

AGENDA

THE SECOND MEETING OF THE SECONDARY WATER BOARD OF THE CITY OF ST. THOMAS - 2022

MEETING ROOM
Room 304, City Hall

TIME:
4:30 P.M.

DATE:
Thursday July 21, 2022

DISCLOSURE OF INTEREST

MINUTES

Confirmation of the minutes of the meeting held on March 10, 2022.

REPORTS

STASWSS Drinking Water Quality Management System – Management Review Meeting 2022
Report:

Report SWB03-22 of the Manager of Development and Compliance.

Valve Replacement and Metered Water Supply Reconciliation

Report SWB04-22 of the Compliance Coordinator

UNFINISHED BUSINESS

NEW BUSINESS

Next Meeting

To be determined.

ADJOURNMENT

Directed to:

Chairman Steve Wookey and Members of the Board of Management of the St. Thomas Area Secondary Water Supply System

Date Authored:

July 11, 2022

Meeting Date:

July 21, 2022

Department:

Environmental Services

Attachment

Minutes of Management Review for St. Thomas Area Water Supply System

Prepared By:

Nathan Bokma, P. Eng.
Manager of Development and Compliance

Subject:

STASWSS Drinking Water Quality Management System – Management Review Meeting 2022

Recommendation:

THAT: Report No. SWB 03-22, relating to St. Thomas Area Secondary Water Supply System Drinking Water Quality Management System (DWQMS) – Management Review Meeting 2022, be received for information.

Background:

As the Operating Authority for the St. Thomas Water Distribution System (STWDS) and the St. Thomas Area Secondary Water Supply System (STASWSS), the Environmental Services Department is continually striving to improve its Drinking Water Quality Management System (DWQMS). This improvement is accomplished through internal audits and the implementation of the decisions and actions recommended in the management review.

The management review occurs once every calendar year period by Top Management of the DWQMS. The purpose of the management review is to stay informed on the DWQMS and ensure it is:

- Suitable to Operations staff
- Adequately managing quality issues
- Performing quality management effectively
- Adequate resources are provided.

As part of the management review, specific topics were discussed pertaining to the DWQMS of the secondary system, which can be seen in the attached meeting minutes. Discussion and decisions made as part of the management review was recorded and compiled in the meeting minutes, which were recorded by the Manager of Development and Compliance.

Analysis:

The management review meeting was held on June 16, 2022, which was attended by Justin Lawrence and Nathan Bokma.

One of the topics of the management review was the internal audit, which is completed every calendar year by the Compliance Coordinator. Results of the internal audit were discussed as well as the process to address any minor non-conformances or opportunities for improvement (OFI's). The Manager of Development & Compliance will follow up on the results of the internal audit as per the timelines established in the DWQMS.

In summary, the management review was completed with no major issues to discuss, and the DWQMS policy and procedures in place contribute to the excellent operation of the STASWSS.

Respectfully,



Nathan Bokma, P. Eng.
Manager of Development and Compliance

Reviewed By:


Env. Services



DWQMS Management Review Meeting

Meeting Minutes

STWDS/STASWSS

June 16, 2022
10:30 AM
City Hall

Present: Justin Lawrence – City Engineer, City of St. Thomas
Nathan Bokma – Manager of Development & Compliance, City of St. Thomas

Previous Minutes

Review 2021 minutes and approve 2022 Agenda

The 2022 agenda and the Minutes from the June 2021 Management Review Meeting were circulated prior to the meeting. No additional items were presented by the participants.

Agenda Items

Incidents of regulatory non-compliance

For the St. Thomas Water Distribution System (STWDS), MECP inspection was held on November 4, 2021, and the report was received on January 5, 2022. The STWDS received a score of 93.28%, noting 2 non-conformance matters relating to 1) legislative testing requirements of haloacetic acid (HAA) and 2) legislative testing requirements for trihalomethane (THM). In both situations, the timing between testing exceeded the legislated standard.

