TOWN OF MIDLAND

2021

WASTEWATER SERVICES ANNUAL REPORT

Town of Midland Water & Wastewater Services

Definitions

The following defines terms that appear throughout this report and that will often be used for the duration of the report:

“BOD” – Biochemical Oxygen Demand

“Biosolids” - is a primarily organic solid product by wastewater treatment processes that can be beneficially recycled.

“CFU’” - Colony-Forming Unit.

“Dissolved Oxygen” (DO) - the oxygen freely available in wastewater.

“ECA” - Environmental Certificate Approval.

“Final Effluent” - sewage discharge via the sewage treatment plant outfall after undergoing the full train of unit process.

“Geometric Mean Density” is the ninth root of the product of multiplication of the results of a number of the samples over the period specified.

“I&I” (Inflow and Infiltration) means dilution of sewage decreases the effiency of treatment, and may cause sewage volumes to exceed design capacity.

“Limited Operational Flexibility” (LOF) means any modifications that the Owner is permitted to make to the works under this Approval.

“m^3” - cubic meters.

“NASM” - Non-Agricultural Source Material.

“Overflow” means any discharge to the environment from the sewage Treatment Plant at a location other than the plant outfall (i.e.:storm equalization tank). This type of by-pass recieves partial treatment before it is discharged to the environment.

“Owner” - The Corporation of the Town of Midland and its successors and assignees.

“Phosphorus” - a nonmetal of the nitrogen group.

“By-Pass” - diversion of sewage around one or more unit processes within the Sewage Treatment Plant with the diverted sewage flows being returned to the sewage Treatment Plant treatment train upstream of the final effluent sampling location and discharging to the environment through the sewage treatment plant outfall.

“PLC” - Programmable Logic Controller.

“SCADA” - Supervisory Control and Data Acquisition.

“Supernatant” - the relatively clear water layer between the sludge on the bottom and the scum on the surface of an anaerobic digester, septic tank or secondary clarifier.

“Total Ammonia” - the sum of both NH_3 and NH_4+.

“Water Supervisor” - the Water Supervisor for the Barrie Office of the Ministry.

A number of other technical terms have been used in this report but occur less frequently. Where necessary and to the reader’s benefit, definitions for these terms are provided as they occur.

Executive Summary

The purpose of the Town of Midland Wastewater Services Annual Report is to be a clear and consise assessment of the system's performance. Within the 2021 Reporting Year, there was **no failure to meet effluent limits and objectives.** However, **one (1) overflow event and three (3) planned maintenance bypasses were reported**. For more information about the by-pass and overflows, refer to the *By-pass and Overflows* section on Page 18 of this report.

Additionally, this report is to provide information to all applicable stakeholders and to satisfy the regulatory requirements of the Amended Environmental Compliance Approval *5708-A72SPG* as issued July 20, 2016.

The Owner shall prepare and submit a performance report to the Water Supervisor (MECP) on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information;

- a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;

- a description of any operating problems encountered, and corrective actions taken;

- a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;

- a summary of any effluent quality assurance or control measures undertaken in the reporting period;

- a summary of the calibration and maintenance carried out on all effluent monitoring equipment;

- a description of efforts made, and results achieved in meeting the Effluent Objectives of Condition 6.

- a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

- a summary of any complaints received during the reporting period and any steps taken to address the complaints;

- a summary of all by-pass, spill or abnormal discharge events;

- a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;

- a report summarizing all modifications completed as a result of Schedule B, Section 3; and;

- any other information the Water Supervisor requires from time to time.

The Town of Midland Wastewater System is in a fit state of repair and follows industry best practices during the repair and maintenance of the system. Infrastructure review occurs regularly between Engineering and Wastewater Services to optimize priority projects and minimize common costs.

Copies of the Amended Environmental Compliance Approval *5708-A72SPG* as issued July 20th, 2016 are available upon request.

Introduction

The Town of Midland has prepared this Performance Report for the operations conducted during the 2021 calendar year.

This Performance Report has been prepared to meet the following commitments:

- To provide the Town of Midland, as "the Owner" of the sewage works, a summary of the operation and maintenance of the wastewater treatment plant that took place during the reporting period of January 1st 2021 to December 31st 2021 and
- To comply with Condition 11 of ECA #5708-A72SPG

This Performance Report, provided to the the Town of Midland Mayor and Council, conveys information related to the performance of operations and maintenance, which aids in decision making related to system upgrades and expansion needs.

