

# City of Owen Sound

## Quality Management System Operational Plan

Revision 4: November 2022



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## DISCLAIMER STATEMENT

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This Operational Plan has been developed with the City's operating practices in mind and utilizing the City's personnel to implement it. Any use which a third party makes of this Operational Plan, or any part thereof, is the responsibility of such third parties. The City of Owen Sound accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this Operational Plan or any part thereof.

Any documents developed and owned by the City, which are referred to in this Operational Plan, including but not limited to the System Level Documents, the Risk Assessment Outcomes, and other policies, protocols, and records, remain the property of the City.

# TABLE OF CONTENTS

1.	QUALITY MANAGEMENT SYSTEM.....	1-1
1.1	Objectives and Scope.....	1-1
1.2	Activity Description.....	1-1
1.2.1	Operational Plan.....	1-2
1.2.2	System Level Documents.....	1-2
1.2.3	Standard Operating Procedures.....	1-2
1.2.4	Records and Forms.....	1-3
2.	QUALITY MANAGEMENT SYSTEM POLICY.....	2-1
2.1	Objectives and Scope.....	2-1
2.2	Activity Description.....	2-1
2.2.1	Quality Policy.....	2-2
3.	COMMITMENT AND ENDORSEMENT.....	3-1
3.1	Objectives and Scope.....	3-1
3.2	Activity Description.....	3-1
4.	QUALITY MANAGEMENT SYSTEM REPRESENTATIVE.....	4-1
4.1	Objectives and Scope.....	4-1
4.2	Activity Description.....	4-1
5.	DOCUMENTS AND RECORDS CONTROL.....	5-1
5.1	Objectives and Scope.....	5-1
5.2	Activity Description.....	5-1
6.	WASTEWATER COLLECTION AND TREATMENT SYSTEM.....	6-1
6.1	Objectives and Scope.....	6-1
6.2	Activity Description.....	6-1
6.2.1	Wastewater Collection System.....	6-2
6.2.2	Wastewater Treatment Plant.....	6-2
7.	RISK ASSESSMENT PROCEDURE.....	7-1
7.1	Objectives and Scope.....	7-1
7.2	Activity Description.....	7-1
8.	RISK ASSESSMENT OUTCOMES.....	8-1
8.1	Objectives and Scope.....	8-1
8.2	Activity Description.....	8-1
9.	ORGANIZATIONAL STRUCTURE, ROLES, RESPONSIBILITIES AND AUTHORITIES ..	9-1
9.1	Objectives and Scope.....	9-1
9.2	Activity Description.....	9-1
10.	COMPETENCIES.....	10-1
10.1	Objectives and Scope.....	10-1
10.2	Activity Description.....	10-1
11.	PERSONNEL COVERAGE.....	11-1
11.1	Objectives and Scope.....	11-1

11.2	Activity Description.....	11-1
<b>12.</b>	<b>COMMUNICATIONS.....</b>	<b>12-1</b>
12.1	Objectives and Scope.....	12-1
12.2	Activity Description.....	12-1
<b>13.</b>	<b>ESSENTIAL SUPPLIES AND SERVICES.....</b>	<b>13-2</b>
13.1	Objectives and Scope.....	13-2
13.2	Activity Description.....	13-2
<b>14.</b>	<b>REVIEW AND PROVISION OF INFRASTRUCTURE .....</b>	<b>14-1</b>
14.1	Objectives and scope.....	14-1
14.2	activity description.....	14-1
<b>15.</b>	<b>INFRASTRUCTURE MAINTENANCE, REHABILITATION AND RENEWAL.....</b>	<b>15-1</b>
15.1	Objectives and scope.....	15-1
15.2	activity description.....	15-1
<b>16.</b>	<b>SAMPLING, TESTING AND MONITORING.....</b>	<b>16-1</b>
16.1	Objectives and Scope.....	16-1
16.2	Activity Description.....	16-1
16.3	Communication of Results to the Owner and Regulatory Body .....	16-2
<b>17.</b>	<b>CALIBRATION OF SAMPLING, TESTING AND MONITORING EQUIPMENT .....</b>	<b>17-1</b>
17.1	Objectives and Scope.....	17-1
17.2	Activity Description.....	17-1
17.2.1	Calibration and Maintenance Procedures .....	17-1
17.2.2	Equipment Maintained Externally .....	17-2
17.2.3	Records.....	17-2
<b>18.</b>	<b>EMERGENCY PREPAREDNESS AND RESPONSE.....</b>	<b>18-1</b>
18.1	Objectives and Scope.....	18-1
18.2	Activity Description.....	18-1
<b>19.</b>	<b>INTERNAL AUDITS .....</b>	<b>19-1</b>
19.1	Objectives and Scope.....	19-1
19.2	Activity Description.....	19-1
<b>20.</b>	<b>MANAGEMENT REVIEW .....</b>	<b>20-1</b>
20.1	Objectives and Scope.....	20-1
20.2	Activity Description.....	20-1
<b>21.</b>	<b>CONTINUAL IMPROVEMENT.....</b>	<b>21-1</b>
21.1	Objectives and Scope.....	21-1
21.2	Activity Description.....	21-1

# 1. QUALITY MANAGEMENT SYSTEM

## 1.1 OBJECTIVES AND SCOPE

The objectives of the City of Owen Sound's Quality Management System (QMS), as related to the provision of effective Wastewater Collection and Treatment are to:

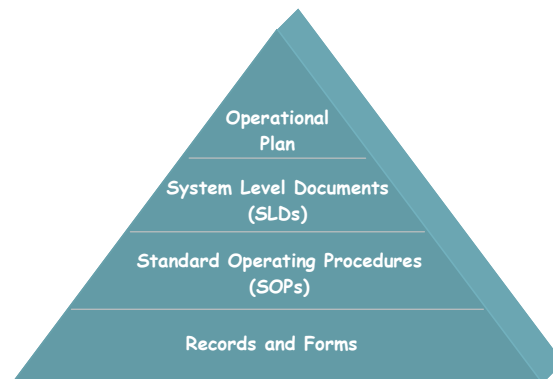
- Establish and maintain the policy and objectives with respect to the effective management and operation of the Wastewater Collection and Treatment System
- Understand and control the risks associated with activities and processes related to the Wastewater Collection and Treatment System
- Achieve continuous improvement of the QMS and the Wastewater Collection and Treatment System performance

This Operational Plan and its 21 Elements applies to all activities, processes, and practices related to the effective Collection and Treatment of Wastewater by the City of Owen Sound.

## 1.2 ACTIVITY DESCRIPTION

This Operational Plan defines and documents the Quality Management System (QMS) for the City of Owen Sound Wastewater Collection and Treatment System. It sets out the policies and procedures with respect to quality management in accordance with the requirements of the Province of Ontario's Drinking Water Quality Management Standard (DWQMS), however adjusted to apply to Wastewater Collection and Treatment.

Figure 1-1 below illustrates the structure of the City's Quality Management System documentation. This "Documentation Pyramid" is based on four levels. It is important to note that not all elements of the QMS require four levels of documentation (i.e. all information related to some elements might be fully contained within the first or second levels of documentation). The four documentation levels are explained below.

**Figure 1-1 –QMS Documentation Pyramid**

### 1.2.1 Operational Plan

The Operational Plan presents an overview of the QMS and makes reference to all applicable System Level Documents (SLDs), reference documents, records, etc., as related to the applicable elements. This document contains:

- Statements about the City's commitment to quality
- The Quality Management System Policy
- Organizational Structure, Roles, Responsibilities and Authorities
- References to other quality management standard documents not contained in the Operational Plan
- The quality management system and the applicable SOP's that apply to the operation of the City's Wastewater Collection and Treatment System

### 1.2.2 System Level Documents

SLDs describe who is responsible for completing the described procedure, when the procedure is applicable and what documentation is needed. SLDs may also refer to other procedures that contain more specific information.

### 1.2.3 Standard Operating Procedures

Standard Operating Procedures (SOPs) detail how an activity is carried out, specifying the tools and materials (if any), locations, specific steps, etc.

#### 1.2.4 Records and Forms

This documentation level includes all the records and documentation required to demonstrate compliance of the Environmental Compliance Approval (ECA) and conformance of the WWQMS and to track performance. These records document the results of activities carried out following SLDs. Records include work orders, calibration records, wastewater test results, etc.



## 2. QUALITY MANAGEMENT SYSTEM POLICY

### 2.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a Quality Management System Policy that provides the foundation for the Wastewater Quality Management System, and:

- a) Includes a commitment to the maintenance and continual improvement of the Wastewater Quality Management System,
- b) Includes a commitment to comply with applicable legislation and regulations, and
- c) Is in a form that can be communicated to all Operating Authority personnel, the Owner and the Public.

The Operating Authority shall establish and maintain a Quality Management System.

### 2.2 ACTIVITY DESCRIPTION

1. The Operating Authority has established and is maintaining a Quality Management System that is consistent with the WWQMS Policy. These goals will be met by the following:
  - a) Establish, maintain and continually improve the Wastewater Quality Management System for the Wastewater System
  - b) Comply with all applicable legislation and regulations
  - c) Determine, obtain and provide resources to maintain the infrastructure of the Wastewater System
  - d) Communicated to all staff, and to the public via the City's website and on other publications associated with the City's Wastewater System.

### 2.2.1 Quality Policy

The City of Owen Sound is committed to the continuous and effective Collection and Treatment of Wastewater to all its users and the environment. To fulfill this commitment every aspect of the operations is guided by three overarching principles.

- **Quality** – Implementing and maintaining a Quality Management System and being in compliance with all applicable legislation and regulations
- **Sustainability** – Maintaining infrastructure and operations in an environmentally-responsible fashion with a reasonable cost without sacrificing performance
- **Continual Improvement** – Striving always to improve the Wastewater Quality Management System



# THE QUALITY POLICY

The City of Owen Sound is committed to the continuous supply of effective wastewater collection and treatment to all its users. To fulfill this commitment every aspect of the operations is guided by three overarching principles.

## *QUALITY*

Implementing and maintaining a Quality Management System and being in compliance with all applicable legislation and regulations.



## *SUSTAINABILITY*

Maintaining infrastructure and operations in an environmentally-responsible fashion with a reasonable cost without sacrificing performance.



## *CONTINUAL IMPROVEMENT*

Striving always to improve the Wastewater Quality Management System.



## 3. COMMITMENT AND ENDORSEMENT

### 3.1 OBJECTIVES AND SCOPE

The Operational Plan shall contain a written endorsement of its contents by Top Management and the Owner.

Top Management shall provide evidence of its commitment to an effective Quality Management System by:

- a) Ensuring that a Quality Management System is in place that meets the requirements of this Standard,
- b) Ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements,
- c) Communicating the Quality Management System according to the procedure for communications,
- d) Determining, obtaining or providing the resources needed to maintain and continually improve the Wastewater Quality Management System.

### 3.2 ACTIVITY DESCRIPTION

Staff at the City of Owen Sound are committed to ensuring that the WWQMS is developed and implemented for the Wastewater Collection and Treatment system in accordance with the requirements of the Drinking Water Quality Management Standard. Top Management and Owners, which are represented by members of council, are committed to maintaining the WWQMS and ensuring that the established WWQMS complies with all applicable legislation and regulations and that all resources required for its maintenance and continual improvement are identified and provided. They are also committed to ensuring that the Operating Authority, are aware of all applicable legislative and regulatory requirements governing the Wastewater System.

To promote awareness and understanding of the WWQMS, the City of Owen Sound's QMS policy, will be communicated to relevant parties according to the procedures outlined in the Operational Plan.

This Operational Plan is endorsed and supported by the City of Owen Sound Top Management and Owner.

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Date

\_\_\_\_\_  
City Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
Director of Public Works and Engineering

\_\_\_\_\_  
Date



## 4. QUALITY MANAGEMENT SYSTEM REPRESENTATIVE

### 4.1 OBJECTIVES AND SCOPE

The WWQMS Representative is responsible for the maintenance of the QMS as well as ensuring that City staff are aware of all applicable legislative and regulatory requirements relevant to their duties regarding the effective Collection and Treatment of Wastewater. The description below details the WWQMS Representative's roles and responsibilities.

### 4.2 ACTIVITY DESCRIPTION

- The Wastewater Treatment and Environmental Lead Hand is the Wastewater Quality Management System (WWQMS) Representative for the City of Owen Sound, as appointed and authorized by Top Management.
- The WWQMS Representative is to ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the Wastewater System.
- The WWQMS Representative is responsible for managing all processes and procedures associated with the operation and maintenance of the WWQMS.
- The WWQMS Representative will discuss the performance of the WWQMS and continual improvement activities with members of Top Management.
- The WWQMS Representative will ensure that current versions of documents related to the WWQMS are in use.
- It is the responsibility of the WWQMS Representative to promote awareness of the WWQMS to all City of Owen Sound Wastewater Department personnel. The WWQMS policies and procedures will be presented to personnel in internal training sessions and reviewed during internal audits, and management review meetings with Top Management. The WWQMS Representative will coordinate

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the internal audit and management review meetings as well as internal training sessions that are related to the WWQMS.

## 5. DOCUMENTS AND RECORDS CONTROL

### 5.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure for Document and Records control that describes how:

- a) Documents required by the Quality Management System are:
  - i. Kept current, legible and readily identifiable
  - ii. Retrievable
  - iii. Stored, protected, retained and disposed of, and
- b) Records required by the Quality Management System are:
  - i. Kept legible, and readily identifiable
  - ii. Retrievable
  - iii. Stored, protected, retained and disposed of.

### 5.2 ACTIVITY DESCRIPTION

This Section outlines the procedures followed to ensure that documents and records pertaining to the effective Collection and Treatment of Wastewater are maintained and controlled. This Section applies to all documents that are described within this Operational Plan and its referenced SLDs.