For the St. Thomas Area Secondary Water Distribution System (STASWSS), MECP inspection was held on November 4, 2021, and the report was received on January 5, 2022. The STASWSS received a score of 100%.

The 2 non-conformance was added to the City's tracking list for OFI's and NCR's and the matter discussed in follow-up correspondence with the QC, QMS Rep, and Compliance Coordinator. Proper measures were implemented to rectify and resolve each matter.

Incidents of adverse drinking-water tests

There were no adverse drinking water tests for any of the water systems that the City of St. Thomas maintains in 2021.

Deviations from critical control point limits and response actions

There were no deviations from the critical control points (CCP) in 2021. Therefore, no response actions were required.

Effectiveness of the risk assessment process

Participants discussed the risk assessment process for 2021 on March 9, 2021, and for 2022 on March 4, 2022, which St. Thomas staff refer to as the Hazard Analysis Procedure. The review of the hazard analysis spreadsheet was completed by City staff at this meeting. The review was comprehensive and reviewed all hazards based on a present-day risk assessment.

Internal and third-party audit results

An external audit by SAI Global was carried out on July 23, 2021. Two (2) non-conformances and two (2) OFI's were identified. The non-conformances and OFI's were discussed in a follow-up meeting, and corresponding corrective and preventative actions were taken for each item as applicable. The non-conformances that came from the internal audit were:

- **NC#1 Document and Records Control:** Watermain break forms are not being fully completed as per the procedure.
- **NC#2 Emergency Management:** Emergency testing exercises were not completed when the ERP states that these exercises are to be conducted annually.

Internal Audits for 2021 was carried out on May 4, 2021 (reported in 2021 Management Review Meeting) and November 3, 2021. From the November 3 audit, there were 2 OFI's. The non-conformances and OFI's were discussed in a follow-up meeting, and corresponding corrective and preventative actions were taken for each item as applicable.

Internal Audit for 2022 was completed on April 20-21, 2022. From the April 2022 internal audit, there were 4 non-conformances and 6 OFI's. These findings were placed in our corrective actions tracking spreadsheet, discussed in a follow-up meeting, and corresponding actions were taken for each item as applicable. The non-conformances from the internal audit are noted below:

- **NC#1 Document and Records Control:** Records listed in records control procedure were found in alternate locations or were not being maintained up to date.
- **NC#2 Document and Records Control:** DW-ADMIN-100 identifies several internal controlled documents exist in paper format. These documents have not been kept up to date.
- **NC#3 Risk Assessment:** Cybersecurity has not been addressed in the risk assessment procedure. Prior to the time of the audit, MECP asked for a specific requirement to assess this risk in a recently issued document.
- **NC#4 Measurement and Recording Equipment, Calibration and Maintenance:** A colorimeter was found to have a calibration sticker that identified the unit being beyond its calibration date.

Operational performance

St. Thomas/STASWSS Rep was satisfied with the overall operational performance.

Raw water supply and drinking water quality trends

Raw water is supplied through the Elgin Area Primary Water Supply System. No issues with the water supply.

Follow-up action items from previous management reviews

No follow-up action items from the previous management review meeting.

The status of management action items identified between reviews

There was an arranged replacement of large valves controlling flow out of EMPS in April 2022. Work scheduled and completed on Sunday overnight to Monday morning. Work was carefully planned for 6 months including partners Southwold and MCE. Backup water supplied via Dutton Dunwich and tankers on standby. During restart of systems, an unanticipated pressure drop occurred waiting for ramp up of pumps at Elgin Primary Water Treatment Plant. Customer service and front line informed and answered large volume of calls. Water pressure was eventually restored by mid-morning of Monday, April 18, 2022. From this event, some City public notification processes were changed, and better coordination will be required for future issues with EAPWSS.

Throughout the year, there are many discussions between the St. Thomas and Secondary System members with regards to the water distribution systems and their performance. Although there might not be any specific action items noted here, many discussions take place to help improve the system.

Changes that could affect the DWQMS, QMS Elements, or legislative changes

No other significant changes to date.

