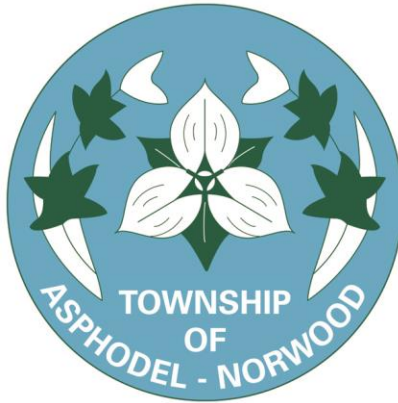


Drinking Water Quality Management System



Township of Asphodel-Norwood

Multi-Facility Operational Plan 133-OA2

Norwood Drinking Water System

&

Trentview Estates Distribution System

May 12, 2017, Revision 7

TABLE OF REVISIONS

Revision	Date	Change	Interim Approval
0	26-Aug-11	Operational Plan issued	N/A
1	30-July-12	Revised Operational Plan and facility names throughout plan (previously Norwood treatment and distribution were separate systems), revised the Drinking Water Description to be current (Section 6), revised Operations Manager and Cluster Manager positions title changes (Sections 9,10, Appendix C and where referenced throughout the plan), revised the summaries of risk assessment outcomes to reflect actual issue fates, included completed Schedule "C" as an Appendix within the Operational Plan (all previous as a result of the 2012 Internal Audit & Management Review) and revised Appendix H to include the required 72 hour review of continuous monitoring (CGSB OFI).	N/A
2	22-Jan-14	Revised Commitment & Endorsement (Section 3) with the most current Top Management, revised the Drinking Water System current process flow chart (Section 6)	N/A
3	13-July-15	Revised Commitment & Endorsement (Section 3) with the most current Top Management	N/A
4	01-Aug-16	Revised OCWA's QEMS Policy (Section 2)	N/A
5	30-Nov 16	Revised Operational Plan to change Operating Authority	N/A
6	21-Dec 16	Updated Schematic A, Section 6, changed drinking water name to Norwood, section 11	
7	12-May-17	Section 6, additional distribution information, updated schematic Section 7 added CCP SOP references Section 9 deleted reference to SOP-03 Section 11 updated ORO & OIC information	

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1.0 Quality Management System

Purpose

The purpose of this Operational Plan is to describe in detail the Quality Management System developed and implemented by Township of Asphodel-Norwood for the operation of the Norwood drinking water system and Trentview Estates Distribution System. The policy and procedures outlined in this Operational Plan are in accordance with the requirements of the Drinking Water Quality Management Standard (DWQMS).

Scope

The Operational Plan covers all activities and employees associated with the operation and production of safe drinking water under contract for the Township of Asphodel-Norwood. The system is limited to the Norwood drinking water system and Trentview Estates Distribution System. The Operational Plan has been developed to meet the requirements of the DWQMS standard and as a requirement under the Ontario Water Licensing Program directed by The Safe Drinking Water Act. For the purpose of the DWQMS Township of Asphodel-Norwood is the Owner of the municipal drinking water systems.

Related Documents

Drinking Water Quality Management Standard – Element 1
The Safe Drinking Water Act - 2002

2.0 Quality Management System Policy

The Township of Asphodel-Norwood is committed to managing the drinking water system for the Norwood Drinking Water and the Trentview Estates Distribution systems by effectively establishing, maintaining and continually improving its Drinking Water Quality Management System to help ensure its customers clean, safe drinking water at all times. Consumer confidence in the drinking water quality shall be achieved through a proactive approach to meet or exceed applicable drinking water legislation, regulations and standards. Drinking water quality is ensured by a comprehensive risk-based process control system that is staffed by competent employees who are dedicated to providing reliable, safe drinking water.

3.0 Commitment & Endorsement of Operational Plan

In accordance with section 3.0 of the Drinking Water Quality Management Standard, the Chief Administrative Officer (CAO), as the representative of the Owner of the drinking water system for the Township of Asphodel-Norwood and Top Management of the Water Division, support the implementation and maintenance of a Drinking Water Quality Management System (DWQMS), as documented in this Operational Plan. This commitment by the Owner and Top Management extends beyond agreement in principle to active participation in the development and/or review of policies that promote continual improvement. Endorsement by the Owner and Top Management acknowledges the need for and supports the provision of sufficient resources to maintain the DWQMS.

OWNER

The Corporation of the Township of
Asphodel-Norwood
Chief Administrative Officer
Candice White (Owner)

Date

TOP MANAGEMENT

Water & Wastewater Operation Manager

4.0 Quality Management System Representative

The Water & Wastewater Operations Manager was appointed to the role of the Quality Management System Representative. As the QMS Representative, the Water & Wastewater Operations Manger has both the responsibility and authority to:

- Ensure that the processes required by the DWQMS are established, implemented and maintained;
- Ensure that the most current version of documents required by the DWQMS are in use at all times;
- Ensure that all personnel are aware of applicable current regulatory requirements within the operation of the drinking water system;
- Ensure the promotion of awareness and the effectiveness of the DWQMS throughout the operating authority;
- Report to Top Management on the performance of the QMS and any need for improvement;

5.0 Document and Record Control

Purpose

The purpose of this procedure is to describe the method used for the control of documents and records for the Township of Asphodel-Norwood, including the Trentview Estates Distribution system. Proper maintenance of documents and records is critical for conformance with the DWQMS and for compliance with drinking water legislation.

Scope

This procedure is applicable to the data and documentation described within this Operational Plan as being used or generated during the water treatment and distribution process.