- Documents are the procedures, forms, and templates required for the effective conformance of the WWQMS and the compliance of the Wastewater System.
- Records are snapshots of the activities that take place, such as operational records for daily rounds, maintenance, and repairs.
- Results from Internal and External Audits as well as Management Reviews.



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Procedures for documents and records control have been established to describe the methods and activities for ensuring that documents and records are properly managed. These are included in *SLD-05A-Control of Documents* and *SLD-05B-Control of Records*.

Documents and records will be stored, protected, retained, and disposed of in accordance with the above mentioned SLDs. Any modifications to documents will be recorded as described in the procedure. Records cannot be modified. Staff will ensure that only the current versions of documents are being used at all times.

## 6. WASTEWATER COLLECTION AND TREATMENT SYSTEM

### 6.1 OBJECTIVES AND SCOPE

To provide a current description of the City of Owen Sound's Wastewater System.

The operational plan shall document, as applicable:

- a) for the subject system:
  - i) the name of the owner and operating authority
  - ii) if the system includes equipment that provides disinfection and/or dechlorination.
    - A. a description of the system including all applicable treatment system processes and collection system components
    - B. a Treatment System process flow chart
    - C. a description of the water source, including:
      - I. general characteristics of the raw wastewater supply
      - II. common event-driven fluctuations
      - III. any resulting operational challenges and threats

The Operating Authority shall ensure that the description of the Wastewater System is kept current.

### 6.2 ACTIVITY DESCRIPTION

This Section presents an overview of the main components of the City of Owen Sound's Wastewater Collection and Treatment Systems.

- The City of Owen Sound, as represented by Members of Council and Top Management operates and maintains the Wastewater System.
- The Wastewater Treatment Plant has a rated capacity of 24,545 cubic meters per day and a peak daily flow rate of 65,000 cubic meters per day. The Wastewater System serves a population of approximately 21,500 persons.

- The Wastewater Collection System gathers wastewater from residential, commercial, institutional, and industrial sites. The collection system transports the wastewater through a network of sewers, pumping stations, siphons, and interceptor sewers. The network consists of approximately 150 kilometers of pipe and services approximately 7000 connections.
- There are seven (7) minor pumping stations and one (1) major pumping station. All flows are directed to the Owen Sound Wastewater Treatment Plant located north of the Bayshore Community Centre on 3<sup>rd</sup> Avenue East. The treated effluent is discharged into Georgian Bay.

A schematic of the Wastewater Collection System is shown in Figure 6-1. A process schematic of the Wastewater Treatment plan is shown in Figures 6-2 and 6-3.

Raw wastewater quality fluctuations can be a result of storm or runoff events, seasonal changes, or industrial wastes. These fluctuations often present operational challenges caused by raw wastewater quantity, low temperatures, nitrogen loading, and/or phosphorus loading, which could potentially have an adverse impact on the effectiveness of biological treatment. Monitoring of influent quality is conducted to help with the indication of any threats to Wastewater Treatment effectiveness.

### 6.2.1 Wastewater Collection System

The Wastewater Collection System operates at a typical flow rate of 10,000m<sup>3</sup>/day, but has the capability to handle flows up to 100,000m<sup>3</sup>/day. The system contains five (5) major overflow points (OS11, OS12, OS16, OS19A, OS22) and eight (8) pumping stations: one (1) Major Pumping Station – West Side; and seven (7) Minor Pumping Stations. The Minor Pumping Stations located throughout the City of Owen Sound are:

- East Bayshore
- Harrison Park
- Parkview
- Sydenham Cres.
- 2<sup>nd</sup> St. East
- 4<sup>th</sup> St. East

- 27<sup>th</sup> St. West

The West Side Pumping Station services the northwest quarter of the City. This pumping station is equipped with generator backup. The West Side Pumping Station forcemain discharges to the system on the West Side of the 10<sup>th</sup> Street Bridge. The seven (7) minor pump stations listed above services subdivisions in the City. The minor pumping stations mostly consist of wet wells operating in a duty/standby configuration.

The four (4) facilities listed below are locations where Wastewater Collection staff assists facility staff for troubleshooting and maintenance of internal sewage pumping stations.

- Eastside Fish Station
- JMRRC
- West Side Fish Station
- Kelso Park

The Wastewater Collection System utilizes two interceptor sewers: the West Side Interceptor and the East Side Interceptor.

- The West Side Interceptor directs flow south, while
- The East Side Interceptor directs flow north.
- The Collection System also contains two (2) siphons that cross the river
- At 8<sup>th</sup> St. and,
- 10<sup>th</sup> St.
- There is a bridge mounted sewer on 9<sup>th</sup> St.

### 6.2.2 Wastewater Treatment Plant

The entire Wastewater Collection System is serviced by one plant. The Wastewater Treatment Plant includes primary and secondary treatment. The outfall pipe for the treated effluent extends approximately 35m into Georgian Bay.

The Wastewater Treatment Plant uses chlorine disinfection, and secondary effluent dechlorination.

The raw wastewater passes through a screening system consisting of:

- Two (2), 12mm spacing vertical bar screens designed to handle peak daily flows and are automatically cleaned.
- The influent screening channels are designed to prevent bypassing over the screens.
- An influent overflow chamber.

Odour Control System:

- One (1) influent blower is used to control odorous air from existing headworks screening room and wet well
- One (1) odour control biofilter unit that contains inorganic biofilter media, with stack venting to the atmosphere.

Raw Sewage Pumping Station:

The screen complex building also houses the raw sewage pumping station. The raw sewage pumping station has a hydraulic capacity of 82,537 cubic meters per day. The wet well is complete with ultrasonic level measuring transducers, back-up pump control, and alarm float switches.

- One (1) 12.2m by 6.45m wet well complete with ultrasonic level measuring transducers, back-up pump control, alarm float switches and associated ventilation
- One (1) 12.2m by 9.85m pump room/dry well housing three (3) pumps that are all equipped with variable frequency drives (VFD); two (2) of these pumps establish a firm peak flow capacity
- The discharge forcemain is a 600mm diameter pipe.
- One (1) sump pump within the pump room/dry well.
- One (1) control room housing MCC and control panel

### Grit Removal Complex:

- Two (2) vortex grit removal chambers complete with grit extraction equipment, blowers and a grit dewatering screw.
- Two (2) sump pumps.

### Primary Clarification System:

- Four (4) rectangular tanks, two of which (Nos. 1 and 2) have dimensions of 23.7m long by 9.8m wide by 3.7m liquid depth with a combined surface area of 465m<sup>2</sup>, each equipped with two (2) effluent launders. The other two tanks (Nos. 3 and 4) each have dimensions of 40.6m long by 9.8m wide by 3.7m liquid depth with a combined surface area of 790m<sup>2</sup>, each equipped with three (3) effluent launders.
- Sludge collection is conducted by chain and flight longitudinal and cross collectors.
- Three (3) plunger-type raw sludge pumps.
- Helical scum skimmer systems are installed across the full width of the primary clarifiers with the top lip located above the water surface level. The systems are equipped with a spiral rotating blade system conveying scum to the scum collection hopper.
- Four (4) chopper type scum pumps – two (2) pumps per scum collection hopper (one duty, one standby).
- Two (2) positive displacement lobe blowers (one duty, one standby)

## Secondary Treatment System:

The secondary treatment system is a Biological Aerated Filter (BAF) system. The system consists of:

- One (1) 7.1m long by 10.4m wide by 5.6m deep primary effluent wet well, with one (1) 10.4m by 2.5m deep dry pit housing four (4) centrifugal type primary effluent pumps (three duty, one standby).
- Six (6) parallel BAF cells (five BAF cells on duty, one BAF cell on backwash mode), each with approximate dimensions of 6.3m wide by 10.3m long by 6.4m deep, with a media depth of 3.5m and media size of 4.0mm, providing a surface area of 390m<sup>2</sup>.
- One (1) 906m<sup>3</sup> capacity BAF backwash residuals holding tank having an approximate dimension of 11.8m long by 14.9m wide by 5.8m deep, equipped with one (1) submersible transfer pump used to convey residuals to the primary treatment system.
- One (1) 922m<sup>3</sup> capacity BAF backwash residuals holding tank having an approximate dimension of 11.8 m long x 14.9 m wide x 5.8 m deep, equipped with two (2) submersible transfer pump (one duty, one standby) used to convey residuals to the primary treatment system;
- Three (3) turbo process air blowers (two duty, one standby)

## Chemical Storage System:

- One (1) 32.9m<sup>3</sup> capacity ferric chloride solution storage tank equipped with two (2) chemical metering pumps (one duty, one standby)
- Two (2) 3,785m<sup>3</sup> capacity sodium hypochlorite solution storage tanks equipped with chemical metering pumps providing sodium hypochlorite solution to the disinfection system

### Effluent Disinfection System:

- One (1) chlorine disinfection system designed to provide adequate disinfection up to the Peak Design Flow of the Wastewater Treatment Plant, which includes two (2) dosing pumps operating in a duty/standby configuration, supplying sodium hypochlorite to the BAF facility under normal operating conditions, and one (1) dosing pump providing disinfection for the effluent disinfection chlorine contact chamber in the event of a secondary treatment bypass, or to outfall structure in the event of a headworks bypass or BAF backwash residual tank overflow
- Five (5) calcium thiosulphate storage tanks and two (2) chemical metering pumps (one duty, one standby) for final effluent dechlorination

### Chlorine Contact Chamber:

- One (1) chlorine contact chamber having dimensions of 27.4m long by 4.3m wide by 2.7m liquid depth and a volume of 318m<sup>3</sup>
- One (1) 2.13m rectangular recessed weir located at the outlet of the effluent storage tank, complete with ultrasonic level sensor

### Outfall:

- One (1) 35m long effluent outfall diffuser consisting of six (6) 300mm diameter horizontal ports and two (2) 450mm diameter horizontal ports with isolation valves located approximately 0.5m above lake bottom

### Sludge Management:

- One (1) mesophilic anaerobic primary digestion tank with a diameter of 19.8m and volume of 2,210m<sup>3</sup>, with a concrete roof and equipped with a gas recirculation system and associated appurtenances
- One (1) hot/cold side flow capacity digester heat exchanger serving the anaerobic digester
- Two (2) water tube boilers (one (1) duty boiler that operates on digester gas or natural gas, one (1) standby boiler that operates on natural gas only) and associated appurtenances



- Two (2) biosolids transfer pumps
- One (1) 5,088m<sup>3</sup> capacity partially below ground biosolids storage tank with approximate dimensions of 11.3m (7.3m high above ground level and 4.0m deep below ground level) by 23.9m diameter, equipped with a dome cover and hydraulic mixing system, equipped with two (2) chopper type pumps for sludge mixing and transfer (one duty, one standby)
- An above-ground vented, 18.8m diameter glass-lined biosolids storage tank with a dome roof and a capacity of 2,000m<sup>3</sup>, equipped with three (3) jet nozzles for sludge mixing
- Two (2) chopper type pumps for sludge mixing and transfer of the approximately 2,000m<sup>3</sup> biosolids storage tank (one duty, one standby)
- One (1) sludge truck loading station for transferring liquid biosolids to agricultural fields
- Two (2) centrifugal decant sump pumps (one duty, one standby)

#### Standby Power:

- One (1) 1000kW capacity standby diesel generator set and one (1) 7,570L minimum capacity diesel fuel storage tank, located within a sound attenuated enclosure near the main electrical substation
- One (1) standby diesel generator set rated at 500 kilowatts to provide emergency standby power for the Screening System, Raw sewage Pumping Station, and Grit Removal Facilities

#### Miscellaneous:

- Two (2) centrifugal effluent water pumps (one duty, one standby)
- One (1) vertical multistage effluent water pump
- Four (4) submersible sewage pumps (sump pumps)

## 7. RISK ASSESSMENT PROCEDURE

### 7.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a risk assessment process that:

- a) considers potential hazardous events and associated hazards, as identified by the Ministry of the Environment, Conservation and Parks
- b) identifies additional potential hazardous events and associated hazards
- c) assesses the risks associated with the occurrence of hazardous events
- d) ranks the hazardous events according to the associated risk
- e) identifies control measures to address the potential hazards and hazardous events
- f) identifies critical control points
- g) identifies a method to verify, at least once every calendar year, the currency of the information and the validity of the assumptions used in the risk assessment
- h) ensures that the risks are assessed at least once every thirty-six months
- i) considers the reliability and redundancy of equipment

The Operating Authority shall perform a risk assessment consistent with the documented process.

### 7.2 ACTIVITY DESCRIPTION

This Section documents a risk assessment process that identifies, assess and, where possible, reduce, mitigate and/or eliminate potential risks within the Wastewater System.

The Risk Assessment applies to the entire Wastewater System within the City of Owen Sound. The focus of the assessment is on risks to Wastewater Collection and Treatment.

A risk assessment process has been established to collectively identify, assess, rank and prioritize potential wastewater related hazards and related risks. This risk assessment process is conducted once every 3 years. The methodology and approach taken to conduct the risk assessment are described in detail in *SLD-07 Risk Assessment and Risk Assessment Outcomes*.

## 8. RISK ASSESSMENT OUTCOMES

### 8.1 OBJECTIVES AND SCOPE

To establish an effective and organized approach to conducting, assessing and improving hazardous risks associated with the Wastewater System. The Operational Plan shall document:

- a) Any identified potential hazardous events and associated hazards:
- b) The assessed risks associated with the occurrence of the hazardous event
- c) The ranked hazardous events
- d) The identified control measures to address the potential hazards and hazardous event
- e) The identified Critical Control Points (CCP's) and their respective Critical Control Limits (CCL's)
- f) Procedures and/or processes to monitor the CCL's
- g) Procedures to respond to deviations from the CCLs,
- h) Procedures for reporting and recording deviations from the CCP's

The Operating Authority shall implement and conform to the procedure.