Ministry of the Environment, Conservation and Parks

The Midland Wastewater Treatment Plant is a conventional activated sludge plant owned and operated by the Town of Midland. The wastewater treatment plant was originally constructed in 1965 as a primary treatment plant. In 1980 the plant was expanded and upgraded to a secondary treatment facility. The treated effluent is discharged via a gravity outfall into Midland Bay (located on Georgian Bay). Environmental Compliance Approval (ECA) Number 5708-A72SPG was issued on July 20th, 2016 and governs the operation of the facility. The ECA identifies an average day design capacity of 15,665 m^3/day and a Peak Flow Rate of 37,000 m^3/day.

The treatment plant and collection system are operated under the following Certificates of Classification:

Class III Wastewater Treatment Certificate #89
Class II Wastewater Collection Certificate #2074

For the reporting period covered in this report, The Corporation of the Town of Midland was defined as the Operating Authority of the Wastewater Treatment Plant and the associated collection system.

Midland Wastewater Treatment Plant 2021 Effluent Flows (m^3)												
DATE	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Total	227,730.38	188,541.02	281,227.95	233,069.75	228,408.34	226,389.20	260,528.01	232,288.60	257,723.01	238,573.37	250,652.67	304,292.94
Avg.	7,346.14	6,733.61	9,071.87	7,768.99	7,368.01	7,546.31	8,404.13	7,493.18	8,590.77	7,695.92	8,355.09	9,815.90
Max.	7,848.89	7,419.24	17,651.78	9,006.93	9,196.08	12,226.08	12,647.60	8,325.91	17,658.97	8,502.34	11,298.65	19,073.87
Min.	6,636.78	6,132.17	6,618.32	5,597.12	6,510.24	6,480.82	6,474.56	7,002.11	6,474.04	6,751.53	6,813.91	7,555.51
Average Daily Flow		8,015.83										
Max Daily Flow												
YEARLY TOTAL		2929425.24										

Figure 1: Midland Wastewater Treatment Plant 2021 Effluent Flow

Flows

The 2021 average daily flow was 8015.83 m^3 or 50% of plant rated capacity. The plant discharged a total of 2,929,425.24 m^3 for the reporting period of January 1st to December 31st 2021. The 2021 maximum daily flow occurred December 10th when the flow recorded was 19,073.87 m^3. On this day Midland observered a large amount of precipitation and unusually mild temperatures.

