by the Medical Officer of Health. There were no other issues related to chlorine residuals over the inspection period.

As a result of the adverse chlorine residual, the owner/ operating authority is required to increase flushing and chlorine residual monitoring at 5667 Rivard Line to a frequency that will ensure a free chlorine residual of 0.05 mg/ L or greater is maintained at all times.

- The PW Supervisor has indicated that PW has now been flushing and taking chlorine residuals at this location weekly, indicating no issues since this incident.

Ridgetown Drinking Water System

1. During the inspection of the operations manual for the drinking water system it was noted that the operating procedures and drawings do not reflect the changes made to operating wells associated with the system. The procedures and drawings show the Scane well field with Well #4, #5, #7, and Scane Well #1 as the supply to the Scane treatment system.

The documents do not reflect the operating conditions for the Scane treatment system which is now supplied by Scane Well #1 and Scane Well #2. Wells #4, #5, and #7 have been removed from service and planning for decommissioning is underway.

Scane Well #2 was put into service in March 2022.

Condition 15.2 of the MDWL states any alteration to any treatment subsystem shall be incorporated into process flow diagrams, process and instrumentation diagrams, and record drawings and diagrams within one year of the alteration being completed or placed into service.

The operating authority shall ensure the process flow and any other drawings are updated accordingly within the one year period.

Condition 16.3 states that procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.

- On July 29, 2022 the operating authority provided updated operating procedures and process flow diagram to reflect the changes to the drinking water system.

2. During the review of distribution system monitoring records it was noted during that there is no result recorded in the distribution system sampling log for November 5, 2021.

A review of continuous monitoring data from the Highgate Booster/Re-chlorination station inlet shows that the free chlorine residual coming into the treatment system was sufficient. The Highgate inlet continuous chlorine analyzer is not however considered a substitute for the required daily distribution system sampling as it is a process analyzer used in the treatment process at the Highgate booster/Re-chlorination station.

- The operating authority has notified operating staff of the missed sample and reviewed distribution system chlorine residual monitoring requirements for the drinking water system with operator's.
- Additionally, in order to reduce the likelihood of future missed samples, the operating authority has developed tracking worksheets. The worksheets detail routine operating procedures, including distribution chlorine residual monitoring requirements. The worksheets require operator's to sign-off and confirm tasks have been completed.

3. Turbidity was not being tested at least once every month from each well that is supplying water to the system.

On June 24, 2022 the operating authority reported that there were missed monthly raw water turbidity samples in April and May of 2022. Raw water turbidity samples were not collected from operating wells Erie #2, 3A, and Colby #1 in April. Additionally, raw water turbidity samples were not collected from operating wells Erie #2, 3A, Colby #1, Scane #1, and Scane #2 in May.

The operating authority determined the missed samples were a result of operator error, with the operator's failing to collect the required samples.

- As a result of the missed samples, the operating authority has made staff aware of the missed compliance samples and re-trained them in the sampling requirements related to turbidity monitoring on raw water wells.
- Additionally, the operating authority has implemented procedures for ensuring the requirement is met through a work order system and tracking worksheets.

Wallaceburg Drinking Water System:

1. Logbooks were not properly maintained and/or did not contain the required information.

While reviewing logbooks and records related to the distribution subsystem it was noted that all logs did not contain all the required information.

There was a period of several months where logbooks for the distribution system were not maintained with details of the operators on shift, the shift start and end time, departures from normal operations, abnormal occurrences, actions taken, equipment taken out of service, or actions taken to repair equipment.

Work order records were maintained that detailed work performed by operator's including departures from normal operation, abnormal occurrences, and repairs completed. The records do not however clearly detail all requirements of O.Reg 128/04. They do not always identify all operator's on shift, it is not clear who the operator-in-charge is for a given shift, and they do not detail the start and end time of the shifts.

- The identified logbook issues were resolved in the second quarter of 2022 and no further action is required at this time by the owner or operating authority.