Related Documents

Drinking Water Quality Management Standard - Element 5
SOP-01 Document and Record Control
Master List Form Distribution

General

Effective control of the issue and changes to data and documentation is essential to DWQMS. Therefore the Water Utility Quality Assurance Coordinator will implement and maintain a system that exercises these controls throughout the water treatment and distribution process.

Current issues of documents will be made available at all locations where operations affecting the drinking water system are performed.

Procedure

The Document and Records Control Procedure is outline in detail in the SOP-01.

6.0 Drinking-Water System

Purpose

The purpose of this procedure is to describe the drinking water systems owned by the Corporation of the Township of Asphodel-Norwood. This outline documents a description of the drinking water system as prescribed by the DWQMS.

Scope

The Township of Asphodel-Norwood has ownership and full command and control of the Norwood drinking water system and the Trentview Estates distribution system, including the treatment plant, storage and pumping facilities, trunk and distribution mains, appurtenances and individual water services up to the private property lines.

Responsibilities and Authorities

It is the responsibility of the QMS Representative to ensure that this procedure is kept up to date. Any changes to the drinking water system must be changed in accordance with the document control procedures shown in paragraph 5 of this Operational Plan.

Related Documents

Drinking Water Quality Management Standard – Element 6
Operational Plan paragraph 5 Document and Records Control

Procedure

6.1 *Norwood Drinking Water System*

The Norwood Drinking Water System (DWS) is located in the village of Norwood. The Norwood DWS is a groundwater communal well water supply with a total designed capacity of 1,965 m³ per day.

The drinking water system consists of three (3) wells, two (2) well houses

Wells

Well No. 1: Constructed in 1948 (Well Record No. 51-2505), a 250 mm diameter steel design 20.7 m deep drilled groundwater production well located in Part of Block 5, Lot 8, Concession 17, Register No. 6 in the Township of Asphodel-Norwood (NAD 27: UTM Zone 18T: 262509.00 m E., 4918512.00 m N.) equipped with a submersible pump rated at 7.9 L/s at 61 m total dynamic head with a discharge line connected to the well pump header in well house No.1.

Well No. 2: Constructed in 1972 (Well Record No. 51-5882), a 250 mm diameter steel casing 21.3 m deep drilled groundwater production well located in Part of Block 5, Lot 8, Concession 17, Register No. 6 in the Township of Asphodel-Norwood (NAD 27: UTM Zone 18T: 262480.00 m E. 4918495.00 m N.) equipped with a submersible pump rated at 7.9 L/s at 61 M total dynamic head with a discharge line including a magnetic flowmeter connected to the well pump header in well house No.2.

Well No. 3: Constructed in 1993 (Well Record No. 134169), a 250 mm diameter steel casing 30.5 m deep drilled groundwater production well located in Part of Block 5, Lot 8, Concession 17, Register No. 6 in the Township of Asphodel-Norwood (NAD 27: UTM Zone 18T: 262390.00 m E. 4918463.00 m N.) equipped with a submersible pump rated at 7.6 L/s at 54 M total dynamic head complete with pitless adaptor, sanitary well seal, all contained in a well pit with a pre cast concrete cap, and a discharge line including a magnetic flowmeter connected to the well pump header in well house No.2.

Well Houses

Well House No. 1: Located at the site of Well No. 1 housing the well and control facilities including a pump header and appurtenances connected to a feeder line discharging to Well House No. 2 including a magnetic flowmeter.

Well House No. 2 A Well house and chemical building located at the site of Well No. 2 housing the well, treatment and control facilities including:

- A pump header and appurtenances connected to a feeder watermain discharging to a standpipe;
- A chemical building attached to the existing well house housing treatment and control facilities including:
 - A carbon dioxide stripping/removal system for corrosion control;
 - Together with all associated piping, electrical and mechanical equipment, ventilation, monitoring, control, metering and alarm systems and instrumentation.
- A 60 kW diesel engine standby power generator set installed outside of Well house No. 2.