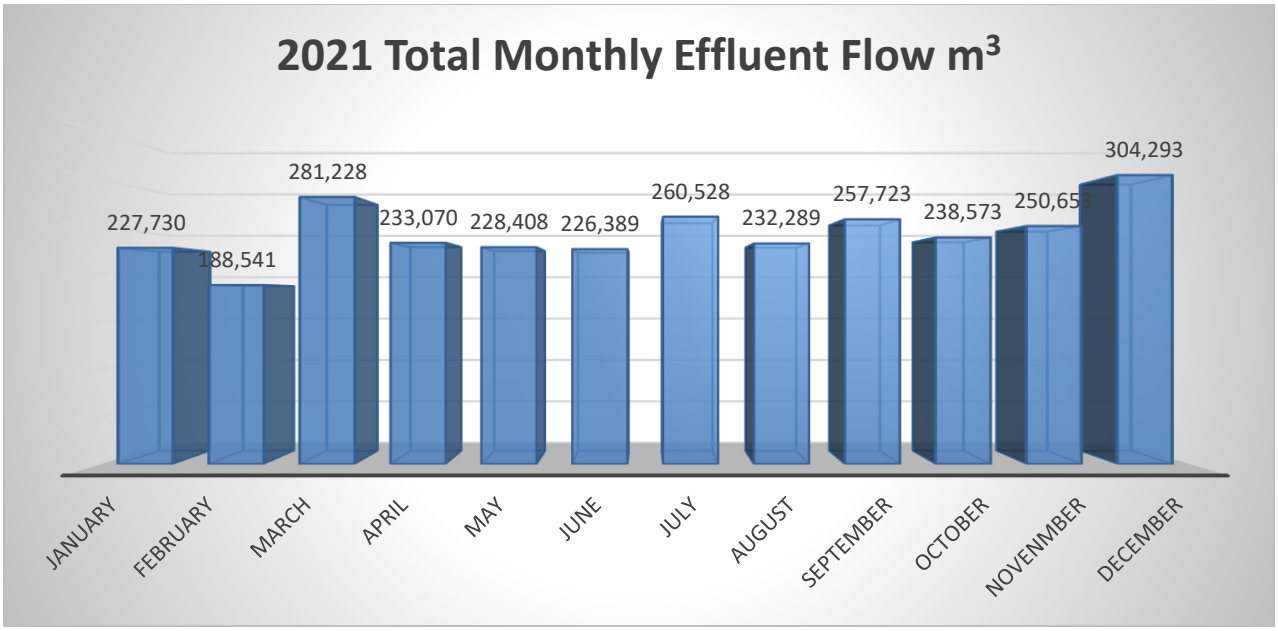

Figure 2: Monthly Effluent Flow in m^3 for 2021.

Effluent Flow

The Total Monthly Discharge Flows are consistent throughout the year with exception to March, July and December due to seasonal thaws and infiltration. This is also evident by the max day flow reading recorded. An Inflow and Infiltration Study (I&I) is being conducted in efforts to reduce the unnecessary treatment of rainwater and runoff during thaw seasons and storm events. Strategies identified in the I&I study should increase the longevity of the Wastewater Collection System/Treatment Plant and provide technical data to make decisions on possible treatment upgrades or process expansions.

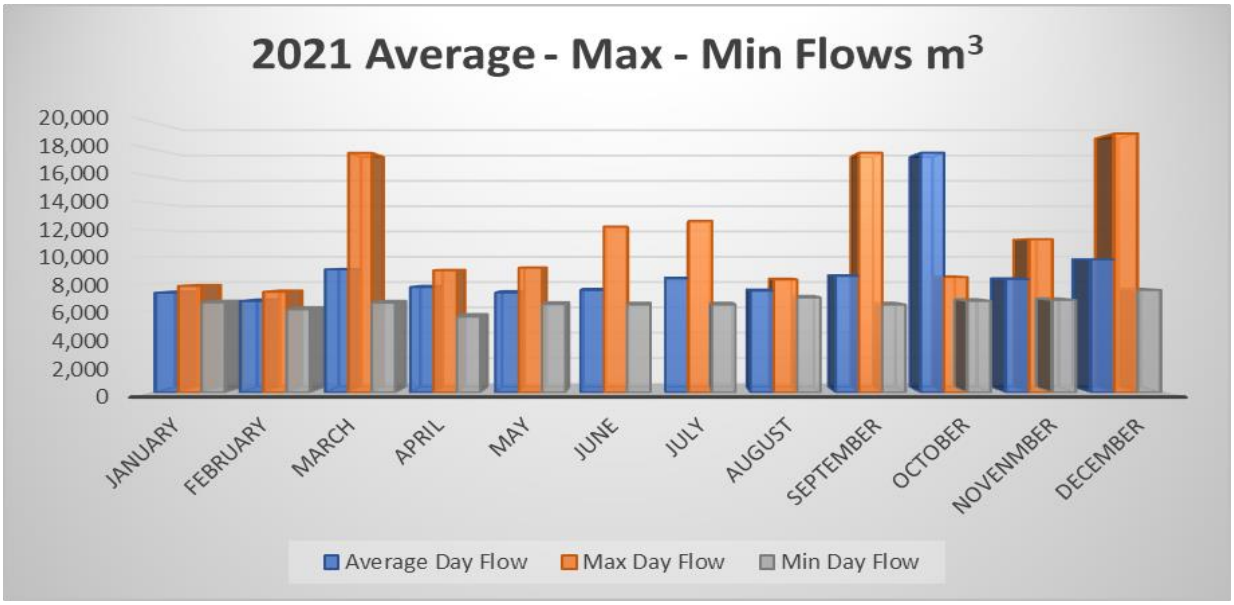

Figure 3: Monthly Average, Max and Min Day Flows in m^3 for 2021.