### 8.2 ACTIVITY DESCRIPTION

This Section includes information to describe the approach taken by the City of Owen Sound to document the outcomes of the risk assessment activities undertaken as part of the risk assessment procedures identified in Section 7.

The results of the risk assessments are documented in the *Risk Assessment Table* and the *Critical Control Points Table*.

## 9. ORGANIZATIONAL STRUCTURE, ROLES, RESPONSIBILITIES AND AUTHORITIES

### 9.1 OBJECTIVES AND SCOPE

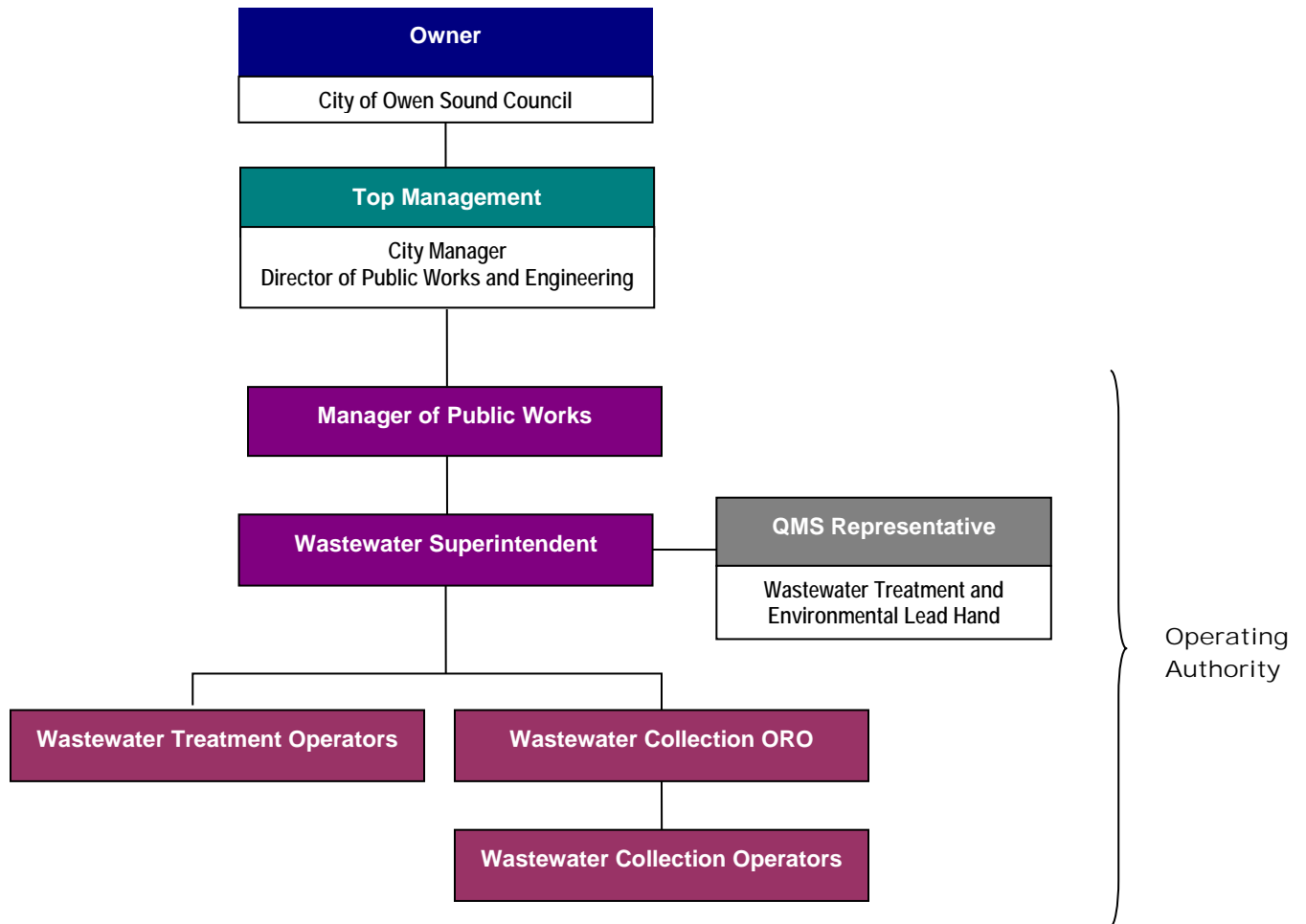
This section outlines the organizational structure, as well as the roles, responsibilities, and authorities that relate to the operation and performance of the City's Wastewater System. This Section and all associated procedures apply to all personnel of the City of Owen Sound that are involved in the operation of the Wastewater System.

### 9.2 ACTIVITY DESCRIPTION

The reporting structure of the City of Owen Sound Wastewater Department is outlined in the Organizational Chart in Figure 9-1.

The Owner of the Wastewater System is the City of Owen Sound as represented by the City of Owen Sound Council. The responsibilities and authorities for all staff related to the operation of the WWQMS are documented in Table 9-1.

Figure 9-1 – Organizational Chart



**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
Owner (City Council)	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Responsible for ensuring the Operating Authority has sufficient resources to guarantee the provision of effective wastewater collection and treatment</li> <li>• Endorses the Wastewater Department’s Operational Plan and commits to it continuous improvement</li> <li>• Ensures that adequate financial resources are available for the operations, maintenance, renewal, and replacement of wastewater collection and treatment infrastructure</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Approves major infrastructure projects which may impact wastewater collection and treatment efficiencies</li> <li>• Approves and selects Operating Authority including Top Management</li> </ul>
Top Management (City Manager)	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Reports to the Owner</li> <li>• Responsible for ensuring the broad mandate of administrative and operational requirements of the City are carried out.</li> <li>• Oversees the administration (e.g., day to day activities) of the Operations Department to implement the City’s policies and procedures as set by Council through by-law, resolution or as otherwise established.</li> <li>• Ensures the Wastewater Department’s QMS is in place and endorse the Operational Plan</li> <li>• Communicates the QMS per the Communication Procedure</li> <li>• Participates in Management Review meetings</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Hires management staff</li> <li>• Allocates operations and maintenance budgets across all City Departments</li> </ul>
Top Management (Director of Public Works and Engineering)	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Responsible for overseeing the operation of the wastewater collection and treatment system</li> <li>• Reports on the wastewater collection and treatment system performance to the City Manager</li> <li>• Attends meetings with the Owner, as required</li> <li>• Ensures the QMS is in place and endorse the Operational Plan</li> <li>• Participates in Management Review meetings</li> <li>• Ensures Operating Authority staff are aware of applicable legislation regarding the provision of effective wastewater collection and treatment</li> <li>• Communicates the QMS per the Communication Procedure</li> <li>• Ensures that resources required for the QMS are made available to the manager and supervisors</li> <li>• Provides oversight of the manager(s) in accordance with current policies and applicable laws</li> <li>• Formulates goals, policies, programs, for the Department</li> <li>• Manages departmental budget and resources</li> <li>• Consults legal counsel to ensure policies, procedures, and practices comply with federal, provincial, and local laws</li> </ul>

**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
	<ul style="list-style-type: none"> <li>• Ensures that staff address errors and complaints</li> <li>• Reviews reports authored by the supervisors and/or manager(s)</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Allocates wastewater collection and treatment operations and maintenance budgets</li> <li>• Hires operations and maintenance staff</li> <li>• Manages and evaluates performance of staff</li> </ul>
<p>Manager of Public Works</p>	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Ensures the QMS is in place and endorse the Operational Plan</li> <li>• Ensures that the Wastewater Treatment Plant is operating effectively within the guidelines and standards set by the City and all applicable Ministries and regulatory bodies</li> <li>• Identifies appropriate materials and equipment, provides technical standards for the same and recommends approvals and acquisitions: Takes action to correct substandard equipment and facility equipment</li> <li>• Prepares annual wastewater capital budget and monitors compliance with the approved budget</li> <li>• Prepares and presents in-house wastewater collection and treatment specific training and information program for wastewater staff and other staff as required</li> <li>• Undertakes special analysis, system and wastewater treatment reviews as required</li> <li>• Participates in the review process of all wastewaters related projects as they relate to modifications and or expansion of the wastewater system</li> <li>• Participates in the review process of all wastewater projects as they relate to modification and or expansions of the system</li> <li>• Responsible for specific complex inquiries</li> <li>• Responsible for the Wastewater Section, secondary pumping station, collection and treatment facilities</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Manages all processes and procedures associated with the operation and performance of the QMS</li> <li>• Manages and evaluates staff performance</li> <li>• Coordinates Training</li> <li>• Decision making re: Capital project delivery, method and priority</li> <li>• Evaluate RFPs and Tenders and report to Upper Management and Owner</li> <li>• Directs Supervisors, Lead Hands, and Operators when required</li> <li>• Purchasing Authority for capital projects in accordance with purchasing bylaw</li> </ul>
<p>Wastewater Superintendent</p>	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Ensures all regulatory and QMS procedures are being followed by Operations Staff</li> <li>• Ensures Operations Staff Training and Certifications are kept current</li> <li>• Coordinates assistance between Wastewater Treatment and Wastewater Collection operators when required</li> <li>• Directs the work consistent with acceptable Utility and Industry standards</li> </ul>

**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
	<p>and practices</p> <ul style="list-style-type: none"> <li>• Plans, schedules, and assigns staff to undertake treatment and maintenance programs on a daily basis and other projects as assigned</li> <li>• Responsible for emergency situations</li> <li>• Gives direction to ensure the work progress is undertaken efficiently and effectively and the work program is accomplished</li> <li>• Schedules staff to ensure familiarity with all aspects of wastewater treatment, equipment and facilities</li> <li>• Assists with in-house wastewater treatment specific training and information programs</li> <li>• Provides input to the preparation of operation and capital items for budgets</li> <li>• Ensures economic utilization of equipment and when necessary, arrange for rental of additional equipment</li> <li>• Maintains all wastewater treatment drawings and records</li> <li>• Maintains the SCADA System and assure its security</li> <li>• Maintains the wastewater treatment quality parameters for effluent and biosolids, and adjusts as required</li> <li>• Ensures compliance with provincial regulations and control documents including the WWTP ECA (Environmental Compliance Approval) and any other relevant Certificates of Approvals and ECAs</li> <li>• Supervise, train and assist in the performance of routine duties at the Wastewater Treatment Plant such as laboratory work, routine maintenance, adjust controls, and general inspection</li> <li>• Completes and maintains all work progress and employee reports, records, and information</li> <li>• Maintains inventory control and approves accounts payable for completeness and accuracy</li> <li>• Assists in the interviews and selection of new wastewater treatment employees</li> <li>• Ensures that tools, vehicles, and work equipment are maintained to a high standard</li> <li>• Responsible for arranging and coordinating all plant shutdowns</li> <li>• Responds to customer complaints in consultation with the Manager of Public Works</li> <li>• Authors annual wastewater performance report</li> <li>• Other duties as assigned by the Manager of Public Works</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• All operations of the Wastewater Treatment Plant (WWTP) including meeting all legislative sampling requirements</li> <li>• Manages and evaluates performance of staff</li> <li>• Direct WWTP Operators as required</li> <li>• Coordinating capital projects in Wastewater Treatment</li> <li>• Coordinating Training</li> <li>• Prepare Work Schedules for Wastewater Treatment operators</li> <li>• Purchasing for Wastewater Treatment in accordance with Purchasing Bylaw</li> </ul>



**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
WWQMS Representative (Wastewater Treatment and Environmental Lead Hand)	<ul style="list-style-type: none"> <li>• All other authorities under “Wastewater Treatment Operator”</li> <li>• Develops and maintains the Quality Management System</li> <li>• Ensures Wastewater Department staff are aware of all applicable legislative and regulatory requirements relevant to their duties regarding the provision of effective wastewater collection and treatment</li> <li>• Reports on the performance of the QMS and continual improvement activities to Top Management</li> <li>• Ensures current versions of documents related to the QMS are in use</li> <li>• Promotes awareness of the QMS to all personnel in the Wastewater Department</li> <li>• Responsible for auditing programs</li> <li>• Responsible for emergency management training</li> <li>• Schedules and attends Management Review meetings</li> <li>• Provides risk assessment review</li> <li>• Other duties as assigned by the Manager of Public Works or Wastewater Supervisor</li> </ul>
	<p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Manages all processes and procedures associated with the operation and performance of the QMS</li> <li>• Implements changes in QMS documentation and procedures</li> <li>• All other authorities under “Wastewater Treatment Operator”</li> </ul>
Wastewater Collection ORO	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Overall Responsible Operator (ORO) as per Provincial Regulations currently Section 15 of O.Reg. 129/04</li> <li>• Develop, maintain, and update inventory of the City’s wastewater collection system, related structures, pumping stations, tools and related equipment</li> <li>• Responsible for the operation, maintenance, and use of all equipment related to the maintenance of the wastewater collection system including, but not limited to, vehicles, pumping stations, and collection system maintenance and inspection tools</li> <li>• Perform regularly scheduled maintenance on equipment, structures, and collection system mains</li> <li>• Respond to customer concerns regarding sewage backups as per City policy</li> <li>• Perform wastewater collection system locates</li> <li>• Locate, detect, and correct wastewater collection system blockages as per City Policy and report same to proper authorities</li> <li>• Trouble shoot to identify and repair inflow and infiltration into the wastewater collection system</li> <li>• Clear snow and perform winter maintenance at lift stations</li> <li>• Maintain vehicles and equipment in good working order</li> <li>• Maintain logs or other forms of record-keeping related to collection activities; record field information, i.e. drawings, documentation required for insurance claims</li> <li>• Obtain and maintain Ministry of the Environment, Conservation and Parks</li> </ul>