Standpipe

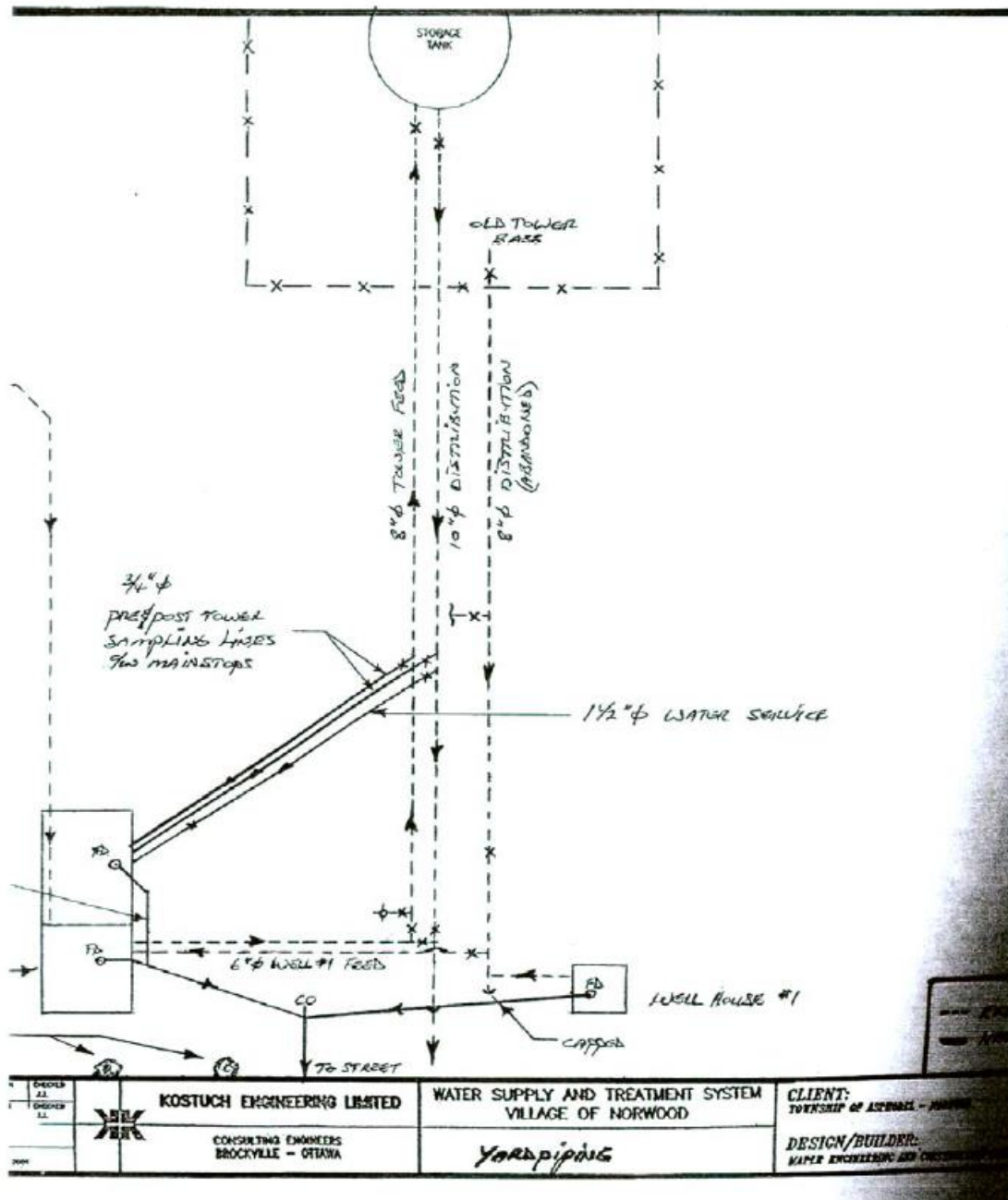
A 1,264 m³ standpipe located north of Colborne Street and Ridge Road, complete with overflow, vent, inlet/outlet piping, valves and appurtenances.