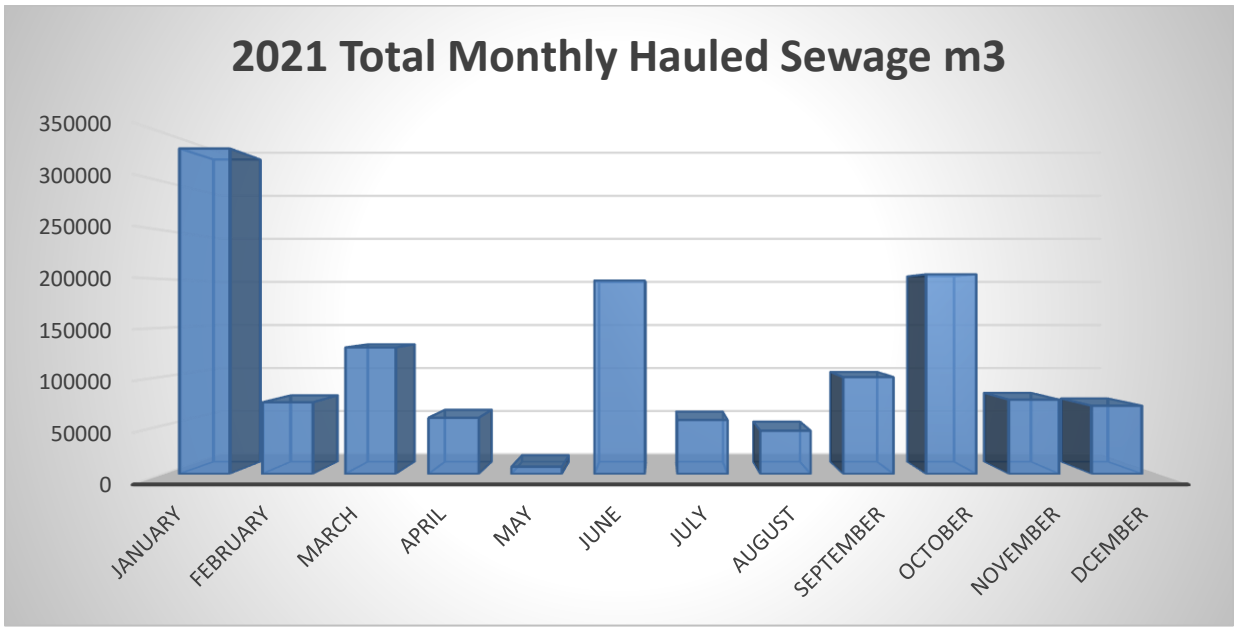

Figure 4: Total Monthly Septage Received m^3 for 2021.

Septage Receiving

Within reporting period of January 1st to December 31st, 2021, the Wastewater Treatment Plant receives additional sewage in the forms of septic and holding tanks, portable toilets, grease traps, marine waste and recreational vehicle holding tanks. The septage received is stored in holding tanks and pumped to the primary clarifier at a time as not to upset the treatment proce