**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
	<p>(MECP) certificate to the level of the Collection System as per MECP regulations</p> <ul style="list-style-type: none"> <li>• Proficiently use the City sewer camera to inspect laterals as per City Policy</li> <li>• Work closely with other City Departments and Sections on a variety of issues such as new projects, severances, flow directions, demolitions, grade shots, mapping issues, bylaw, plumbing and building concerns, environmental spills, containment and inspection issues</li> <li>• Meets with contractors and assists them with information regarding the system and contracts for repairs, maintenance and inspection issues</li> <li>• Obtain all required regulatory training</li> <li>• Participates in the stand-by duty roster</li> <li>• Other duties as assigned by the Manager of Public Works or designate</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• All operations of the wastewater collection system including meeting all legislative sampling requirements</li> <li>• Monitor performance of contractors during construction activities related to the City's wastewater collection system</li> <li>• Prioritize problem areas for rehabilitation projects</li> <li>• Identify and provide input into collection system capital needs</li> <li>• Provide tours for community groups and organizations</li> <li>• Participate in design or construction meetings during plant upgrades</li> <li>• Sanitary and storm system locates</li> <li>• All other authorities under "Wastewater Collection Operator"</li> </ul>
<p>Wastewater Collection Operator</p>	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Develop, maintain, and update inventory of the City's wastewater collection system, related structures, pumping stations, tools and related equipment</li> <li>• Responsible for the operation, maintenance, and use of all equipment related to the maintenance of the wastewater collection system including, but not limited to, vehicles, pumping stations, and collection system maintenance and inspection tools</li> <li>• Perform regularly scheduled maintenance on equipment, structures, and collection system mains</li> <li>• Respond to customer concerns regarding sewage backups as per City policy</li> <li>• Perform wastewater collection system locates</li> <li>• Locate, detect, and correct wastewater collection system blockages as per City Policy and report same to proper authorities</li> <li>• Trouble shoot to identify and repair inflow and infiltration into the wastewater collection system</li> <li>• Clear snow and perform winter maintenance at lift stations</li> <li>• Maintain vehicles and equipment in good working order</li> <li>• Maintain logs or other forms of record-keeping related to collection activities; record field information, i.e. drawings, documentation required for insurance claims</li> <li>• Obtain and maintain MECP certificate to the level of the Collection System as per MECP regulations</li> </ul>

**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
	<ul style="list-style-type: none"> <li>• Proficiently use the City sewer camera to inspect laterals as per City Policy</li> <li>• Work closely with other City Departments and Sections on a variety of issues such as new projects, severances, flow directions, demolitions, grade shots, mapping issues, bylaw, plumbing and building concerns, environmental spills, containment and inspection issues</li> <li>• Meets with contractors and assists them with information regarding the system and contracts for repairs, maintenance and inspection issues</li> <li>• Obtain all required regulatory training</li> <li>• Other duties as assigned by the Wastewater Superintendent</li> <li>• May be designated (by management) to be the Overall Responsible Operator (ORO) as per Provincial Regulations currently section 15 of O.Reg. 129/04</li> <li>• Participates in the stand-by duty roster</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Operations and maintenance of the wastewater collection system under the direction of the Wastewater Superintendent</li> <li>• Monitor performance of contractors during construction activities related to the City's wastewater collection system</li> <li>• Prioritize problem areas for rehabilitation projects</li> <li>• Identify and provide input into collection system capital needs</li> <li>• Provide tours for community groups and organizations</li> <li>• Participate in design or construction meetings during plant upgrades</li> <li>• Sanitary and storm system locates</li> </ul>
<p>Wastewater Treatment Plant Operator</p>	<p><b>Responsibilities</b></p> <ul style="list-style-type: none"> <li>• Stays informed of City policies and procedures</li> <li>• Stays informed of provincial and federal regulations and how they affect the operation of the wastewater treatment plant</li> <li>• Communicates with supervisors, peers, and subordinates</li> <li>• Operates the wastewater treatment plant and remote facilities in accordance with in plant procedures in order to exceed MECP quality standards</li> <li>• Collects samples and submits to accredited laboratories per MECP regulations and MECP sampling protocol</li> <li>• Collects samples and performs in plant testing for various wastewater quality and biosolids parameters in order to assess plant operation to ensure compliance with MECP regulations and guidelines.</li> <li>• Maintains records relating to wastewater quality and plant operations</li> <li>• Calibrates, on a scheduled basis, analytical equipment</li> <li>• Performs preventative maintenance on facility equipment at Wastewater Treatment Plant and remote facilities including security checks.</li> <li>• Makes adjustments to process controls, equipment and treatment units, including optimizing dosage of coagulant to minimize chemical consumption while not compromising treatment</li> <li>• Participates in wastewater plant upgrade projects</li> <li>• Provides general ground maintenance and snow clearing</li> <li>• Participates in the standby duty roster on a rotating basis</li> </ul>

**Table 9-1 Responsibilities and Authorities**

Position	Responsibilities and Authorities
	<ul style="list-style-type: none"> <li>• May be designated (by management) to be the Overall Responsible Operator (ORO) per Provincial Regulations section 15 of O.Reg. 129/04</li> <li>• Obtains regular training and upgrading per Provincial Regulations</li> <li>• Other duties as assigned by the Wastewater Treatment Superintendent or Manager</li> </ul> <p><b>Authorities</b></p> <ul style="list-style-type: none"> <li>• Operations and maintenance of the WWTP under the direction of the Wastewater Treatment Plant Superintendent</li> <li>• Order needed materials and chemicals as needed</li> <li>• Perform process changes to WWTP and pumping stations</li> <li>• Regulatory sampling</li> <li>• Report Bypass or Overflow Events in accordance with regulations</li> <li>• Respond to alarms</li> <li>• Operate or work on equipment for maintenance or operational purposes</li> <li>• Calling in support contractors when required</li> <li>• Advise contractors re City's requirements for wastewater systems</li> </ul>

Note: The responsibilities and authorities are not limited to those listed in Table 9-1.

## 10. COMPETENCIES

### 10.1 OBJECTIVES AND SCOPE

This Section and associated documentation applies to all City of Owen Sound personnel whose roles and responsibilities affect the provision of effective Wastewater Collection and Treatment.

### 10.2 ACTIVITY DESCRIPTION

In order to help ensure the use of competent individuals to operate and maintain the Wastewater System, Table 10-1 has been developed to identify and manage the knowledge, skills, and abilities of personnel involved in the provision of effective Collection and Treatment of Wastewater.

**Table 10-1 Competency Table**

Position	Required Competency
Top Management (City Manager and Director of Public Works and Engineering)	<ul style="list-style-type: none"> <li>• Training in Emergency Management and Response Work Instructions</li> <li>• At least 10 years related experience</li> </ul>
Manager of Public Works	<ul style="list-style-type: none"> <li>• Bachelor of Science Degree in Civil Engineering with a P.E.O. designation or a post-secondary education inclusive of a certificate and or diploma in civil, environmental science or chemical engineering with a C.E.T. designation would be an asset.</li> <li>• QMS related experience</li> <li>• Class III Wastewater Treatment</li> <li>• Class III Wastewater Collection</li> <li>• Five (5) years' experience with wastewater systems</li> <li>• Three (3) years minimum of supervisory and project management experience</li> <li>• Knowledge and experience in wastewater collection and treatment</li> <li>• Strong leadership and management skills</li> <li>• Excellent oral and written communication skills</li> </ul>

**Table 10-1 Competency Table**

Position	Required Competency
Wastewater Superintendent	<ul style="list-style-type: none"> <li>• College Diploma or equivalent experience</li> <li>• Ontario Secondary School Diploma</li> <li>• Class III Wastewater Treatment Operators Certificate and minimum three (3) years' experience in all aspects of wastewater treatment at the supervisory or equivalent level. Wastewater Collection certification on an asset.</li> <li>• Ten (10) years related work experience</li> <li>• Demonstrate leadership ability and management skills</li> <li>• Good communication skills, oral and written</li> <li>• Good planning and organization skills</li> <li>• Good public relation skills</li> <li>• Thorough understanding of wastewater treatment and collection systems, utility policies, practices and equipment</li> <li>• Valid first aid/CPR Certificate</li> <li>• Valid Workplace Hazardous Material Information System Certificate</li> <li>• Valid Class G Driver's License</li> </ul>
WWQMS Representative (Wastewater Treatment and Environmental Lead Hand)	<ul style="list-style-type: none"> <li>• QMS related experience</li> <li>• See Wastewater Collection and Wastewater Treatment Plan Operator required competencies</li> </ul>
Wastewater Collection Overall Responsible Operator	<ul style="list-style-type: none"> <li>• College Diploma or equivalent</li> <li>• MECP Wastewater Collection System Certification Class III</li> <li>• Three (3) to five (5) years' experience in a wastewater environment</li> <li>• Valid Class G Driver's License</li> <li>• Knowledge of equipment, methods, tools, and materials used in the operation and maintenance of wastewater collection system and pumping stations</li> <li>• Ability to communicate effectively with supervisors, coworkers, contractors, other City employees, and the general public</li> <li>• Must be able to interpret work orders, specifications, standards, instructions, plan/profile drawings, sketches, and diagrams</li> <li>• Proven ability to review construction plans and provide technical assistance to both internal and external customers</li> <li>• Knowledge of underground utilities and construction techniques</li> <li>• Basic knowledge and ability relating to computer systems and software</li> <li>• Work in a safe manner that relates to the safety of coworkers and the general public</li> <li>• Knowledge of OSHA especially related to confined space standards</li> </ul>
Wastewater Collection Operator	<ul style="list-style-type: none"> <li>• College Diploma or equivalent</li> <li>• MECP Wastewater Collection System Certification Class III</li> <li>• Three (3) to five (5) years' experience in a wastewater environment</li> <li>• Valid Class G Driver's License</li> <li>• Knowledge of equipment, methods, tools, and materials used in the operation and maintenance of wastewater collection system and pumping stations</li> </ul>

**Table 10-1 Competency Table**

Position	Required Competency
	<ul style="list-style-type: none"> <li>• Ability to communicate effectively with supervisors, coworkers, contractors, other City employees, and the general public</li> <li>• Must be able to interpret work orders, specifications, standards, instructions, plan/profile drawings, sketches, and diagrams</li> <li>• Proven ability to review construction plans and provide technical assistance to both internal and external customers</li> <li>• Knowledge of underground utilities and construction techniques</li> <li>• Basic knowledge and ability relating to computer systems and software</li> <li>• Work in a safe manner that relates to the safety of coworkers and the general public</li> <li>• Knowledge of OSHA especially related to confined space standards</li> </ul>
Wastewater Treatment Plant Operator	<ul style="list-style-type: none"> <li>• College Diploma or equivalent</li> <li>• MECP Wastewater Treatment Certification</li> <li>• Five (5) years' experience in wastewater treatment environment working towards Wastewater Treatment Class III certification</li> <li>• Valid Class G Driver's License</li> <li>• Knowledge of equipment, methods, tools, and materials used in the operation and maintenance of the wastewater system</li> <li>• Ability to communicate effectively with supervisors, co-workers, contractors, other City employees, and the general public</li> <li>• Must be able to interpret work orders, specifications, standards, instructions, plan/profile drawings, sketches and diagrams</li> <li>• Knowledge of underground utilities and construction techniques</li> <li>• Basic knowledge and ability relating to computer systems and software</li> <li>• Knowledge of OSHA especially related to confined space standards</li> <li>• Demonstrated ability to work in a safe manner including confined spaces, proper use of chemicals, and safety equipment</li> <li>• Valid first aid/CPR Certificate</li> <li>• Valid Workplace Hazardous Material Information System Certificate</li> </ul>

**Satisfying Competencies: General**

All Operators shall receive training as required by O. Reg. 129/04, in addition to the following. The training may be provided on or off-site by qualified employees or contracted subject matter experts. The required number of CEU's and on the job training hours is defined for the operators as per O. Reg. 129/04.

- WHMIS Training – This training is the responsibility of the City Human Resources Department. This training has no expiry but should be renewed every three years. It is provided by an outside entity and the training needs to be updated if chemicals are changed in the system. The WHMIS binders are maintained by the Wastewater Superintendent.

- The Operator's Certificates are maintained and kept on the wall in the Control Room.
- Confined Space Entry Training – is provided every three years.
- First Aid/CPR – Provided by the Human Resources Department and is good for three (3) years.
- Wastewater Collection and Treatment Operators are required to have a G driver's licence. Maintaining this licence is the operator's responsibility.
- SCADA training for an operator is carried out on-the-job by the Wastewater Superintendent or their informed delegate or as required by the SCADA supplier.
- Chemical feed adjustment dosage calculations. On the job training is provided by the Wastewater Superintendent.
- Safe handling practices regarding ferric chloride, calcium thiosulphate, and sodium hypochlorite are covered by on-the-job training provided by the Wastewater Superintendent. This training is provided initially to an operator and as required thereafter and supplements the above-mentioned WHMIS training.
- Repairing and maintaining chemical metering pumps: on the job training is provided by the Wastewater Superintendent or the qualified delegate.
- Pump operation training is provided by on-the-job training by the Wastewater Superintendent, supplemented with the Operation and Maintenance Manual review and SCADA training.
- Familiarity with the Wastewater Collection System is provided by on-the-job training by the Wastewater Superintendent or Wastewater Collection ORO, or other qualified designate.
- Attendance at conferences and seminars is used to attain training CEU's.