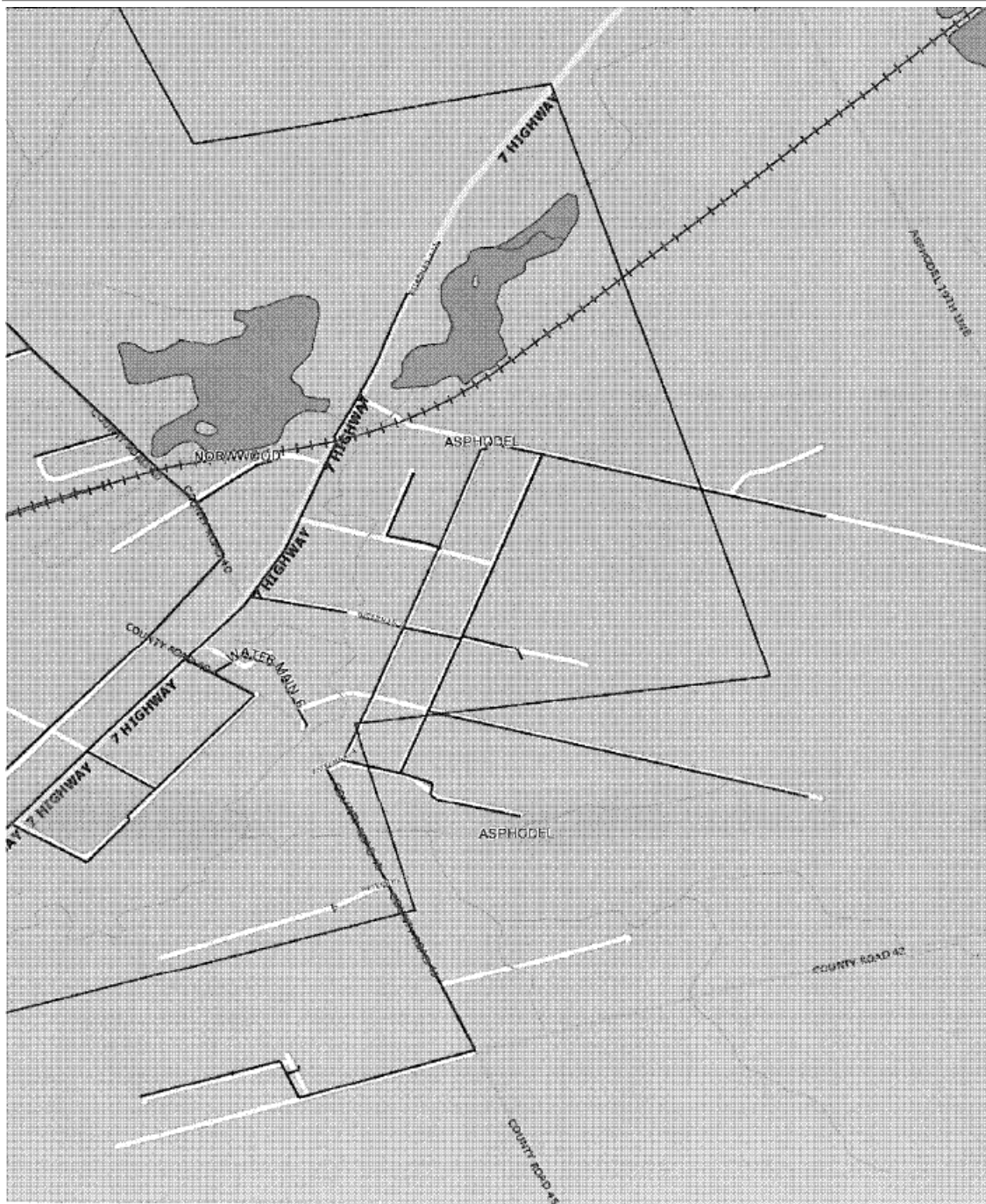
Distribution Piping

68.3 m of 200 mm diameter watermain from Well house No. 2 to the standpipe with no service connections along its entire length that provides chlorine contact time in addition to transporting water. 64 m of 200mm water main with 21.5m of 600mm to provide additional chlorine contact time A 69.8 m of 250 mm diameter watermain from the standpipe to the first consumer with no service connections along its entire length prior to the first consumer that provides chlorine contact times in addition to transporting water.

Distribution System

The distribution system services approximately 1,687 consumers located in the village of Norwood and consist of 680 single detached residential homes, 2 senior residences and 64 non-residential service connections and is comprised of 1,300 m of 100 mm to 250 mm watermain. There are approximately 70 hydrants.





Source Water

The raw water source for the Norwood DWS is a ground water communal well water supply with a total design capacity of 1,965 m³ per day. The drinking water system consists of three wells. Well No.1 is located in secured well house No. 1. Well No.2 is located in secured well house No.2 Well No.3 is contained within a well pit with a precise concrete cap.

Detailed groundwater quality sampling was conducted in 1995 and 1997 as summarized from the Engineer's Report below

Parameter	Well No.1	Well No.2	Well No.3	ODWS
Total Dissolved Solids (mg/L)	340	294	278	500 mg/L - AO
Hardness (mg/L)	272	252	263	80-100 Mg/L - OG
Calcium (mg/L)	98.65	85.55	81.31	--
Magnesium (mg/L)	5.8	4.0	4.0	--
Sodium (mg/L)	18.5	8.27	7.83	200 mg/L – AO 20 mg/L - MOH
Alkalinity	240	212	214	30-500 mg/L - OG
pH	7.74	7.72	7.77	6.5 -8.5 - OG
Chloride	43.3	11.9	10.4	250 mg/L - AO
Sulphate (mg/L)	14.4	14.8	15.8	500 mg/L - AO
Colour (TCU)	<5	<5	<5	5 TCU – AO
Nitrates (mg/L)	1.42	1.51	2.03	10.0 mg/L - MAC
Nitrites (mg/L)	<0.006	<0.006	<0.006	1.0 mg/L - MAC
DOC (mg/L)	10	9.4	9.1	5 mg/L - AO
Aluminum (µg/L L)	70	50	50	100 µg/L -OG
Iron (µg/L)	<3	<3	<3	300 µg/L - AO
Manganese (µg/L)	2	1	1	50 µg/L
Copper (mg/L)	0.004	<0.003	<0.003	1000 µg/L
Table B Volatile Organics	Not Detected	--	Not Detected	Varies
Table D Pesticides & PCBs	Not Detected	--	Not Detected	Varies
Radionuclides	Absent	--	Absent	Varies
OG – Operational Guideline AO – Aesthetic Objective MAC Maximum Acceptable Concentration MOH - Medical Office of Health Guideline				

Further groundwater sampling was conducted during 2002, 2003, 2004 and 2005 as summarized from SGS Lakefield research below

Parameter	Well No. 1			Well No.2			Well No.3			ODWS
	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	
DOC (mg/L)	1.3	2.1	1.7	1.2	2.3	1.8	1.1	2.4	1.9	5 mg/L - AO
Sodium (mg/L)	14.3	32.1	24.3	11.9	25.5	15.1	12.4	16.4	14.4	200 mg/L – AO 20 mg/L - MOH
Turbidity (NTU)	0.01	0.37	0.15	0.01	0.35	0.15	0.05	0.37	0.18	1.0 NTU - MAC
OG – Operational Guideline AO – Aesthetic Objective MAC Maximum Acceptable Concentration MOH - Medical Office of Health Guideline										

During October 2008, the following groundwater quality sampling was conducted as summarized from SGS Lakefield Research below:

Parameter	Well No. 1	Well No.2	Well No.3	ODWS
Alkalinity (mg/L)	216	223	218	30-500 mg/L - OG
Total Dissolved Solids (mg/L)	331	311	286	500 mg/L – AO
Calcium (mg/L)	96.1	98.3	94.2	--
DOC (mg/L)	1.0	1.6	1.4	5 mg/L – AO
DIC (mg/L)	52.6	50.6	52.9	--
pH	7.53	7.56	7.52	6.5-8.5 – OG
Temperature (^o C)	9.8	10.3	9.9	15 ^o C - AO
OG – Operational Guideline AO – Aesthetic Objective MAC Maximum Acceptable Concentration MOH - Medical Office of Health Guideline				

Microbiological groundwater quality sampling from January 2006 to December 2008 is summarized from SGS Lakefield Research below:

Parameter	Well No. 1			Well No.2			Well No.3		
	No. of Samples	Min.	Max.	No. of Samples	Min.	Max.	No. of Samples	Min.	Max.
TC (cfu/100 mL)	157	0	0	157	0	0	157	0	0
E Coli (cfu/100 mL)	157	0	0	157	0	0	157	0	0
HPC CFU/ml)	52	0	72	52	0	15	52	0	25

Common Fluctuations

Ground water temperature experiences marginal change from winter to summer.