Consumer feedback (including any concerns, complaints, or expectations from customers)

None were mentioned. Over the 2021 calendar year, staff have responded to numerous service requests with regards to water quality and pressure issues. A summary of these service requests can be seen below:

Category	St. Thomas	Southwold	Central Elgin
Water Quality	6	0	1
Water Pressure	9	0	1

The resources needed to maintain the Quality Management System

There are adequate resources available to St. Thomas staff to maintain the DWQMS.

The results of the infrastructure review

Planned projects are listed below in the review. The results of the review allowed for coordination and awareness of planned works within the vicinity.

St. Thomas and STASWSS Capital Projects

- Forest Avenue Construction
- Stanley and St. Anne's Construction
- Pullen Avenue Construction
- Ford Tower Removal Study
- WM loop for NW Area 1

Effectiveness of infrastructure maintenance, rehabilitation, and renewal program

Annual review with QC (Manager of Water and Sewer) to discuss the programs in place. See table below.

Task	Maintenance Standard	2021 Completion
Valve Turning	Ongoing	100%
Hydrant Checks	Annual Maintenance Frost Checks as required	June – November with Watermark January – March
Hydrant Painting	As required	None
Fire Flow Testing	On Demand	75% Completed
Directional Flushing	Annually	June – November with Watermark
Water Service Repairs	As required	Approx. 20 service repairs or renewals Approx. 40 SCB replacements

Operational plan currency, content, and updates

The St. Thomas and STASWSS Operational plans are up to date and does not require any immediate updates.

Staff suggestions

No staff suggestions were made at this time about the DWQMS or the water distribution system.
Improved communication for future maintenance.

Other Business

No other business items were mentioned.

Next Meeting Date: Spring 2023 (TBD)

These minutes were completed by Nathan Bokma. Any changes or discrepancies should be forwarded to nbokma@stthomas.ca.

Directed to: Chairman Steve Wookey and Members of the Board of Management of the St. Thomas Area Secondary Water Supply System

Date Authored:

July 11, 2022

Meeting Date:

July 21, 2022

Department: Environmental Services

Attachment

Prepared By: Karel Kamerman, B.Sc., C.Tech
Compliance Coordinator

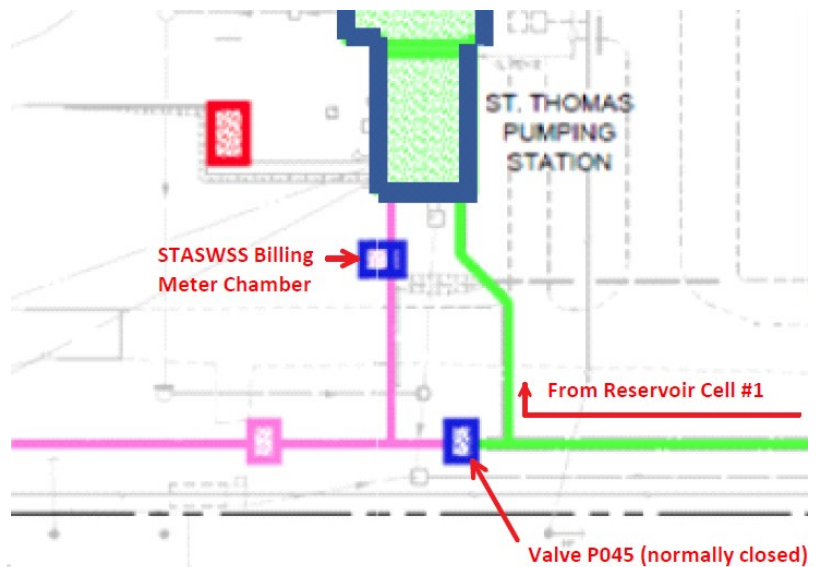
Subject: **EMPS – P045 Valve Replacement and Metered Water Supply Reconciliation**

Recommendation:

THAT: Report No. SWB 04-22, relating to metered supply reconciliation and valve replacements, be received for information.