Midland Wastewater Treatment Plant 2021 Effluent Loading

EFFLUENT LOADING 2021

Month	Effluent Flows	$CBOD_5$ Annual Average Concentration		Total Suspended Solids Annual Average Concentration		Total Phosphorus Annual and Monthly Average Concentration (1,716 Kg/Yr)-146 Kg/Month		Total Ammonia Nitrogen Monthly Average Concentration			pH Monthly Average	Total Chlorine Monthly Average Concentration		E.Coli
	m^3	Monthly Average 10 mg/L	Loading 4856 Kg/month	Monthly Average 10 mg/L	Loading 4856 Kg/month	Monthly Avg. 0.4 Monthly-0.3 Yearly mg/l	Loading 146 Kg/month	Monthly Average 10mg/L	Monthly Average 15mg/L	Loading Kg/month	pH	Usage Kg/ month	Effluent Residual 0.02 mg/l	Geometric Mean 200 col/100ml
January	227730.38	3.50	797.06	3.00	683.19	0.08	18.22		0.37	83.69	7.84	496.80	0.000	1
February	188541.02	3.00	565.62	4.00	754.16	0.10	18.85		1.78	335.13	7.70	436.28	0.002	1
March	281227.95	3.00	843.68	5.80	1631.12	0.11	31.50		0.84	237.36	7.80	439.40	0.005	11
April	233069.75	3.00	699.21	3.50	815.74	0.08	19.03		0.22	52.05	7.80	419.28	0.001	30
May	228408.34	3.00	685.23	3.50	799.43	0.08	18.27		0.18	39.97	7.90	492.66	0.000	14
June	226389.20	3.00	679.17	3.80	860.28	0.08	17.66	0.14		32.60	8.00	557.93	0.001	29
July	260528.01	3.00	781.58	3.75	976.98	0.07	17.59	0.23		59.27	7.80	560.34	0.001	7
August	232288.60	3.00	696.87	4.25	987.23	0.06	13.36	0.17		40.07	7.80	451.24	0.001	4
September	257723.01	3.00	773.17	4.00	1030.89	0.10	25.77		0.26	67.52	7.86	431.87	0.000	15
October	238573.37	3.00	715.72	4.00	954.29	0.10	23.86		0.20	47.12	7.68	444.56	0.000	14
November	250652.67	3.00	751.96	4.75	1190.60	0.13	32.58		0.40	100.26	7.99	500.70	0.001	8
December	304292.94	3.00	912.88	7.20	2190.91	0.12	35.30		0.37	113.81	7.77	591.57	0.002	8
Total	**2929425.24**							0.18	0.51			**5822.63**		
Monthly Average		3.04	741.85	4.30	1072.90	0.092	22.67	0.43		1260.83		485.22	0.001	11.9
Annual Average			0.00		0.00		0.00			0.00				
Total Loading			8902.14		1072.90		271.99			1208.85				

Figure 5: Total Monthly Effluent Loading for 2021

Summary and Interpretation of Monitoring Data

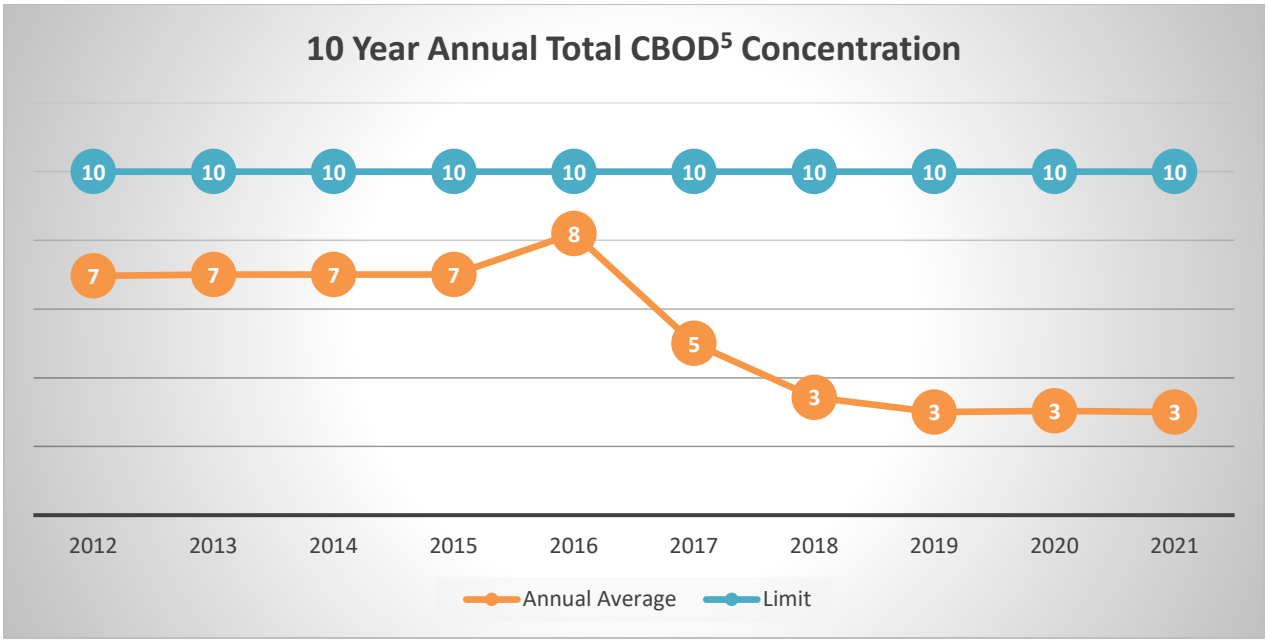

Figure 6: 10 Year Annual Total $CBOD_5$.