Threats

The Norwood DWS is a true groundwater source. There are no identified threats, however, the potential for well contamination could exist for Well No.3 if the well head is not properly maintained. Wells No.1 and No.2 are located in secured well housings

Operational Challenges

Due to historic and continual high copper concentrations in the Norwood Wastewater treatment Facility biosolids, past studies have been carried out to determine the source of the problem. Since the raw groundwater contains very low concentrations of copper, the source of the problem has been determined to be copper solubilizing from domestic services. Past studies have determined that the Norwood source water has a naturally high rate of copper solubility. To reduce copper concentrations in the distribution system and in the wastewater treatment facility biosolids, studies were completed and it was determined that a copper corrosion control system was required to achieve an average 60% reduction in copper concentrations.

The copper corrosion control system consists of a carbon dioxide stripping/removal system.

The challenges associated with the corrosion control system is maintaining a balanced proportion of corrosion control tank to raw flow for carbon dioxide removal which impacts the treated water pH as a whole. The higher the corrosion control pH, the greater the impact on the treated water pH. Constant monitoring of flow, pH, temperature and alkalinity are required to calculate the LSI (Langelier Saturation Index) index for the system, ultimately bringing the LSI index to a non-corrosive state, thus controlling the copper solubility in the treated water provided to the distribution system. Regular operational checks and monitoring are necessary.

Critical Upstream or Downstream Processes

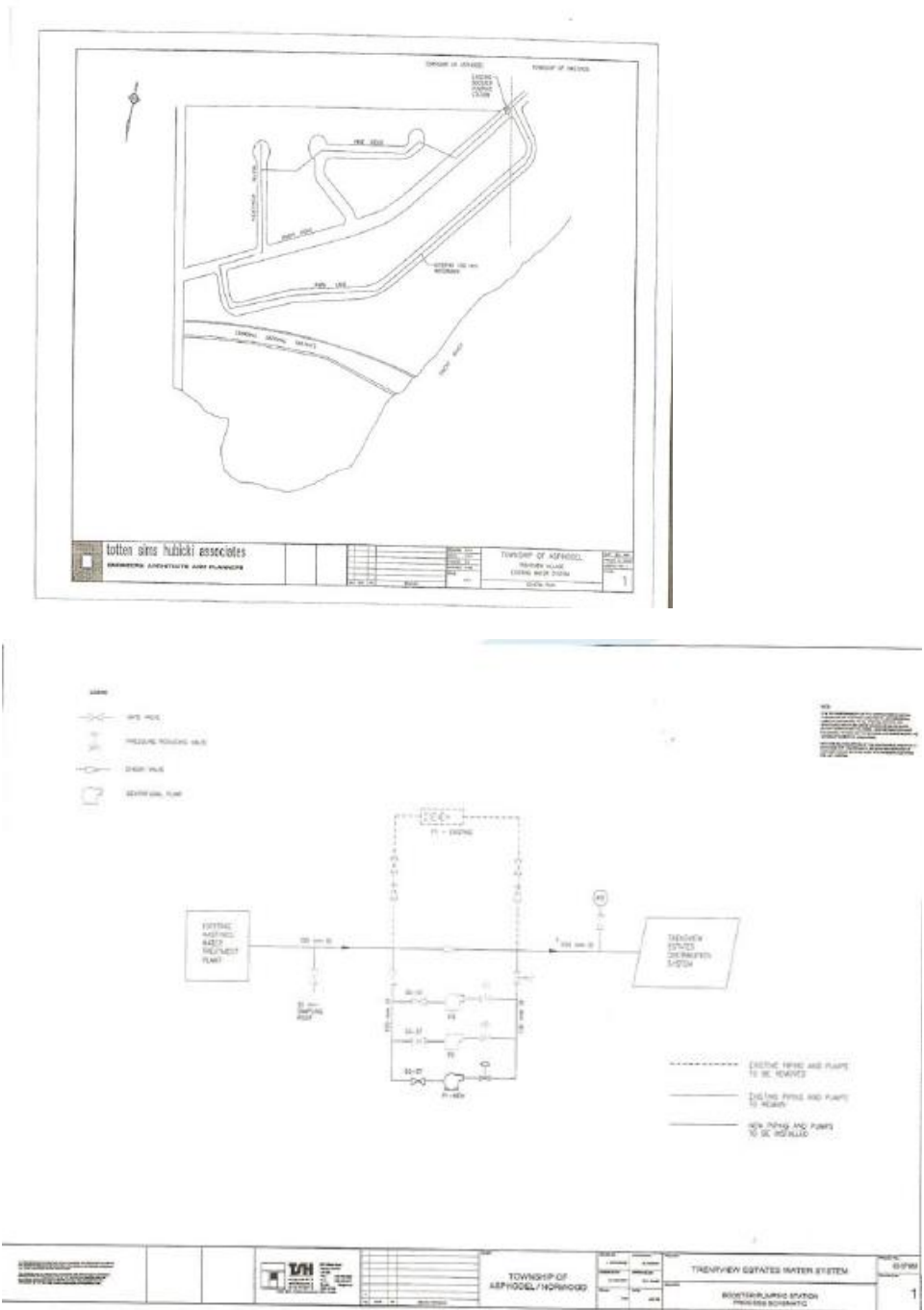
There are no critical upstream or downstream processes relied upon to ensure the provision of safe drinking water at the Norwood Drinking Water System.

6.2 Trentview Estates Distribution System

Trentview Estates Distribution System services approximately 66 single detached residential homes and is comprised of 1730 meters of 150 millimeter water main. The Corporation of the Township of Asphodel-Norwood purchases water from the Municipality of Trent Hills which has been treated at the Hastings Water Treatment Plant located approximately 100 meters from the point of entry into the Trentview Estates Distribution System. There are 9 fire hydrants. The Municipality of Trent Hills, who is the operating authority for the Hastings WTP is responsible for sampling, testing and monitoring at the WTP.