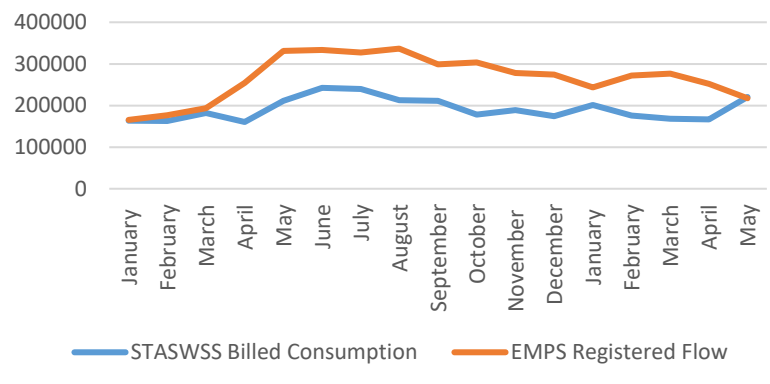
Background:

In April 2021, it was discovered that non-revenue water increased substantially on the STASWSS. Upon investigation, it was determined that following recent exercising, valve P045 was no longer providing an adequate seal on closure and allowing for water to recirculate to the suction header that feeds the STASWSS pumps, resulting in over-registration on the billing flow meter. The replacement of Valve P045 required significant coordination, as it required the cooperation of all users of the EMPS, as a result of the need to drain Reservoir Cell #1 and have the STASWSS transmission main off-line for a period of time. On April 24 - 25, 2022, work was completed to replace the 42" Valve, as well as a second valve on the suction header within the EMPS Building. The graph to the right demonstrates that the over-registration of flows has been rectified by the replacement of the valve.



STASWSS (EMPS) Registered Flow vs. Billed Consumption

January 2021 - May 2022



Analysis:

Over the course of the 12-months between discovery of the over-registration of metered water usage, and the affected repair, it was necessary to estimate the over-registration for billing purposes. Staff wish to extend a sincere thanks to Regional Water Supply (RWS) staff for quickly engaging in billing adjustments. The EMPS meter over-registration was estimated each month, and the RWS provided rebates for the over-registered water usage. The following adjustments were made:

STASWSS METER OVER-REGISTRATION RECONCILIATION (APRIL 2021 - DECEMBER 2021)									
	April	May	June	July	August	September	October	November	December
Actual EAPWSS Billed Volume (m³)	254,521	330,933	333,150	327,263	336,691	299,239	303,649	278,508	274,496
Actual STASWSS Billed Consumption (m³)	160,428	210,942	242,473	239,490	212,741	211,597	178,542	189,127	174,169
Anticipated EAPWSS Billed Volume (m³)	177,602	233,524	268,430	265,128	235,515	234,249	197,655	209,373	192,814
EMPS Meter Over-registration (m³)	76,919	97,409	64,720	62,135	101,176	64,990	105,994	69,135	81,682

Rebated Value (\$)	69,626.97	88,174.86	58,584.36	56,244.72	91,584.21	58,829.07	95,945.53	62,580.63	73,938.43
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	STASWSS METER OVER-REGISTRATION RECONCILIATION (JAN - APRIL 2022)				
	January	February	March	April	TOTAL
Actual EAPWSS Billed Volume (m ³)	243,656	271,945	276,405	252,054	3,782,510
Actual STASWSS Billed Consumption (m ³)	201,425	175,891	167,869	166,337	2,531,031
Anticipated EAPWSS Billed Volume (m ³)	222,988	194,720	185,840	184,144	2,801,983
EMPS Meter Over-registration (m ³)	20,668	77,225	90,565	67,910	980,527
Rebated Value (\$)	19,456.92	72,699.17	85,258.17	63,930.76	\$ 896,853.81

Respectfully,



Karel Kamerman, B.Sc., C.Tech.
Compliance Coordinator

Reviewed By:



Env. Services