Adverse Water Quality Incidents

Chatham Drinking Water System (including Dover, North Kent & Thamesville)

Distribution Bacteriological Sample Results

- Jul 13: 2 Total Coliforms @ Sample Station # 3 (Chatham)
- Aug 10: 1 Total Coliform & 1 E.Coli @ Sample Station # 7 (North Kent)

Wallaceburg Drinking Water System

Boil Water Advisory for approximately 24 individual homes and 2 apartment complexes, due to a valve repair with suspected contamination

- Apr 12

Boil Water Advisory for the entire Wallaceburg DS, due to a watermain break following a power outage and pressure surge, with the Elevated Tank offline for maintenance & rehabilitation

- Nov 09: < 20 psi in the DS

Chemically assisted filtration was not continuous for a period of approximately 12 hours, due to a closed coagulant chemical valve that was not opened following a draw-down analysis

- Nov 16: Coagulant dosing disruption

2. Incidents of Regulatory Non-Compliance: Wastewater

The following incidents of Regulatory Non-Compliance with the terms and conditions of the Environmental Certificates of Approval (ECA - Provincial), and the Wastewater Systems Effluent Regulation (WSER - Federal), are noted:

Dresden Wastewater System

Final Effluent Total Phosphorus Concentration (Provincial)

- Sep: 1.47 mg/L (Limit 1.0 mg/L)

Final Effluent Total Suspended Solids Concentration (Provincial)

- Sep: 40 mg/L (Limit 25 mg/L)

Final Effluent E.Coli Geomean Concentration (Provincial)

- Sep: 1104 CFU/100 mL (Limit 200 CFU/100 mL)

Wallaceburg Wastewater System

Final Effluent Total Phosphorus Concentration (Provincial)

- Aug: 1.17 mg/L (Limit 1.0 mg/L)

3. Deviations from Critical Control Points: Water

A Critical Control Point is an essential step or point in the system where controls are applied to prevent or eliminate a hazard or to reduce it to an acceptable level. The following incidents of Deviation from Critical Control Points occurred:

Chatham Drinking Water System (including Dover, North Kent & Thamesville)

Secondary Disinfection – Deterioration of Chlorine Residual < 0.20 mg/L

- Feb 09: 0.15 mg/L @ 195 Bothwell St, Chatham
- Feb 22: 0.15 mg/L @ 24012 Baldoon Rd, C-K
- Mar 30: 0.19 mg/L @ 124 Byng Ave, Chatham
- Jun 06: 0.18mg/L @ 195 Bothwell St, Chatham
- Dec 29: 0.06mg/L @ 195 Bothwell St, Chatham

Wheatley Drinking Water System

Coagulation – Failure of equipment or process associated with coagulation

- Aug 4: Alum pump #3 not pumping - pump working, but the discharge line was plugged

4. Deviations from Critical Control Points: Wastewater

Similar to Drinking Water, a Critical Control Point in wastewater is an essential step or point in the system where controls are applied to prevent or eliminate a hazard or to reduce it to an acceptable level. The following incidents of Deviation from Critical Control Points occurred:

None reported in 2022

5. Effectiveness of the Risk Assessment Process

During the Risk Assessment process, hazards to the drinking water systems and wastewater systems are identified. Control Points & Control Limits are set and Procedures and controls are identified or developed to address the hazards. Each water and wastewater system underwent the Risk Assessment process in 2022.

The Ministry of Environment Conservation & Parks revised the Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessments in April 2022 to include Cybersecurity Threats. All of the 2022 drinking water and wastewater Risk Assessments included Cybersecurity Threats to meet the requirement.

During the Risk Assessment reviews in 2022, the controls were reviewed for accuracy and updated accordingly. Infrastructure Maintenance, Rehabilitation and Renewals identified were also updated for the relevant infrastructure and associated equipment.

6. Internal and External Audit Results

Internal Auditing

Internal Auditing is the Check process of the DWQMS cycle. Internal audits are a self-evaluation of the QMS's, to determine if the CK PUC is conforming to the requirements of the standard.

Internal Audits are conducted on an on-going basis scheduled throughout the year. Internal auditing is conducted by trained representatives of the PUC's Compliance & Quality Standards department.

Audits are conducted with co-operation from PUC Operations, Engineering, Compliance and Management staff. Audits are also conducted with co-operation from PW staff.