The Trentview Estates Distribution System also includes a booster pumping station, having a capacity of 1,658 m³ per day, equipped with three centrifugal booster pumps, pressure control valves, check valve and flowmeter. The water as supplied by the Hastings WTP has sufficient chlorine residual to ensure that the regulatory requirements for chlorine residual are met within the Trentview Estates Distribution System, therefore, re-chlorination is not practiced within the Trentview Estates Distribution System.

Schematic B Trentview Estates Distribution System



7.0 Risk Assessment Procedure

Purpose

The purpose of the risk assessment procedure is to describe the method used to analyze risks associated with the drinking water system. This includes a process-based system for risk identification and risk assessment, Critical Control Point (CCP) and CCP threshold limits.

Scope

This procedure is applicable to the risk identification, risk assessment and CCP's in the drinking water systems including treatment, storage, pumping and distribution.

Related Document

Drinking Water Quality Management Standard - Element 7
SOP-02 Risk Assessment

Procedure

The Risk Assessment Procedure is outlined in detail in SOP-02.

8.0 Risk Assessment Outcomes Procedure

Purpose

The purpose of this procedure is to detail the outcomes from the risk analysis procedure in paragraph 8 of this Operational Plan. The results include a list of ranked hazards with appropriate control measures, CCP's, control limits for CCP's, monitoring methods and method used for recoding and reporting deviation from CCP limits.

Scope

This procedure is applicable to the risks identified by the risk analysis process as outlined in paragraph 7 of this Operational Plan, which covers the drinking water system including treatment, storage, pumping and distribution.

Related Documents

Drinking Water Quality Management Standard - Element 8
SOP-02- Risk Assessment

Procedure

Once a drinking water risk has been defined in paragraph 7 as a Critical Control Point it shall be monitored and controlled according to the individual Standard Operating Procedure (SOP). The SOP's shall include a description of the associated hazards and risk of the CCP, establish a critical control limit, define procedures to monitor the CCP, document the procedure for a deviation and the associated reports required for a deviation.

The following drinking water risks have been identified as Critical Control Points for the Norwood DWS:

- | | |
|-----------------------------|--------|
| ▪ Low Chlorine Pre-Tower | SOP-15 |
| ▪ Low Chlorine Post Tower | SOP-16 |
| ▪ Low Chlorine Distribution | SOP-17 |
| ▪ Calculation Contact Time | SOP-18 |

9.0 Organizational Structure, Roles, Responsibilities & Authorities

Purpose

The purpose of this procedure is to outline the organizational structure of the drinking water systems. It is also to define the roles, responsibilities and authorities used to ensure the drinking water system is adequate.

Scope

This procedure is applicable to the outlined roles and responsibilities within the Operational Plan governed by the DWQMS. This covers the entire water treatment and distribution process as well as the inter-relation with Quality Assurance.

Responsibilities and Authorities

The Water & Waste Water Operations Manager is responsible to ensure that the roles and responsibilities outlined in this procedure are reviewed annually to ensure accuracy. This is usually completed as part of the Internal Audit Procedure in paragraph 19.0 but may be updated as result of organizational or staff changes.

Related Documents

Drinking Water Quality Management Standard - Element 9
Township of Asphodel-Norwood Organizational Chart

9.1 *Organizational Chart for the Township Asphodel-Norwood*

The most current version of the Corporation of the Township of Asphodel-Norwood is in [Appendix 1](#)

9.2 *Responsibility and Authorities – Owner Chief Administrative Officer*

- ◆ To manage, operate, maintain, replace and rehabilitate the water system facilities of Asphodel-Norwood;
- ◆ Approving an annual budget;
- ◆ Endorsing the Operational Plan
- ◆ Approving annual water rates;
- ◆ Approving 5 and 10-year capital budget predictions;
- ◆ Establishing bylaws and policies;
- ◆ Provide service agreement with Peterborough Utilities Services Inc. (PUSI) to provide additional coverage and assistance for the drinking water system

9.3 *Responsibility and Authorities - Operating Authority – Township*

The Township of Asphodel-Norwood is an Ontario Business Corporation registered private company. The Township operates, maintains and improves the municipal drinking water system under the Township's ownership and acts as the Operating Authority under the DWQMS.

9.4 *Responsibility and Authorities - Top Management*

Top Management is described by the DWQMS as a person, persons or group of people at the highest level within an operating authority that makes decisions respecting the QMS and recommendations to the Owner respecting the drinking water system.

Top Management for the purpose of the DWQMS has been designated at the Water & Wastewater Operations Manager. It is the responsibility of Top Management to demonstrate a commitment to the implementation of the DWQMS by:

- ◆ Ensuring that the QMS is in place and meets the DWQMS.
- ◆ Ensuring that the Operating Authority (Norwood) is aware of applicable legislations and regulations.
- ◆ Communication according to paragraph 12.0.
- ◆ Participation in the Management Review as per paragraph 20.0.
- ◆ Determine, obtain or provide the resources needed to maintain and continually improve the QMS.
- ◆ To provide annual budget for training, attendance at conferences, workshops and seminars.