### **Recording Training**

Training records are kept by the Water/Wastewater Administrative Assistant and are on the city server. They include on-the-job training hours, and CEU's received. Operators ensure that certificates are kept current.

All training shall be documented on a Training Documentation Form 10-1.



## Planning Training

The training planning Form 10-2 is intended to be used for planning training by the Manager of Public Works and the Wastewater Superintendent. It is meant to provide an “at a glance” summary of all the training required for the group and the individual operators.

Each year, in January, the Manager of Public Works and the Wastewater Superintendent are to meet to generally plan the coming years’ training.

The planning of training shall consider the following:

1. What group training (i.e. confined space, lock out/tag out) training is required in the coming year.
2. Which individual operators are coming due for renewal, how many CEU’s and training hours they require, what type of training should be planned for those individuals, and whether the individuals need to take the mandatory course.
3. Estimate, in consultation with HR, which months WHMIS and First Aid training will be undertaken and enter those dates into the table.
4. Have consideration for the budget.

The completed Form 10-2 is to be retained by the Manager of Public Works and the Wastewater Superintendent and posted at the Wastewater Plant.

## 11. PERSONNEL COVERAGE

### 11.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure to ensure that sufficient personnel meeting identified competencies are available for duties that directly affect the Wastewater System.

The Operating Authority shall implement and conform to the procedure.

### 11.2 ACTIVITY DESCRIPTION

This Section relates to procedures followed to ensure that competent individuals are available to fulfill the responsibilities needed for the ongoing operation of the Wastewater System, and the maintenance of the City's WWQMS. This Section applies to all City of Owen Sound personnel involved in the operation of the Wastewater System.

- This includes ensuring that positions requiring back-up personnel have an appropriate number of qualified and competent replacements, and ensuring employees have access to all tools and resources needed to perform their roles.
- The Wastewater Treatment plant is staffed from Monday to Friday from 7:00 am to 3:30 pm. The Wastewater Superintendent is the primary Overall Responsible Operator (ORO). If the ORO is unavailable (due to extended time sickness, injury, etc.) then another operator is selected by Top Management to act as the ORO.
- There is an assigned on-call wastewater operator during weekends and after-hours. The on-call schedule is set and printed off an annual roster by the Wastewater Superintendent. A support operator can be called in if the on-call operator requires additional support.

- At all other times, the Wastewater Treatment Plant is monitored by the Supervisory Control and Data Acquisition (SCADA) system. The SCADA system has an auto-dialer that has been programmed to call the on-call operator whenever conditions warrant.
- The on-call operator is the designated Operator-In-Charge (OIC), unless otherwise specified by the ORO, and will respond to and investigate all alarms in a timely manner.
- The ORO is available by cell phone when not physically at the system during normal hours and is able to respond on-site in a timely manner. If there is an emergency during other hours, the operator-on-call can reach the ORO by cell phone.
- Wastewater staff are responsible for the minor and major pump stations, these are monitored by the alarm systems. Checks at the pump stations are conducted by Wastewater Personnel. For any work completed during these checks, the date of the visit and the details of any related action taken are recorded in the field logbook and a work order if warranted.
- The City during out of ordinary conditions (such as in pandemics or strikes / lockouts) could refer to O. Reg. 129/04 Emergency Situations, Operators Etc. for guidance on obtaining temporary staff to run the wastewater system.

## 12. COMMUNICATIONS

### 12.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure for communications that describes how the relevant aspects of the Quality Management System are communicated between Top Management and:

- a) The Owner,
- b) Operating Authority personnel,
- c) Suppliers that have been identified as essential under Plan (a) of Element 13 of this Standard, and
- d) The Public.

The Operating Authority shall implement and conform to the procedure.

### 12.2 ACTIVITY DESCRIPTION

This section identifies the process to communicate information related to the City's Wastewater Quality Management System to appropriate internal and external parties.

The internal and external communication related to the City of Owen Sound's WWQMS are described in detail in SLD-12 Communications.

## 13. ESSENTIAL SUPPLIES AND SERVICES

### 13.1 OBJECTIVES AND SCOPE

The Operational Plan shall:

- a) Identify all supplies and services essential for the Wastewater Systems operation and shall state, for each supply or service, the means to ensure its procurement, and
- b) Include a procedure by which the Operating Authority ensures the quality of essential supplies and services, in as much as they may affect the Wastewater Systems operation.

The Operating Authority shall implement and conform to the procedure.

### 13.2 ACTIVITY DESCRIPTION

This Section describes the processes by which supplies, and services deemed essential to the Wastewater System are procured, obtained, and verified.

The Operating Authority maintains a list of essential supplies and services as part of the Master Contact List included in the *City of Owen Sound Wastewater System Emergency Response Plan*, which describes and/or references methods for:

- Procuring essential supplies and services
- Establishing and communicating quality expectations
- Ensuring quality expectations are met accordingly

For all supplies and services listed, City staff attempt, where possible, to multi-source and have an established, pre-approved supplier on call in cases of emergency.

## 14. REVIEW AND PROVISION OF INFRASTRUCTURE

### 14.1 OBJECTIVES AND SCOPE

This Section relates to the processes to review the adequacy of the existing and planned infrastructure needed to ensure the ongoing collection and treatment of wastewater. This Section applies to all City of Owen Sound personnel responsible for ensuring the adequacy of the City's wastewater infrastructure.

### 14.2 ACTIVITY DESCRIPTION

The review of the adequacy of existing infrastructure to collect and treat wastewater for the City of Owen Sound's Wastewater System is conducted following the procedures outlined in *SLD-14- Review, Rehabilitation, and Renewal of Infrastructure*.

The results and corresponding recommendations of this review are communicated to Top Management and the Owner through the Management Review process (See Section 20, Management Review).

## 15. INFRASTRUCTURE MAINTENANCE, REHABILITATION AND RENEWAL

### 15.1 OBJECTIVES AND SCOPE

This Section identifies the maintenance, rehabilitation, and renewal programs that the City of Owen Sound has in place for its Wastewater system infrastructure. This Section applies to all City of Owen Sound personnel responsible for ensuring the maintenance, rehabilitation, and renewal of the City's wastewater infrastructure.

### 15.2 ACTIVITY DESCRIPTION

The City of Owen Sound's infrastructure management program outlines scheduled activities to ensure all essential Wastewater system infrastructure is maintained in good working order. *SLD-14- Review, Rehabilitation, and Renewal of Infrastructure* details the processes and activities conducted to ensure the adequacy of the infrastructure, including all maintenance, rehabilitation, and renewal/replacement programs in place.

*SLD-15- Maintenance, Rehabilitation, and Renewal Programs* provides a summary of the maintenance, rehabilitation, and renewal programs for the system.

## 16. SAMPLING, TESTING AND MONITORING

### 16.1 OBJECTIVES AND SCOPE

The Operational Plan shall document:

- a) A sampling, testing and monitoring procedure for process control and Final Effluent Quality including requirements for sampling, testing and monitoring at the conditions most challenging to the Subject System,
- b) A description of relevant sampling, testing or monitoring activities, if any, that take place upstream of the Subject System, and
- c) A procedure that describes how sampling, testing and monitoring results are recorded and shared between the Operating Authority and the Owner, where applicable.

The Operating Authority shall implement and conform to the procedures.

### 16.2 ACTIVITY DESCRIPTION

This Section refers to the sampling, testing, and monitoring program for the Wastewater System that is currently in place for the City of Owen Sound. This Section and associated procedures apply to all sampling and testing, conducted of the Wastewater System either internally or by a third-party.

The City of Owen Sound shall document and maintain a regular sampling, testing, and monitoring program for its Wastewater System that, at a minimum, meets regulatory requirements stipulated in the most current ECA. This applies to influent and effluent monitoring.



The following describes how the sampling, testing, and monitoring results are recorded and communicated:

- Regular sampling of influent and effluent quality for chemical, physical, and bacteriological parameters is performed in accordance with relevant Wastewater Treatment Lab Standard Methods and relevant SOP's.
- In the case of bypass or overflow events, the relevant SOP's must be followed, as appropriate.
- Only trained and certified Operators are authorized to take handheld measurements or to take samples for laboratory analysis.
- Additionally, only an accredited laboratory may be utilized as per the Regulations.
- Online analyzers are installed for monitoring purposes and data purposes through the SCADA system at the Wastewater Treatment Plant.

### 16.3 COMMUNICATION OF RESULTS TO THE OWNER AND REGULATORY BODY

- In the case of bypass or overflow conditions, additional communication with Top Management, in accordance with the relevant SOP's is required, as appropriate.
- In the case of any exceedance of any parameter specified as effluent objectives in Section 7 of the current ECA, the owner shall report to the MECP.
- In the case of a reportable spill, the MECP must be notified in writing as per the current ECA and the City must comply with Part X of the Environmental Protection Act.
- Annual wastewater performance report is prepared and submitted to the MECP as per the current ECA.

## 17. CALIBRATION OF SAMPLING, TESTING AND MONITORING EQUIPMENT

### 17.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure for the calibration and maintenance of measurement and recording equipment.

The Operating Authority shall implement and conform to the procedure.

### 17.2 ACTIVITY DESCRIPTION

This section describes the calibration program for all wastewater sampling, monitoring and/or testing equipment and devices. These procedures apply to all devices and equipment used within the City of Owen Sound's Wastewater System.

The City of Owen Sound's Wastewater Department uses several instruments, tools, devices and/or equipment for their sampling and testing activities. Measurement and recording equipment calibration and maintenance activities will be performed by appropriately trained and qualified personnel or by a third-party calibration service provider.

The Wastewater Superintendent will maintain a list of sampling, testing, and monitoring devices, and associated calibration schedules.

The Wastewater Superintendent or designate, will coordinate the implementation of the calibration and maintenance program with input from Operators, as appropriate.

#### 17.2.1 Calibration and Maintenance Procedures

The calibration and maintenance procedures are performed in accordance with the manufacturer's recommendation.

### 17.2.2 Equipment Maintained Externally

For external services such as laboratory services, test equipment, pumps, SCADA equipment, and electrical/ mechanical equipment, the service provider will be responsible for the maintenance and calibration of the required test equipment as requested by the Operating Authority. Refer to the Master Contact List in the *City of Owen Sound Wastewater System Emergency Response Plan (WWERP)* for contact information.

### 17.2.3 Records

All calibration records will be maintained and stored for reference and verification.

## 18. EMERGENCY PREPAREDNESS AND RESPONSE

### 18.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure to maintain a state of emergency preparedness that includes:

- a) A list of potential emergency situations or service interruptions,
- b) Processes for emergency response and recovery,
- c) Emergency response training and testing requirements,
- d) Owner and Operating Authority responsibilities during emergency situations,
- e) References to municipal emergency planning measures as appropriate, and
- f) An emergency communication protocol and an up-to-date list of emergency contacts.

The Operating Authority shall implement and conform to the procedure.

### 18.2 ACTIVITY DESCRIPTION

This Section shall document and maintain a state of emergency preparedness and prepare response plans to deal with these situations. This procedure applies to all City of Owen Sound personnel within the Wastewater System.

An outcome of the risk assessment process (see Sections 7 and 8) is the identification of potential emergencies that could impact the City's Wastewater System. The *City of Owen Sound Wastewater System Emergency Response Plan (WWERP)* includes the appropriate procedures for preparedness, response, and recovery in the case of emergency.

Employee training on emergency response is conducted on a yearly basis to ensure that established emergency procedures are well-understood by those responsible for carrying out response activities. Through this training, the City of Owen Sound will ensure that all personnel working within the Wastewater System are aware of:

- Individual roles and responsibilities

- All relevant procedures
- Existing threats and hazards, and associated protective actions
- Details and location of any emergency equipment required

Training can be in the form of desktop exercises, and where possible, mock emergency situation exercises. In the event of an actual emergency, the results of the response will be reviewed through the Management Review process.

A Master Contact List has been developed and included in the *City of Owen Sound Wastewater System Emergency Response Plan (WWERP)* to ensure that the appropriate individuals will be contacted in the event of an emergency and that the necessary actions are taken to respond to the situation. This list is reviewed on a yearly basis to ensure that it remains current.

The Communication Protocol specifies the City of Owen Sound Wastewater Department's response to any incident based on its severity and complexity. For this purpose, three incident/emergency levels have been identified and are further described in the *City of Owen Sound Wastewater System Emergency Response Plan (WWERP)*.

## 19. INTERNAL AUDITS

### 19.1 OBJECTIVES AND SCOPE

The Operational Plan shall document a procedure for Internal Audits that:

- a) Evaluates conformity of the Quality Management System with the requirements of the Standard,
- b) Identifies Internal Audit criteria, frequency, scope, methodology and record-keeping requirements,
- c) Considers previous Internal and External Audit results and
- d) Describes how Quality Management System Corrective Actions are identified and initiated.

The Operating Authority shall implement and conform to the procedure and shall ensure that Internal Audits are conducted at least once every Calendar Year.

### 19.2 ACTIVITY DESCRIPTION

This Section outlines the approach for conducting internal audits of the City of Owen Sound's Wastewater QMS to ensure proper implementation and continual conformance to the requirements of the Drinking Water Quality Management Standard (DWQMS). The entire WWQMS is in place to meet the ECA and regulatory requirements. Thus, the whole WWQMS is subject to the audit procedures described herein.

At a minimum, the entire WWQMS will be audited at least once every calendar year. The procedure followed by the City to conduct an Internal Audit is explained in *SLD-19-Internal Auditing Procedure*.

## 20. MANAGEMENT REVIEW

### 20.1 OBJECTIVES AND SCOPE

This Section outlines the process by which the performance of the City of Owen Sound's Wastewater QMS is periodically reviewed. This Section and associated procedures apply to all Management Review meetings conducted by the City of Owen Sound, with regards to the provision of effective Collection and Treatment of Wastewater, and any documentation associated with these meetings.