Internal Auditing findings from 2022 demonstrated that our QMS's were meeting the requirements of the standard. The majority of Corrective Action Requests (CARs) were issued as a non-conformity to a procedure or requirement and/or documentation/record keeping. Corrective Action was undertaken in an attempt to rectify the issues. A pair of Preventative Action Requests (PARs) were issued to modify a procedure and process, in an attempt to, prevent a future non-conformance.

External Auditing

The Surveillance Audit (S2) External Audit of the DWQMS, conducted by a third-party contractor, resulted in the issuance of 2 Opportunities for Improvement, however no non-conformances were identified.

Opportunities for Improvement:

1. Element 6 – Drinking Water System

Drinking Water System Overview – Ridgetown Drinking Water System

There is no evidence that the completed Schedule C - Subject System description form(s) is included in the Operational Plan as per Director's Direction (May 2021).

- References section of DWS Overview for all of the DWS's are being updated to include the Schedule C - Subject System description form.

2. Element 7 – Risk Assessment

Ensure the renewal of the risk assessment (i.e. full risk assessment) is completed every 36 months. Last renewal was May 2021 with the previous renewal in April 2018.

- Full risk assessments (renewal) planned to be completed in the fall of 2023.

7. Results of Emergency Response Testing

The annual CK PUC Mock Emergency was conducted in the form of reviewing and updating the Business Continuity Plan.

The current Business Continuity Plan was reviewed and updated accordingly by the General Manager, Director's and Managers, as per the 2022 Pandemic Plan Update Exercise.

8. Operational Performance: Water

Rated Capacity Data

DRINKING WATER SYSTEM	RATED CAPACITY m ³	AVERAGE DAILY FLOW m ³	% of RATED CAPACITY	MAXIMUM DAILY FLOW m ³	% of RATED CAPACITY
Chatham	67,999	30,459	45	44,242	65
Ridgetown (Erie)	2,780	1,029	43	1,805	65
Ridgetown (Scane)	1,310	420	32	1,267	97
South CK	22,809	8,480	37	13,796	60
Wallaceburg	13,600	4,698	35	6,306	46
Wheatley	23,846	7,858	33	11,709	49

There were no significant operational issues encountered, as a result of, system deficiencies during this reporting period.

Ridgetown Drinking Water System

Scane Wells # 4, 5, 6 & 7 were decommissioned in 2022. Newer Scane Well # 2 (S2) was placed into production.

Watermain Breaks

DRINKING WATER SYSTEM	# of WATERMAIN BREAKS
Bothwell	0
Chatham	
Chatham	62
Dresden	5
Mitchell's Bay	0
Pain Court	0
Thamesville	0
Ridgetown	
Ridgetown	6
Highgate	0
South CK	
Blenheim	8
Charing Cross	0
Dealtown	1
Erieau	2
Merlin	5
Shrewsbury	1
Wallaceburg	33
Wheatley	
Wheatley	3
Tilbury	11
TOTAL	137

9. Operational Performance: Wastewater
Rated Capacity Data

WASTEWATER SYSTEM	RATED CAPACITY m ³	AVERAGE DAILY FLOW m ³	% of RATED CAPACITY	PEAK RATED FLOW m ³	MAXIMUM DAILY FLOW m ³	% of RATED CAPACITY
Blenheim	4,045	1,976	49	12,046	4,312	36
Chatham	36,000	19,271	54	72,000	51,170	71
Dresden	4,546	1,514	33	13,640	3,876	28
Merlin	464	111	24	-	556	-
Mitchell's Bay	509	121	24	-	347	-
Ridgetown	2,347	1,923	82	4,694	3,126	67
Tilbury	5,434	2,295	42	13,700	6,180	45
Wallaceburg	10,800	4,864	45	35,000	15,150	43
Wheatley	2,752	1,754	64	8,500	7,712	91

There were no significant operational issues encountered, as a result of, system deficiencies during this reporting period, with the following exceptions:

Chatham Wastewater System

32 Combined Sewer Overflow Events occurred in 2022. The majority of these overflow events were attributed to wet weather events.

Dresden Wastewater System

Exceedances of multiple ECA parameters of the plant effluent occurred in September 2022.