9.5 *Responsibility and Authorities - Operational Management and Staff*

Water & Wastewater Operations Manager

- ◆ Regulatory compliance for treated water and operations at the WTP
- ◆ Day-to-day operations of the WTP
- ◆ Overseeing adverse water quality incidences
- ◆ Recommend to the Owner ways to improve operational effectiveness
- ◆ Monitor water quality and demand
- ◆ Supervision of operating staff and supervisors
- ◆ Schedule work, allocate projects and resources, monitor progress
- ◆ Develop procedures to optimize water quality and reliability
- ◆ Assist in selecting staff and their training and development
- ◆ Work safety program
- ◆ Report issues to the CAO, as necessary
- ◆ ORO (Monday through Friday)

9.6 *Responsibility and Authorities – PUSI Operational Staff*

- ◆ Regulatory compliance for treated water and operations at the WTP
- ◆ Week end and holiday operations of the WTP
- ◆ Overseeing adverse water quality incidences, when required
- ◆ Monitor water quality and demand

-
- ◆ Work safety program
 - ◆ ORO (Weekends and Holiday coverage)

10.0 Competencies

Purpose

The purpose of this procedure is to describe the competencies of personnel whose job activities directly affect the quality of the drinking water.

Scope

This procedure applies to the personnel identified by this procedure as personnel whose job can directly affect the quality of the drinking water of the Village of Norwood and Trentview Estates.

Related Documents

Drinking Water Quality Management Standard - Element 10
SOP-04 Satisfying Competencies

Procedure

The detailed procedure describing and satisfying competencies for employees whose job directly affects the drinking water is outlined in SOP-04.

11.0 Personnel Coverage

Purpose

The purpose of this procedure is to document the procedure used at PUSI to ensure that sufficient personnel meeting the outline competencies in paragraph 10 are available to perform duties that directly affect the drinking water quality system.

Scope

This procedure applies to water treatment and distribution systems for the Village of Norwood and Trentview Estates.

Related Documents

Drinking Water Quality Management Standard - Element 11
Operational Plan paragraph 10, Competencies
SOP-05 Personnel Coverage

General

The Township employs or has under contract licensed operators, all of whom are required to have and maintain licenses (distribution or treatment) according to the Certification of Drinking Water System Operators and Water Quality Analysts (O. Reg. 128/04).

Call out for Peterborough Utilities staff to cover emergency or sick time is done as per the "Standby Schedule". This information is collated into a single document for the after hours call out through the answering service.

Procedure

Norwood Water Treatment Plant (currently WT2 Classification)

Overall Responsible Operator (ORO): During normal business hours, WTP Manager shall be the Overall Responsible Operator (ORO). If unavailable, the Manager shall designate a WTP Supervisor (with appropriate licence) to perform the ORO duties.

During non-business hour shifts, the assigned System Operator on shift shall be the ORO provided that person holds an operator's license to the same class or one level lower than the plant. If the operator on the non-business hour shift does not hold an operator's license to the same class or one level lower than the plant, or if the Manager does not deem the operator to have enough experience to carry out the duties as the ORO, the Manager shall assign the ORO duties for the shift in question. This person's name shall be recorded in the plant logbook as ORO for the applicable shift(s).

Operator-in-Charge (OIC): During all shifts, the System Operator assigned to WTP shall be the OIC provided that person is not an Operator-in-Training (OIT). OIC duties and shall be on standby for the plant operator for the shift in question. This person's name shall be recorded in the plant logbook as OIC for the applicable shift(s).

Norwood Water Distribution System (currently WD2 Classification) Trentview Estates Distribution System (currently WD2)

Overall Responsible Operator (ORO): During normal business hours, the senior water distribution supervisor (with appropriate license) in that day shall be the Overall Responsible Operator (ORO). During non-business hour shifts or after hours work, the operator on standby shall be the ORO. An operator will only be placed on standby when they hold a WD1 license or higher and have the experience with the facility to carry out duties as the ORO.

Operator-in-Charge (OIC): During all shifts, the Duty WTP Operator assigned to WTP shall be the OIC provided that person is not an Operator-in-Training (OIT). OIC duties and shall be on standby for the plant operator for the shift in question. This person's name shall be recorded in the plant logbook as OIC for the applicable shift(s).

Wastewater Treatment and Collections System (currently WWC2 & WWT2)

Overall Responsible Operator (ORO): During normal business hours, shall be the Overall Responsible Operator (ORO). If unavailable, the Chief Operator shall designate a Supervisor (with appropriate licence) to perform the ORO duties.

During non-business hour shifts, the assigned System Operator on shift shall be the ORO provided that person holds an operator's license to the same class or one level lower than the plant. If the operator on the non-business hour shift does not hold an operator's license to the same class or one level lower than the plant, or if the Manager does not deem the operator to have enough experience to carry out the duties as the ORO, the Chief Operator shall assign the ORO duties for the shift in question. This person's name shall be recorded in the plant logbook as ORO for the applicable shift(s).

Operator-in-Charge (OIC): During all shifts, the Duty WWTP Operator assigned to WWTP shall be the OIC provided that person is not an Operator-in-Training (OIT). OIC duties and shall be on standby for the plant operator for the shift in question. This person's name shall be recorded in the plant logbook as OIC for the applicable shift(s).

Collective Agreement

During a strike/lock-out the business continuity is maintained according to PUSI SOP-02-117 Business Continuity – Water Utility.

12.0 Communication

Purpose

The purpose of this procedure is to identify the method for communicating the Quality Management System to all stakeholders.

Scope

The procedure applies to the communication of relevant aspects of the Operational Plan between Top Management and the Owner, Operating Authority Personnel, suppliers and the public.

Related Documents

Drinking Water Quality Management Standard – Element 12
SOP-06 DWQMS Communication

Procedure

The detailed communication procedure is outline in SOP-06.

13.0 Essential Supplies & Services

Purpose

The purpose of this procedure is to identify essential suppliers and services that may affect quality of drinking water and to ensure availability of those supplies and services.