### 20.2 ACTIVITY DESCRIPTION

The Management Review will be conducted once every calendar year. Top Management are required to attend and report the findings back to the Owners.

The WWQMS Representative is responsible for scheduling and coordinating the effort to bring the management team together for Management Review and ensure all the documentation and records required for this meeting are available.

The procedure followed to conduct the Management Review is detailed in *SLD-20-Management Review*.

All relevant personnel are made aware of the Management Review procedure requirements through internal training sessions.

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## 21. CONTINUAL IMPROVEMENT

### 21.1 OBJECTIVES AND SCOPE

This Section outlines the procedure for tracking continual improvements of the City of Owen Sound's WWQMS. The entire WWQMS, as related to the provision of effective Collection and Treatment of Wastewater, is subject to the approaches and procedures identified in this Section of the Operational Plan.

### 21.2 ACTIVITY DESCRIPTION

The procedure for Continual Improvement is defined in *SLD-21-Continual Improvement*. It identifies the approach taken to define and implement corrective and preventive actions that are required because of the Internal Auditing, Management Review, Staff Meetings, Operational Issues, Compliance Issues and Input from Staff.



APPENDIX A  
SYSTEM LEVEL DOCUMENTS



**City of Owen Sound**  
**Wastewater Document Control Table**

No.: 1
Revision No.: 11

Document Identifier	Title	Revision Date
Operational Plan	Operational Plan	30-Dec-20
--	Owen Sound Quality Policy	no date
--	6-1 WW System Overview	no date
--	6-2 HP001001	no date
--	6-3 HP001002	no date
--	Table 10_2_Yearly Training Plan Summary, Wastewater Dept.	no date
--	City of Owen Sound Training Documentation Form	01-Jun-18
SLD-05A	Control of Documents	15-Dec-20
--	Wastewater Document Control Table	15-Dec-20
--	Document/ Change Request Form	01-Jan-21
SLD-05B	Control of Records	15-Dec-20
--	Maintenance List - Master (WWTP Equipment Calibration & Maintenance)	28-Feb-19
SLD-7	Risk Assessment and Risk Assessment Outcomes	15-Dec-20
--	Risk Assessment and CCP Tables	31-May-19
SLD-19	Internal Auditing Procedure	15-Dec-20
SLD-20	Management Review	15-Dec-20
SLD-21	Continual Improvement	15-Dec-20
--	Continual Improvement Form (CIF)	19-Dec-19
SOPWWC-1	Minor Pump Station Failure	03-Jun-19
SOPWWC-2	Work Order System	05-Feb-19
SOPWWC-3	Forcemain Break	05-Feb-16
SOPWWC-4	Manhole Inspections	05-Feb-19
	<i>FORM-4-1 Manhole Inspection Report</i>	05-Feb-19
SOPWWC-5	Pump Station Checks	03-Jun-19
SOPWWC-6	Locates	29-Oct-20
	<i>FORM-6-1 Locate Request Form</i>	05-Feb-19
SOPWWC-7	Rodding Machine	06-Feb-19
SOPWWC-8	Camera Inspection and Repair Card Administrative Process	28-May-19
	<i>FORM-8-1 Camera Inspection and Repair Card</i>	21-Oct-20
SOPWWC-9	Camera Operation	29-Oct-20
SOPWWC-10	Sewer Odour Complaint	21-Oct-20
	<i>FORM -10-1 Sewer Odour Complaint FORM 1</i>	26-Nov-19
SOPWWC-11	Blocked Lateral	21-Oct-20
	<i>FORM-11-1 Sewer Backup Protocol</i>	25-Feb-20
	<i>FORM -11-2 Sewer Backup Protocol Flow Chart</i>	25-Sep-19
SOPWWTP-12 <b>**THIS IS CONSIDERED COMMON</b>	Lock Out, Tag Out Program	21-Feb-20
SOPWWC-13 <b>**THIS IS CONSIDERED COMMON</b>	Confined Space Entry Procedure	19-Dec-19



**City of Owen Sound**  
**Wastewater Document Control Table**

No.: 1
Revision No.: 11

Document Identifier	Title	Revision Date
SOPWWC-14	Critical Sanitary Sewer Lateral Locates	24-Sep-19
SOPWWC-15	Sanitary Sewer Interceptor	21-Oct-20
	<i>FORM-15-1 Sewer Interceptors/Flap Gates Inspection Checklist</i>	21-Oct-20
SOPWWC-16	Flap Gates	21-Oct-20
	<i>FORM-16-1 Sewer Interceptors/Flap Gates Inspection Checklist</i>	21-Oct-20
SOPWWC-17	Rec Centre Pumping Systems	17-Nov-20
SOPWWC-18	WWC Sewage Pump Stations Bypass WPCP	11-Jun-21
	<i>FORM-18-1 System Bypassing - Westside P.S. - Form 1 - Interim Report</i>	11-Jun-21
	<i>FORM-18-2 System Bypassing - Westside P.S. - Form 2 - Final Report</i>	13-Mar-20
SOPWWC-19	WWC CSO Bypassing	11-Jun-21
	<i>FORM-19-1 System Bypassing Form 1 - Interim Report</i>	11-Jun-21
	<i>FORM-19-2 System Bypassing Form 2 - Final Report</i>	11-Jun-21
SOPWWC-20	Sewer Repair Communication	15-Jun-20
SOPWWC-21	WSPS Major Equipment Failure	31-May-19
SOPWWC-22	WSPS High Flows Procedure	10-Jan-20
SOPWWC-23	Sewer Main Failure	26-Feb-20
SOPWWC-24	Home Entry - COVID-19 Precautions	23-Jul-20
SOPWWC-25	WSPS Barscreen and Sewage Pump Cleaning	25-Mar-20



**City of Owen Sound**  
**Wastewater Document Control Table**

No.: 1
Revision No.: 11

Document Identifier	Title	Revision Date
SOPWWTP-1	Bypass Main Plant	15-Jul-19
	<i>FORM-1-1</i> System Bypassing Form 1 - Interim Report	11-Jun-21
	<i>FORM-1-2</i> System Bypassing Form 2 - Final Report	11-Jun-21
SOPWWTP-2	Overflow Main Plant	15-Jul-19
	<i>FORM-2-1</i> System Bypassing Form 1 - Interim Report	11-Jun-21
	<i>FORM-2-2</i> System Bypassing Form 2 - Final Report	11-Jun-21
SOPWWTP-3	High Flow Reporting Requirements Procedure	22-Feb-19
SOPWWTP-4	WWTP Daily Rounds	02-Mar-20
SOPWWTP-5	Weekly Sampling and Testing	10-Sep-20
SOPWWTP-6	Laboratory	11-Feb-19
SOPWWTP-7	Media Trap Bead Re-Injection	02-Mar-21
SOPWWTP-8	Power Outage and Generator Tests	21-Oct-20
SOPWWTP-9	WWTP Low Total Chlorine Residual Reporting Procedure	15-Jul-19
	<i>FORM-9-1</i> Low Total Chlorine Residual (<1.0 mg/L) Incident Report	15-Jul-19
SOPWWTP-10	Sludge Spill - Truck	04-Jun-19
	<i>FORM-10-1</i> Spill or Incident Report Form	04-Jun-19
SOPWWTP-11	HACH Backwash TSS Analyzer Calibration	21-Oct-20
	<i>FORM-11-1</i> HACH Backwash TSS Analyzer Calibration FORM 1	31-Oct-19
SOPWWTP-12 <b>**THIS IS CONSIDERED COMMON</b>	Lock Out, Tag Out Program	21-Feb-20
SOPWWC-13 <b>**THIS IS CONSIDERED COMMON</b>	Confined Space Entry Procedure	19-Dec-19
SOPWWTP-14	BAF Cells Pressure Sensors Cleaning Procedure	25-Mar-20
SOPWWTP-15	Call Forwarding Wastewater Oncall Phones Procedure	30-Apr-20
SOPWWTP-16	WWTP RV Dump Station	15-Jul-20
SOPWWTP-17	Primary Effluent Flowmeter Failure	23-Sep-20
WWERP	Wastewater System Emergency Response Plan	11-Jun-21
ERP-1	Power Failure (Long-Term)	03-Jun-19
ERP-2	Chemical Spill	31-May-19
ERP-3	Fire in Plant	11-Feb-19
ERP-3 - Attachment 1	Attachment 1 - WWTP Fire Safety Plan	18-Dec-19
ERP-3 - Attachment 2	Attachment 2 - WWTP Fire Safety Plan	no date
ERP-3 - Attachment 3	Attachment 3 - WWTP Fire Safety Plan	no date
ERP-4	Major Sludge Spill	03-Jun-19
ERP-5	Siphon Blockage (Westside to Eastside of City)	15-Jul-19
ERP-6	Westside Pumping Station Force Main Failure	10-Dec-20
ERP-7.1	Pandemic Stage 1	09-Sep-20
ERP-7.2	Pandemic Stage 2	09-Sep-20
ERP-7.3	Pandemic Stage 3	03-Jun-20



City of Owen Sound  
Wastewater Document Control Table

No.: 1
Revision No.: 11

Document Identifier	Title	Revision Date
ERP-7.1/7.2/7.3 - Attachment	Risk Assessment COVID-19	06-Oct-20
--	Master Contact List	11-Jun-21



# QUALITY MANAGEMENT SYSTEM

# DRF

## Document/Change Request Form

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

Document Name (if applicable): \_\_\_\_\_

New Document Requested or Change Requested \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To be completed by QMS Representative or Water Treatment Plant Supervisor or Water Distribution Supervisor

Log #: \_\_\_\_\_ Date: \_\_\_\_\_

Response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If document request / change approved

Date Approved: \_\_\_\_\_ Responsibility: \_\_\_\_\_

Scheduled Completion Date: \_\_\_\_\_

Once changes have been completed

New Document Title: \_\_\_\_\_

Revision: \_\_\_\_\_

Wastewater Supervisor

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

QMS Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_



SLD No: 05B	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 15/12/2020	Authorized By: MGP

## *SLD – 05B – Control of Records*

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### Purpose

The procedure describes the process for managing records for the Wastewater System and the WWQMS so that they are current, legible, readily identifiable, and retrievable. This procedure also details the process for storing, protecting, retaining, and disposing of records.

### Scope

This procedure is applicable to all records that are generated from processes and activities that are described within the Operational Plan and/or its referenced SLDs.

### Definitions

**Records** – are any documents related to the Wastewater System that serve as objective evidence of a process transaction (i.e. documents bearing signatures, completed form fields, reports, etc.). Examples include sampling and monitoring results/reports completed applications, completed internal audits, meeting minutes, etc. Records cannot be changed or amended.

**WWQMS Records** - are records required by City of Owen Sound’s Wastewater Quality Management System as identified in this procedure.

**Retention Period** - is the length of time that a record must be retained by the City.

**DWQMS** - Drinking Water Quality Management Standard

**SLD** - System Level Document

### Procedure

This procedure is applicable to all records that demonstrate conformance to the WWQMS requirements. All records that demonstrate regulatory compliance are covered by Ontario Regulations 170/03 and 128/04.

#### QMS Records Control

All WWQMS records are retained for a minimum of 5 years at the location indicated in Table 1 below. However, if a WWQMS record is also a requirement of O. Reg. 129/04, then the retention time will be as per the regulation. Once the record retention time has been reached, records may be destroyed, at the WWQMS Representative’s discretion.

The following items in Table 1 constitute the WWQMS records for the Wastewater System.

SLD No: 05B	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 15/12/2020	Authorized By: MGP

## SLD – 05B – Control of Records

**Table 1 City of Owen Sound Wastewater System – WWQMS Records**

Item	Location
Wastewater Treatment Log Book	Current: Wastewater Treatment Plant (Laboratory) Long Term: Wastewater Treatment Plant (Office 3)
Wastewater Collection Log Books (including Pump Station Log Books)	Current and Long Term: Wastewater Treatment Plant (Storage Room 4218)
Daily SCADA Printouts	Current: Wastewater Treatment Plant (SCADA Office) Long Term: Wastewater Treatment Plant (Office 3)
Annual Reports	Maintained digitally on Server and Hard Copies in Manager of Public Works' Office
External Laboratory Analysis Reports and Chain of Custody's Binder	Current: Wastewater Treatment Plant (SCADA Office) Long Term: Wastewater Treatment Plant (Office 3)
In-House Analysis Results Binder	Current: Wastewater Treatment Plant (SCADA Office) Long Term: Wastewater Treatment Plant (Office 3)
Ministry of the Environment, Conservation and Parks (MECP) Inspection Reports	Wastewater Superintendent's Office
Operator Training Records	Wastewater Superintendent's Office and with Operators, Excel Spreadsheet maintained by the Administrative Assistant to the QMS Rep and on the Public Works Shared Drive
Annual Binder with Monthly Records <ul style="list-style-type: none"> <li>• COCs – Collection System Bypass, Bacteriological, BAF Effluent Channel, Primary Sludge, Secondary Sludge, Weekly, Secondary Treatment Bypass</li> <li>• Lab and Rounds Sheets</li> <li>• Monthly Dechlorination Sheet</li> <li>• BAF Rounds Sheets</li> <li>• BAF Filter Rounds Sheets</li> <li>• Daily Operations Sheets</li> <li>• Neuros Blowers Sheet</li> <li>• Ingersoll Rand Compressor Sheets</li> <li>• QA/QC - Hach and Chlorine Sheets</li> </ul>	Current: Wastewater Treatment Plant (SCADA Office) Long Term: Wastewater Treatment Plant (Office 3)
External Calibration Records	Wastewater Treatment Plant (Office 3)
Internal Calibration Records	Log Books and Annual Binder with Monthly Records
Alarm Records	Log Books
Generator Set Test Forms	Annual Binder with Monthly Records
Wastewater Incidence (WWI) Reports	Wastewater Treatment Plant (Office 3)
Customer Complaints (Wastewater)	Work Order System
Risk Assessment Table	With Operational Plans
Critical Control Points Table	
Hard Copy Wastewater Treatment Plant As-built drawings	Wastewater Treatment Plant Engineering Services Office and Public Works Building
Hard Copy Wastewater Collection Drawings/ Maps/ Plans	Current and Long Term: Wastewater Treatment Plant (Storage Room 4218) – Filed by East and West
Sewer Records (includes Maintenance, Repair, Camera Work, etc.)	Current and Long Term: Wastewater Treatment Plant (Storage Room 4218)
Sewer Connection and Calls Record – 1975 to Present	Wastewater Treatment Plant (Storage Room 4218)
Wastewater Collection System Maintenance Cards	Public Works Building





SLD No: 05B	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 15/12/2020	Authorized By: MGP

## ***SLD – 05B – Control of Records***

**Table 1 City of Owen Sound Wastewater System – WWQMS Records**

Item	Location
WWQMS Representative’s WWQMS Binder (Ongoing record of WWQMS activities)	WWQMS Representative’s Office
Record Spreadsheets	Wastewater Superintendent/ Maintained digitally on Server

### **General Requirements**

The following points are general requirements for records:

- The record title will be clearly visible and legible.
- Manual records will be legible. Pencil or any other erasable marker will not be used to record process or product information or data.
- WWQMS records will be filed by type and by date.
- WWQMS records will be stored in such a manner as to prevent deterioration.
- All manual records will show the name or initials of the recorder and the date (and time if appropriate), the record was generated.

SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## SLD – 07 – Risk Assessment and Risk Assessment Outcomes

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### Purpose

This procedure documents a risk assessment process that identifies, assess and, where possible, reduce, mitigate and/or eliminate potential risks within the Wastewater System.

This procedure has been developed to describe the process for identifying, assessing and ranking potential wastewater hazards, and identifying critical control points, control measures and monitoring procedures.

This procedure also explains the tasks involved in conducting a review of the Risk Assessment Outcomes.

### Scope

The Risk Assessment applies to the entire Wastewater System within the City of Owen Sound. The focus of the assessment is on risks to Wastewater Collection and Treatment.

The WWQMS Representative will be responsible for the application of the process and procedures explained in this document.

### Definitions

A **Wastewater Hazard** is a possible source of danger, or hazard, that may cause the Wastewater Collection system to fail or to permit Wastewater Effluent Quality to exceed the applicable criteria. Only hazards related to Wastewater System must be considered. For example, health and safety or environmental hazards need not be included if they do not present a hazard to either of those systems.

A **Hazardous Event** is an incident or situation that can lead to the presence of a hazard. Hazards and hazardous events can result from natural or technological causes, or from human activities. For this procedure two different types of hazards are considered:

- **Chemical or Biological Hazards** refer to contaminants that may be naturally occurring or may be added or created during the processing of wastewater, and if present at high levels can have negative effects on the receiving body of water or the water using public.
- **Capacity Hazards** are factors that affect the collection system's ability to transport wastewater to the treatment plant and can lead to an overflow or bypass of the system.

**Control Measures** refer to any processes, steps, or contingencies to prevent or reduce a hazard. For clarity purposes, the terms control and monitoring measures and response/mitigating measures are used for the risk assessment to distinguish between actions to eliminate or reduce the occurrence of the hazardous event before it occurs and to track the change of parameters that are related to the presence of the hazard, and actions to mitigate the effects of the hazardous event once it has occurred, respectively.

SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## ***SLD – 07 – Risk Assessment and Risk Assessment Outcomes***

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A **Critical Control Point (CCP)** refers to an essential step or point in the Wastewater System at which control can be applied to prevent or eliminate a wastewater hazard or to reduce it to an acceptable level.

A **Critical Control Limit (CCL)** is a level of a hazard (or the process variable used to monitor the hazard) at which a Critical Control Point response is initiated.

**Risk** is the magnitude of the identified hazards causing harm measured as a numerical score that includes their likelihood, severity and detectability. For this risk assessment, risk is defined as the sum of the likelihood, severity and detectability scores.

**Likelihood** is the probability of occurrence of a hazard or hazardous event. It may also be referred to as “frequency.”

**Severity** is the magnitude of the effects or consequences of the hazard/hazardous event if the hazard is not controlled. For this risk assessment, the potential effects on the environment and human health will be considered to define severity.

**Detectability** is a measure of how easy it is to identify the occurrence of a hazard/hazardous event. It contributes to risk since as the detectability of a hazard decreases the more difficult it is for appropriate control measures to be implemented.

### Procedure

#### **Risk Assessment Team**

Performing a risk assessment requires a good knowledge of the system in question, including all aspects of the system from operation and maintenance, management and design. For this reason, it is recommended that the assessment be conducted by a group of people with a wide-ranging knowledge of the system. The risk assessment team should include at a minimum the Wastewater Superintendent, the Wastewater Collection ORO, and a Wastewater Treatment Operator.

#### **Risk Assessment Approach**

The approach taken to conduct the assessment is based on the process illustrated in the DWQMS Guidance Document. It involves recognizing the types of hazards (defined in the previous section) for each of the processes/components of the subject system. The components considered for the assessment include the following, where applicable:

Transmission elements: sewer lines, pump stations, overflow, bypass, siphons, interceptors;

Treatment plant elements: primary and secondary treatment, sludge/ by-products, effluent etc.



SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## ***SLD – 07 – Risk Assessment and Risk Assessment Outcomes***

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### **Hazard Identification**

The risk assessment is conducted in a workshop during which hazards to Wastewater System are identified, given a score (assessed), and ranked. Control measures already in place are identified, and when necessary, recommendations for new control measures are developed.

The reliability/redundancy of the equipment and infrastructure forming parts of the Collection and Treatment Systems will be considered when identifying hazards/hazardous events and control measures. The effect of equipment failure will be determined and assessed when considering high risk areas.

### **Control Measure Identification**

The method outlined in Hazard Identification above will be used to identify available control measures. This will be reflected in the Risk Assessment spreadsheet (prepared during the Risk Assessment process) by listing existing mitigation measures and adjusting the total risk score.

### **Risk Assessment**

Risk will be expressed as the sum of likelihood, severity, and detectability, each of which is assigned a value between 1 and 5. A high value indicates high risk (e.g. a hazard with a high likelihood, high severity, and low detectability is given a high score). The likelihood, severity, and detectability ratings are assigned to better reflect the reality of the City’s system and standards of operation.

All risks with values of 9 and over (categories “High” and “Very High”) are given the highest priority. The rationale for this cut-off value is that there are 19 different possible sums of the above criteria (likelihood, severity and detectability) that result in a risk score of 9. All these are due to a combination of a low value of one of the criteria and a high and/or moderate value for the remaining two criteria, or a moderate value of the three criteria. Any of these combinations was deemed critical to water quality and considered to require control either in the form of preventive measures, monitoring and/or responses.

Table 1 below shows the rating systems for each of the risk criteria, with their qualitative and quantitative ratings.

SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## *SLD – 07 – Risk Assessment and Risk Assessment Outcomes*

**Table 1 Likelihood, Severity, and Detectability Rating System**

Description	Likelihood of Hazardous Event Occurring	Rating
Rare	May occur in exceptional circumstances, and has not occurred in a period of over 10 years OR Equipment is new (within warranty period).	1
Unlikely	Could occur at some time. Historically, has occurred less than once every 5 or 10 years OR Equipment is refurbished or rebuilt.	2
Possible	Has occurred or may occur once every 2 to 5 years OR Equipment is approaching the end of its life cycle.	3
Likely	Has occurred or may occur on a monthly to quarterly or seasonal basis.	4
Very Likely	One or more occurrences on a monthly or more frequent basis OR Equipment has exceeded its life cycle.	5
Description	Severity of Hazardous Event Occurring	Rating
Insignificant	Little disruption to normal operation.	1
Minor	Some manageable operation disruption OR Treatment train out of service.	2
Moderate	Significant modification to normal operation but manageable	3
Major	Possible reduced treatment capacity.	4
Catastrophic	System failure resulting in adverse environmental effects.	5
Description	Detectability of Hazardous Event	Rating
Very detectable	Easy to detect. On-line monitoring through SCADA. Operator continuous monitoring.	1
Moderately Detectable	Alarm present but not on SCADA. May require operator to walk by and notice alarm OR Problem is indicated by in-house lab test results.	2
Normally Detectable	Visually detectable on operator rounds or during regular maintenance. Third Party Notification.	3
Poorly Detectable	Visually detectable but not inspected on a regular basis OR not normally detected before problem becomes evident OR Lab tests are not done frequently (e.g. quarterly) OR Only found by chance.	4
Undetectable	Cannot detect.	5



SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## ***SLD – 07 – Risk Assessment and Risk Assessment Outcomes***

### **Risk Ranking**

Based on the above, four risk categories were defined depending on the risk range of the particular hazard/hazardous event. Table 2 below illustrates these categories.

**Table 2 Risk Assessment Categories**

<b>Risk = Likelihood + Severity + Detectability</b>	<b>Risk Category</b>
3 – 5	Low
6 – 8	Moderate
9 - 11	High
12 – 15	Very High

### **Critical Control Point Identification**

As defined previously a Critical Control Point (CCP) is an essential step in the Wastewater System at which control can be applied to prevent or eliminate a wastewater hazard or to reduce it to an acceptable level.

The CCPs are defined (regardless of the risk value associated to them) as those control points required by regulation to meet minimum effluent limits as per Environmental Compliance Approval (ECA) Number 6575-AFTK6S. Specifically, in the case of the Owen Sound Wastewater Treatment System, these include control points and parameters related to the primary and secondary treatment and effluent limits. Additionally, any bypass or overflow event is considered a CCP.

### **Critical Control Limits**

Critical Control Limits (CCLs) are values indicating maximum, minimum, or a range of levels for the parameters that best describe the presence of a hazard related to a CCP. CCLs are only assigned to CCPs. When a CCL is reached, a procedure is implemented to correct the situation prior to reaching a level of regulatory non-compliance. Some hazards may be mitigated by monitoring/controlling several variables that may be used as surrogate parameters. For those cases, the corresponding CCLs are specified for each variable.

### **Critical Control Point Monitoring**

Monitoring of CCPs includes any checks or systems available to detect hazards or the potential for hazards. This includes continuous monitoring, visual inspection, and periodic sampling. Monitoring can be complemented by control measures to ensure CCPs stay within the desired limits.



SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## ***SLD – 07 – Risk Assessment and Risk Assessment Outcomes***

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### **Procedures for Deviations from Critical Control Points**

The DWQMS specifies that each CCP must have one or more documented response procedures to respond to cases when the CCLs are exceeded. These procedures ensure that adequate response or corrective measures are applied so that the hazard is eliminated, minimizing the risk of negative effects on the receiving body of water or the water using public, and preventing a recurrence from happening.

SLD No: 07	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## ***SLD – 07 – Risk Assessment and Risk Assessment Outcomes***

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The procedure defines and describes:

- Who responds;
- How the cause of the CCL deviation is investigated;
- How the hazardous event and hazard are corrected or addressed;
- To whom the hazard occurrence is reported;
- How it is reported; and
- How the whole event should be recorded.

The documentation of procedures developed for each CCP is consistent with Element 5 of the Operational Plan, Document and Records Control.

### **Risk Assessment Review**

As required by the QMS, the risk assessment includes documentation to guarantee that the risk assessment information undergoes regular review and validation. A review of the validity of the risk assessment (including hazards identified, control measures, monitoring procedures, and risk values) is to be conducted for Owen Sound's Wastewater System once every calendar year. If necessary, new hazards/hazardous events will be added to the original assessment. The annual review of the Risk Assessment will be performed according to the following procedure:

1. The Risk Assessment spreadsheet developed during the Risk Assessment process will be amended including any new information regarding equipment, process or regulatory changes, and any new mitigation methods or procedures.
2. A review of the system will include each step of the wastewater process from collection and treatment. The review will be conducted by the Risk Assessment Team.
3. For each hazardous event identified on the spreadsheet, the values assigned for the three risk criteria: likelihood, severity, and detectability will be reviewed. Values for these criteria will be based on the ratings defined in Figure 1 above. The risk score for each hazardous event is determined by adding the likelihood, severity, and detectability numbers.
4. For each hazardous event, confirm the fields corresponding to existing preventive measures, monitoring processes/procedures, and emergency response procedures.
5. Identify items marked as CCPs within the wastewater system. Confirm the values of the CCLs specified for each CCP.
6. Confirm the monitoring and risk mitigating measures to control CCPs and ensure their control parameters are within the CCLs listed on the spreadsheet.
7. For those risks for which new mitigating actions have been implemented, modify the risk values.





SLD No: 07	Original Date: 07/19/18	Developed By: BLM
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# SLD – 07 – Risk Assessment and Risk Assessment Outcomes

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## Risk Assessment Continuous Improvement

The risk assessment will be redone every three years in accordance with this SLD. This re-assessment will include the effects any new regulations that may affect the validity of the assessment, any major modifications to the systems wastewater processes, and any other factors that may have arisen since the development of the current risk assessment.

## Risk Assessment Outcomes

The Risk Assessment Outcomes are documented in the *Risk Assessment Table* and the *Critical Control Points Table*, which provide details of the following:

- Identified potential hazardous events and associated hazards;
- Assessed risks associated with the occurrence of hazardous events;
- Ranked hazardous events;
- Identified control measures to address the potential hazards and hazardous events;
- Identified CCPs and their respective CCLs; and
- Procedures and/or processes to monitor, respond to, report and record deviations in the CCLs.