These exceedances were as a result of an increased volume of flows and increased raw sewage concentrations, from a local food processing facility during the seasonal production operations. The local food processing company discharged addition waste contents to the sanitary sewer that were beyond the expected type of waste received. Additionally, chemicals from the processing of the food were also discharged to the sanitary sewer which caused a negative impact on the biological treatment process. The food processing company was notified that the Dresden Wastewater System was no longer able to receive any of the addition waste contents.

- The PUC continues to work closely with the local food processing facility staff to address these issues and facilitate the treatment of the waste from their facility.

10. Raw Water Supply & Drinking Water Quality Trends

Raw Water Supply

Ridgetown Drinking Water System

Well # 2 (Hitch) continues to exhibit a steady increasing trend in raw water turbidity.

Lake Erie (Chatham, South Chatham-Kent & Wheatley Drinking Water Systems)

The monthly average temperature of the incoming lake water at the South CK and Wheatley Water Treatment plant intakes has risen approximately 1.5 °C from 2008 to 2022.

Chenal Ecarte (Wallaceburg Drinking Water System)

The monthly average turbidity of the incoming river water at the Wallaceburg Water Treatment Plant intake has continued to decrease from 2008 to 2022.

Treated Drinking Water

With respect to treated drinking water trends, production increased in 2022, with the highest treated water flows since 2008. In 2022, total production totalled 19,502,590 m³, an increase of approximately 23% from 16,151,142 m³ in 2008.

The Chatham Water Treatment Plant, Ridgetown Water Treatment Plants and South Chatham-Kent Water Treatment Plant flows have illustrated an increase in treated water flows over the past few years. The Wallaceburg Water Treatment Plant and Wheatley Water Treatment Plant flows have illustrated consistent treated water flows over the past few years.

No exceedances of the Running Annual Average Limit for Trihalomethanes or Haloacetic Acids, disinfection by-products, occurred during this reporting period.

Bothwell Drinking Water System

Distribution water continues to see decreased concentrations of THM's (disinfection by-products) in the drinking water due to the optimization of the advanced oxidation process undertaken at the West Lorne Water Treatment Plant.

Chatham Drinking Water System

Significant reduction in treated water filter backwash flows have been illustrated since 2020, due to the rehabilitation of all 4 sand filters and the addition of a filter aid chemical dosing system in 2021.

Distribution water continues to see decreased concentrations of THM's (disinfection by-products) in the drinking water due to the installation of hydrodynamic mixing systems in elevated tanks, when rehabilitation/improvements are completed.

South Chatham-Kent Drinking Water System

Distribution water continues to see decreased concentrations of THM's (disinfection by-products) in the drinking water due to the installation of hydrodynamic mixing systems in elevated tanks, when rehabilitation/improvements are completed.

11. Raw Wastewater Influent & Effluent Quality Trends

Raw Wastewater Influent

With respect to raw wastewater influent trends, collection decreased in 2022, with the lowest raw wastewater collected since 2008. In 2022, total collection totalled 12,346,970 m³, a decrease of approximately 13% from 14,291,095 m³ in 2008. Precipitation received in Chatham-Kent in 2022 was the lowest since 2018.

All of the wastewater treatment plants, with the exception of the Ridgetown Wastewater Treatment Plant and Tilbury Wastewater Treatment Plant illustrated a decrease in total raw wastewater flows in 2022.

Mitchell's Bay Wastewater System

Raw wastewater influent flows have declined the last three years due to lower lake levels, and the water table decreasing. Collection System rehabilitation efforts have also reduced infiltration, resulting in a reduction of flow to the lagoons.

Wallaceburg Wastewater System

Raw wastewater influent flows have decreased the last two years due to decreasing river and water table levels, resulting in reduced infiltration and reduction of flow to the wastewater treatment plant.

12. Status of Action Items Identified between Reviews

QMS Awareness Sessions

1. *Harmful Algal Bloom (HAB) Monitoring, Reporting & Sampling Plan*

Requirement of the Municipal Drinking Water Licence to provide training annually prior to each HAB's monitoring season.

- QMS Representative completed staff education sessions to go over and review the requirements of the PUC's Harmful Algal Bloom (HAB) Monitoring, Reporting & Sampling Plan.