Scope

This procedure applies to the following essential supplies and services for the Township of Asphodel-Norwood

- Chlorine
- Laboratory Services
- Auto-Dialer System
- SCADA Services
- Measuring & Recording Equipment Calibration & Maintenance
- Phone Data lines (Bell)

Related Documents

Drinking Water Quality Management Standard – Element 13
SOP-07 Essential Supplies and Services

14.0 Review and Provision of Infrastructure

Purpose

The purpose of this procedure is to outline the method used by the Township to annually review the infrastructure of the drinking water system. This review shall determine if the infrastructure is adequate to operate and maintain the drinking water system.

Scope

This procedure applies to the infrastructure relating to the provision of drinking water.

Related Documents

Drinking Water Quality Management Standard - Element 14
Paragraph 20 Management Review
SOP-08 DWQMS Infrastructure

Procedure

The infrastructure is reviewed annually during the Management Review process outlined in paragraph 20 of the Operational Plan, additional details on the review and provision of infrastructure are provided in SOP-08.

15.0 Infrastructure Maintenance, Rehabilitation & Renewal

Purpose

The purpose of this procedure is to summarize the infrastructure program that the Corporation of Asphodel-Norwood uses along with PUSI in order to maintain the drinking water systems' infrastructure maintenance, rehabilitation and renewal programs.

Scope

This procedure applies to the infrastructure relating to the provision of drinking water.

Related Documents

Drinking Water Quality Management Standard - Element 15
SOP-08 DWQMS Infrastructure
5-10 Year Capital Forecast

Procedure

A summary of Township of Asphodel-Norwood infrastructure maintenance program of rehabilitation and renewal for the Norwood is described in SOP-08.

16.0 Sampling, Testing & Monitoring

Purpose

The purpose of the following procedure is to describe the sampling, monitoring and testing activities at the WTP and distribution system to ensure compliance to applicable drinking water legislation and for the provision of safe drinking water.

Scope

This procedure is applicable to the water treatment plant and water distribution operations.

Related Documents

Drinking Water Quality Management Standard – Element 16
Norwood Water Treatment Plant Operator and Maintenance Manual
SOP-09 Sampling and Monitoring
SOP-10 Procedure to Respond to Adverse Water Quality Results

Procedure

The procedure was developed to meet the requirements of Element 16; Sampling, Testing and Monitoring are described in SOP-09.

17.0 Measurement and Recording Equipment Calibration & Maintenance

Purpose

The purpose of this procedure is to describe the process used to calibrate and maintain measuring and recording devices used within the water treatment process.

Scope

This procedure is applicable to the measuring and recording devices used by the Water Treatment Plant for monitoring of raw, in-process and potable drinking water from wells, through treatment, storage, pumping and distribution.

Related Documents

Drinking Water Quality Management Standard – Element 17
SOP-09 Sampling and Monitoring Procedure
Instrumentation Manuals

Procedure

The procedure that describes the Township's activities for the calibration and maintenance of measurement and recording equipment is outlined in SOP-09.

18.0 Emergency Management

Purpose

This purpose of this procedure is to describe the process to maintain a state of emergency preparedness for the drinking water system.

Scope

This procedure shall include all potential emergency situations or service interruptions for the water treatment and water distribution system for the Norwood Drinking Water and Trentview Estates Distribution Systems.

Related Documents

Drinking Water Quality Management Standard – Element 18
SOP-11 Emergency Preparedness and Response
Municipal Emergency Plan for Township of Asphodel-Norwood

Procedure

The Emergency Management Procedure is outlined in SOP-11 for the Norwood Drinking Water and Trentview Estates Distribution Systems.

19.0 Internal Audit

Purpose

The purpose of the Internal Audit Procedure is to describe the method used to verify conformance to the Operational Plan and to the Drinking Water Quality Management System. Internal auditing is also a tool to be used to be proactive and continually improve the Water Quality Management System.

Scope

This procedure is applicable to the Norwood Drinking water and Trentview Estates Distribution Systems operations that are described within this Operational Plan.

Related Documents

Drinking Water Quality Management Standard – Element 19
Continual Improvement paragraph 21 of Operational Plan
SOP-12 Internal Audit Procedure

Procedure

The Internal Audit Procedure is outlined in detail in the SOP-12

20.0 Management Review

Purpose

The purpose of this Management Review Procedure is to outline the method used at Township of Asphodel-Norwood to evaluate the continuing suitability, adequacy and effectiveness of the Drinking Water Quality Management System.

Scope

The scope of this procedure includes management activities, water treatment plant operations and water distribution activities identified in the Operational Plan.

Responsibilities and Authorities

The DWQMS Representative is responsible to the CAO, Township of Asphodel-Norwood for ensuring that detailed and comprehensive reviews are carried in accordance with this procedure.

The Water & Wastewater Operations Manager is responsible to the CAO for ensuring that the necessary documentation and records are maintained and made available for review by Management.

The DWQMS Representative is responsible to communicate the results of the Management Review to Top Management and the Owner.

Related Documents

Drinking Water Quality Management Standard – Element 20
Operational Plan paragraph 21 Continual Improvement
SOP-13 Management Review

Procedure

The Management Review procedure is outlined in detail in the SOP-13.

21.0 Continual Improvement

Purpose

The purpose of this procedure is to describe the system used by Township of Asphodel-Norwood to continually improve the effectiveness of the DWQMS by initiating timely corrective action on deficiencies identified in the Drinking Water Quality Management System, and to take preventative action where potential problems are identified.

Scope

This procedure applies to the correction of actual or potential non-conformities in the drinking water QMS, or other systemic problems affecting the drinking water quality.

Related Documents

Drinking Water Quality Management Standard – Element 21
SOP-14 Continual Improvement
Corrective Action Request

Procedure

The Corrective Action (Continual Improvement) Procedure is outlined in detail in SOP-14.

APPENDIX 1