SLD No: 12	Original Date: 12/15/2020	Developed By: BR
Revision No: 0	Revision Date:	Authorized By: BR

## SLD – 12 – COMMUNICATIONS

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### Purpose

This section identifies the process to communicate information related to the City's Wastewater Quality Management System to appropriate internal and external parties.

### Scope

The entire WWQMS, as related to the Wastewater System, is subject to this SLD.

### Procedure

The WWQMS Representative will communicate the WWQMS to the appropriate Superintendents, Managers and personnel.

#### Internal Communication

The Operational Plan will be made available to all City of Owen Sound personnel involved in the operation of the Wastewater System including new, part-time, temporary, and student employees.

For new hires, WWQMS awareness will be provided. Existing employees will be notified of any changes to the WWQMS through internal training sessions. Internal training sessions will be organized by the WWQMS Representative to identify and review this documentation and ensure that personnel understand the content. Attendance will be documented through Training Form 10-1.

The WWQMS Representative will manage communication between operators and Top Management. Communication between Top Management and the Owner will be managed through the Operations Committee. Information documented as a result of Management Review meetings will be forwarded to the Owner via Minutes of the Operations Committee. These Minutes are provided to Members of Council for approval and include details such as updates on progress and actions taken.

The WWQMS Policy and Statement of Commitment and Endorsement will be communicated to the Owner during regular meetings with the Operations Committee.

#### External Communication

The WWQMS quality requirements and standards for essential supplies and services will be communicated to all suppliers and service providers during tender processes. This information will also be made available to the public via the City of Owen Sound's website, or by other means upon request.

Additional special communication procedures are detailed in other Operational Plan Sections if applicable.

SLD No: 15	Original Date: 12/07/21	Developed By: AS
Revision No: 0	Revision Date: -	Authorized By: AS

## **SLD – 15 – MAINTENANCE, REHABILITATION, AND RENEWAL PROGRAMS**

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### **Purpose**

This Section provides a summary of the maintenance, rehabilitation, and renewal programs for the wastewater system.

### **Scope**

The entire QMS is subject to this process.

### **Procedure**

The Wastewater treatment plant uses a program called Work Tech that ensures that preventive maintenance workorders are created and that they have been completed.

#### **Wastewater Treatment**

The following provides a summary of the capital and equipment review which is undertaken yearly by the Wastewater Treatment staff, coordinated by the Wastewater Treatment Superintendent. Performance of equipment is reviewed annually; maintenance expenses are reviewed to determine which equipment may be approaching the end of its useful life. All critical equipment is on a preventative maintenance schedule including motors, analysers, etc.

1. Hach online and laboratory instrumentation is calibrated and serviced by Hach and documented in Calibration & Inspection Binder.
2. Flow meters are inspected, calibrated, and documented in calibration & Inspection binder.
3. Backup diesel generators are inspected and serviced and documented in Calibration & Inspection Binder.
4. Chemical Pumps Maintenance documented in Work Orders Binder
5. Large Pumps and Motors: Oil Changes in accordance with Work Tech work order system.
6. SCADA components including comm units: Replaced as needed when age/obsolescence requires
7. Any other aging hardware or structural components replaced as age/obsolescence required.

If a capital need is identified, it can be dealt with in 2 ways; if the need must be addressed immediately it can be handled under the current repair budget. Otherwise, the item must be considered in the following year (or later depending on resources) as a capital request.

#### **Measuring Effectiveness of the Maintenance. Program**

-The effectiveness of the preventive maintenance program is shown in the plants ability to generally comply with the MECP's ECA final effluent limits and objectives.

-Effectiveness of the valve exercise work orders is demonstrated by improved valve operation.

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## SLD – 19 – INTERNAL AUDITING PROCEDURE

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### Purpose

This document describes the process for managing the Internal Audit program of the Wastewater QMS. It describes the procedure for conducting internal audits to ensure that the WWQMS meets all of the requirements of the Drinking Water Quality Management Standard (DWQMS).

### Scope

The entire WWQMS is in place to meet the ECA and regulatory requirements. Thus, the whole WWQMS is subject to the audit procedures described herein.

### Definitions

**CAF** - Corrective Action Form

**QMS** - Quality Management System

**DWQMS** - Drinking Water Quality Management Standard

**Internal Audit** - An internal verification process that involves a systematic and objective review of all documents, procedures and practices pertaining to the Wastewater QMS. The objective of an internal audit is to ensure the QMS conforms to the Wastewater QMS Operational Plan and the requirements of the DWQMS.

**System Non-Conformance** - Any practice or procedure that does not meet the requirements of the Wastewater QMS Operational Plan.

**Opportunity for Improvement** - A procedure or practice that can be improved upon, but does not represent a true system non-conformance.

**Corrective Action** - An action taken to fix the identified problem.

**Preventive Action** - An action taken to prevent the identified problem from recurring.

### Procedure

The WWQMS Representative is responsible for ensuring that the following procedures are completed:

- Ensuring that all persons conducting internal audits are competent and readily available to conduct audits.
- Developing a QMS Schedule.
- Ensuring an annual Internal Audit is included in the QMS Schedule.
- Ensuring that system non-conformances are addressed in a timely manner.
- Ensuring that the Top Management is informed if additional internal auditing resources are required.

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## **SLD – 19 – INTERNAL AUDITING PROCEDURE**

### **Audit Program**

The City of Owen Sound will conduct internal audits of its Wastewater Quality Management System on a regular basis to ensure that it continues to perform according to established policies and objectives. The audits will evaluate the performance of the WWQMS against the specific requirements of the WWQMS Operational Plan and conformance to the applicable components of the DWQMS.

An audit schedule will be defined in the QMS schedule by the WWQMS Representative to ensure that the entire WWQMS is audited at least once every calendar year. The development of a schedule should consider results of previous audits, and may be amended based on these results.

Internal Auditors will be appointed by the WWQMS Representative. Auditors may be employees of the City of Owen Sound or other competent people.

**If a third party organisation is retained to perform the internal audit, the third party is required to initiate the corrective action process for non-conformances found, using the City’s Corrective Action form.**

### **Conducting the Audit**

The WWQMS Representative will strive to ensure that auditors are scheduled to conduct audits in areas outside of their day-to-day responsibilities. If necessary, external resources can be used to perform the audit.

The auditors will gather all required documents (procedures, work instructions, etc.) and background information on the element being audited to become familiar with the requirements. The Auditors will observe activities, review records, review previous internal audit results, and interview personnel as necessary to ensure that the status of the audited element of the QMS has been effectively covered.

The WWQMS Representative is responsible for coordinating and scheduling personnel interviews. During interviews, internal auditors will collect information and any data serving as objective evidence that a requirement has been met.

### **Audit Results**

Audit results will be determined by comparing audit findings against the audit criteria defined within the DWQMS. This will be achieved by filling out the Internal Audit Checklist. When a systematic problem, gap or discrepancy is identified through the internal audit process, the auditor will include a System Non-Conformance in the Audit Report, describing the problem. Where the auditor finds a problem with the QMS, but the issue does not represent a true system interruption, the auditor will refer to it as an Opportunity for Improvement.

Members of the audit team will compile the results of the audit and submit a completed Audit Report to the WWQMS Representative within 30 days of the internal audit. The Audit Report will summarize System Non-Conformances, Opportunities for Improvement and other notations. A description of the physical locations, organizational units, activities and processes audited, as well as the time period covered will be documented for every internal audit performed.

SLD No: 19	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## **SLD – 19 – INTERNAL AUDITING PROCEDURE**

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Upon receipt of the final Audit Report, the WWQMS Representative will review the results and identified non-conformances.

### **Corrective Action**

When a System Non-Conformance is identified through the internal audit process, a Corrective Action Form will be issued by the WWQMS Representative, or designate. The form will specify the actions required to rectify the issue, the personnel responsible for addressing the issue and a resolution date.

All System Non-Conformances will be subject to corrective action and preventive action (where applicable). The designated persons will ensure that the non-conformance has been resolved, and will sign-off on the Corrective Action Form. The WWQMS Representative will ensure that any necessary revisions to the WWQMS procedures and policies are completed and communicated to relevant personnel.

Opportunities for Improvement will be reviewed by the WWQMS Representative and discussed at the next Management Review Meeting.

### **Communication**

The WWQMS Representative (with the internal auditor, where required) will communicate the results of the audit to the appropriate Superintendents, Managers and personnel of the Wastewater System.

The results of the audit will be provided to Top Management and are included as input to the Management Review.

The WWQMS Representative will ensure that copies of the Audit Report and completed Corrective Action Forms are stored appropriately.

All relevant personnel will be made aware of the internal auditing procedure requirements through internal training sessions.

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## SLD – 20 – MANAGEMENT REVIEW

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### Purpose

This document outlines the process by which the performance of the City of Owen Sound's Wastewater Quality Management System is periodically reviewed. The purpose of the Management Review is to review and evaluate the continuing suitability, adequacy and effectiveness of the WWQMS.

### Scope

This procedure applies to all procedures and practices related to the City of Owen Sound's Wastewater System and QMS.

### Definitions

**CAF** - Corrective Action Form

**QMS** - Quality Management System

**DWQMS** - Drinking Water Quality Management Standard

**System Non-Conformance** - Any practice or procedure that does not meet the wastewater QMS operational plan and those general requirements of the DWQMS that are applicable to wastewater.

**Opportunity for Improvement** - A procedure or practice that can be improved upon, but does not represent a true system non-conformance.

### Procedure

The WWQMS Representative is responsible for scheduling the Management Review Meeting. It is up to the discretion of the WWQMS Representative to schedule one or multiple meetings covering the minimum requirements.

**At a minimum, the WWQMS Representative, Top Management (City Manager and Director of Operations), and the Wastewater Superintendent will attend all scheduled Management Review Meetings. If for some reason, a participant cannot attend, that individual can name an alternate to avoid unnecessarily delaying the meeting.**

**At a minimum, one Management Review Meeting will be conducted once every calendar year, and prior to January 31<sup>st</sup>. The meeting shall be scheduled in the middle of the month of January to allow for minor rescheduling if needed. The review will cover at a minimum the agenda items listed below.**



SLD No: 20	Original Date: 07/19/18	Developed By: BLM
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## **SLD – 20 – MANAGEMENT REVIEW**

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### **Agenda**

It is the responsibility of the WWQMS Representative to ensure that at a minimum, each of the following agenda items are addressed. The individuals responsible for appropriate reporting are listed beside each item and are defined as follows:

- WWQMS Rep    Wastewater Quality Management System Representative
- ORO            Wastewater Treatment
- DIR            Director of Public Works and Engineering

### **Agenda Items:**

1. Incidents of non-compliance with applicable regulations (ORO);
2. Deviations from critical control point limits and corresponding actions taken; (ORO)
3. The effectiveness of the risk assessment process (WWQMS Rep.);
4. Results of internal audits (WWQMS Rep.);
5. Results of wastewater system emergency response testing (WWQMS Rep);
6. Operational performance (WWQMS Rep);
7. Trends in the wastewater quality (influent and effluent) (ORO);
8. Follow-up on action items from previous management review meetings (DIR and WWQMS Rep.);
9. Updates on action items identified between management review meetings (WWQMS Rep.);
10. Changes to services, activities, regulations, etc. that could impact the QMS (WWQMS Rep.);
11. Consumer feedback (ORO);
12. Resources needed for WWQMS maintenance (WWQMS Rep.);
13. The currency and content of the Operational Plan (WWQMS Rep.);
14. Comments and suggestions made by personnel (All);
15. Reviewing and considering applicable best management practices, including any published by the Ministry of the Environment, Conservation and Parks (MECP)

### **Review Process**

The participants of the Management Review Meeting will review all data presented for each agenda item in order to identify where improvements to the WWQMS and its procedures are required. The participants will make recommendations and/or initiate action plans to address identified deficiencies as appropriate. The WWQMS Representative will make note of any changes or action items required during the course of the review.



SLD No: 20	Original Date: 07/19/18	Developed By: BLM
Revision No: 1	Revision Date: 12/15/2020	Authorized By: MGP

## SLD – 20 – MANAGEMENT REVIEW

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**Minutes of the Management Review Meeting in the attached format, will be documented by the WWQMS Representative (or designate) and will include, at a minimum, the:**

- Date and time of the Management Review Meeting(s);
- List of attendees;
- Summary of issues discussed and decisions made;
- List of identified system non-conformances and opportunities for improvement, as well as the recommended actions to correct the identified deficiencies; and
- Any recommendations for additional resources needed for maintenance or improvement of the WWQMS.

### **Corrective Action**

The WWQMS Representative will compile a record of new and outstanding action items including all System Non-Conformances and Opportunities for Improvement.

**For all System Non-Conformances and OFIs, a Corrective Action Form will be issued by the WWQMS Representative or designate, including the personnel responsible for addressing the issue and a proposed timeline. The designated persons will ensure that the non-conformance has been resolved, and will sign off on the Corrective Action Form.**

For all Opportunities for Improvement, if directed by the Management Team, the WWQMS Representative will notify the personnel responsible for addressing the issue and a proposed timeline. The designated persons will ensure that the action items have been completed, and will notify the WWQMS Representative upon completion.

The WWQMS Representative will maintain a record of outstanding action items.

### **Communication**

The WWQMS Representative to all meeting participants will distribute the minutes of the meeting (including action items).

Top Management will communicate results of the Management Review Process to Members of Council.

The WWQMS Representative will ensure that copies of the Management Review Minutes and Corrective Action Forms are stored appropriately.