2. *Wastewater Collection Consolidated Linear Infrastructure (CLI) ECA's*

Provided an overview of the new CLI ECA for the Chatham-Kent Wastewater Collection Systems. Outlined the Schedules and what is contained within each schedule.

- QMS Representative recorded a staff education session that was presented to all PUC staff.

13. Changes that could affect the Quality Management Systems

Proposed Updates to Director's Directions for Minimum Requirements for Operational Plans

The new Director's Directions for Minimum Requirements for Operational Plans have now been updated, implemented and came into effect as of 2021-May-11.

Operational Plans must be updated with the new minimum requirements by 2022-Apr-01.

Requirements for all Operational Plans, a procedure for version control of the operational plans.

- Control of Documents Procedures revised to include the above requirements, uploaded to EDMS.

MECP's Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessment

Revised in Apr 2022 to include Cybersecurity Threats.

Risk Assessments are now required to include Cybersecurity Threats.

- QMS Rep has added to the DW & WW Risk Assessments, ranking has been completed and controls added.
- PUC staff were provided a training session from the Corporate ITS department.

Wastewater Collection Consolidated Linear Infrastructure (CLI) ECA's

Final version received Sep 15

PUC Compliance & Quality Standards department completed review of requirements, many new requirements to be complied with, some with deadlines

- Meetings held with PUC Management Team and Corporate Engineering to go over the CLI ECA requirements.
- Spreadsheets provided to all the above with the implementation requirements, deadlines, etc.
- Implementation of the requirements underway.

14. Consumer Feedback

2022 Drinking Water System feedback received as complaints.

DRINKING WATER SYSTEM	TASTE & ODOR	COLOUR	LOW PRESSURE	OTHER
Bothwell	1	0	0	0
Chatham				
Chatham	10	9	6	1
Dresden	1	0	1	0
Mitchell's Bay				
Pain Court	0	0	0	0
Thamesville	0	0	0	0
Ridgetown				
Ridgetown				
Highgate	1	1	0	0
South CK				
Blenheim	6	4	0	0
Charing Cross	1	3	0	0
Dealtown	0	0	0	0
Erieau	0	0	0	0
Merlin	2	1	0	0
Shrewsbury	2	0	0	0
Wallaceburg	2	5	1	2
Wheatley				
Wheatley	3	0	0	1
Tilbury	1	2	0	0
TOTALS	30	25	8	4

15. Resources Needed to Maintain the Quality Management System

1. Electronic Document Management System
 - a. Software
 - b. Annual Maintenance
 - c. On site backup of every document
2. Quality Management System Representative
 - a. Wages
 - b. Workstation
3. Administrative Costs
 - a. Travel for Conferences, Meetings
 - b. Stationery, photocopies
4. Internal Auditing Staff
 - a. Captured through Compliance Staff
5. External Audit Fee
 - a. Budgeted annually

16. Results of the Infrastructure Review

Infrastructure Renewal, Rehabilitation and Replacement Projects underway or completed in 2022:

Chatham Drinking Water System (including Dover, North Kent & Thamesville)

Rehabilitation	Filtration: Filter upgrades for Sand Filters # 1 & 3
Renewal	Fluoridation System: New fluoride pump, scale tank liner and day tank installed
Replacement	Grand Avenue East, Chatham Road Rehabilitation (watermain road crossings)
Replacement	Gladstone Avenue & Dovercourt Street Chatham & Watermain Replacement
Replacement	Lamila Street, Thamesville Watermain Relocation

Ridgetown Drinking Water System

Renewal	Scane Well # 2 (S2) commissioned and placed into service
Renewal	Disinfection Systems: New sodium hypochlorite pumps and associated dosing equipment

South Chatham-Kent Drinking Water System

Replacement	Filtration: All filter modules in Microfiltration Unit 103
Replacement	Granular Activated Carbon media
Renewal	Disinfection: 3 new chlorine gas chlorinators installed for dosing of raw & treated water
Rehabilitation	Pumping: 1 Low Lift & 1 High Lift Pump
Replacement	Rose Beach Line, Chatham-Kent Watermain Relocation
Replacement	Chittim Road, Blenheim Watermain Replacement
Replacement	Snow Avenue, Blenheim Reconstruction Watermain Replacement (King Street to Chatham Street South)

Wallaceburg Drinking Water System:

Replacement	Elevated Tank Rehabilitation & Improvements
Replacement	Dufferin Avenue, Wallaceburg Watermain Replacement (Ash Street to Highway 40)
Replacement	Lorne Avenue, Wallaceburg Watermain Replacement

Blenheim Wastewater System

Rehabilitation	Aeration: Rehabilitation of the aeration components in Cell 1A
Rehabilitation	Aeration: Rehabilitation of Blower # 3

Chatham Wastewater System

Replacement	Pump Station # 2: Replacement of Pump # 1
Replacement	Gladstone Avenue & Dovercourt Street Chatham Sewer Separation

Dresden Wastewater System

Rehabilitation	Aeration: Repairs to all 6 mechanical aerators
Replacement	Main Lift Pumping: Replacement of Pump # 1

Merlin Wastewater System

Rehabilitation	Wet Well Pumping: Rehabilitation of Pump # 2
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Ridgetown Wastewater System

Replacement	Marsh Street Pump Station: New pump purchased
Replacement	Sand Filters: 4 air lifts replaced
Rehabilitation	Sand Filters: Filter media top up in all filters
Rehabilitation	Disinfection: 1 UV system rehabilitated
Replacement	Rose Beach Line, Chatham-Kent Sanitary Forcemain Relocation

Wallaceburg Wastewater System

Replacement	Wilson Street Pump Station: Replacement of pump
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17. Operational Plan Currency, Content and Updates

Annual review of all 21 Water & Wastewater Operational Plan Elements were reviewed by the Management Team. Revisions were completed as necessary.

Numerous System Level Procedures, Standard Operating Procedures and associated documents were reviewed by the applicable staff. Revisions were completed as necessary.

Document and procedure revisions or creations required by the new Wastewater Collection Consolidated Linear Infrastructure (CLI) ECA's have been completed and continue to be undertaken.

The 2018 regulated Water and Wastewater Records were archived at the McGeorge warehouse after remaining on site at the facilities for 3 years. After a period of 12 additional years these records will be released for retrieval or destruction.

The 2006 regulated Water and Records were released for destruction, following a retrieval period issued.

18. Staff Suggestions

Recording of PUC Training Sessions

A suggestion was made to record PUC provided training sessions for staff to take to facilitate necessary training requirements. Completing the training in this method saves the training facilitator for having to schedule and conduct numerous training sessions to ensure all the applicable staff have received the training.

- Training sessions for Harmful Algal Bloom (HAB) Monitoring, Reporting & Sampling Plan & Wastewater Collection Consolidated Linear Infrastructure (CLI) ECA requirements were provided with this method to staff in 2022.

Surface Water Quality Monitoring

A suggestion was made to commence taking monthly and quarterly samples of the raw surface water from Erie Beach, Wheatley & Wallaceburg to provide additional information on the water quality for monitoring, baseline/trending data and for treatment information.

- Sampling and analysis commenced in 2022.

19. Continual Improvement

Best Management Practices published by the Ministry

None currently published by the MECP.

Best Management Practices from Ministry Inspection Reports

None issued by the MECP in 2022.

Public Works Distribution & Collection Logbooks

Distribution Logbook format revised in consultation with PUC Manager of Compliance & QS, QMS Rep, PW Managers & Supervisors

Collection Logbooks had not been implemented. Collection System Logbooks were also prepared, based on the Distribution template, and provided to PW.

Monitoring Programs - DWQMS

New Monitoring Programs implemented or under development for each water system.

Provide a document for staff to reference for monitoring activities, whether SCADA and/or Operator monitoring, from the raw water, through the treatment process, to distribution.

Indicate if a record is available through SCADA and/or Operator monitoring and recording on logsheets.

Procedure Revisions & Development:

Numerous procedure revisions and developments were completed in 2022 to include new, update/revise or to obsolete content and information, as well as, inclusion of any Quality Management Standard requirements or regulatory requirements from the Municipal Drinking Water Licence, Drinking Water Works Permit, Environment Compliance Approvals, or regulations, bulletins, etc.