Total $CBOD_5$

From the ECA, the Monthly Average Concentration limit for Carbonaceous Biochemical Oxygen Demand ($CBOD_{5)}$ to the environment is 10 mg/l. During the Reporting Period of January 1st to December 31st, 2021, Midland's Monthly Average $CBOD_5$ was 3.0 mg/l and the annual average was also 3.0 mg/l. $CBOD_5$ is a 5-day test that represents the quantity of oxygen which is consumed during aerobic processes of decomposition of organic materials, caused by microorganisms. The BOD therefore provides information on the impact the organic portion of the effluent will have on the oxygen level of the receiving stream, and on aquatic life of the bay.

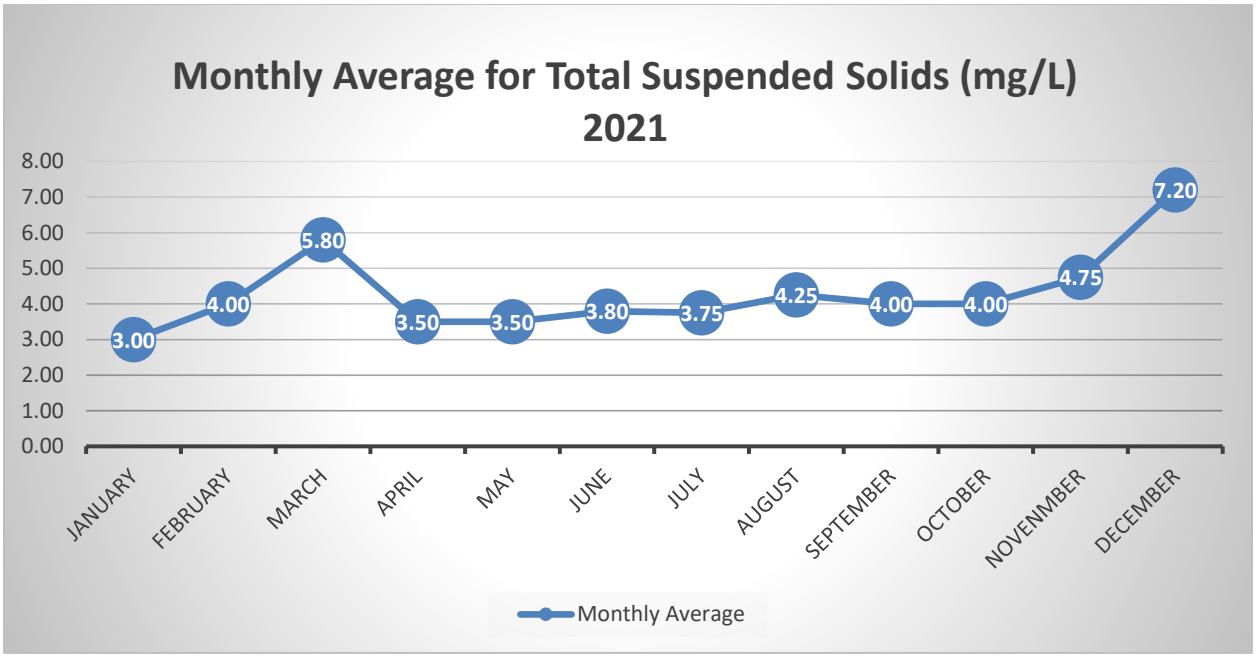

Figure 7: Monthly Average for Total Suspended Solids in mg/L - 2021.

Total Suspended Solids

As defined in the ECA, the maximum Monthly Average Concentration for Total Suspended Solids (TSS) released to the environment is 10 mg/l. During the Reporting Period of January 1st and December 31st, 2021, Midland's Monthly Average was 4.30 mg/l. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, and industrial wastes. High concentrations of suspended solids can lower water quality by absorbing light. Waters then become warmer and lessen the ability of the water to hold oxygen necessary for aquatic life.

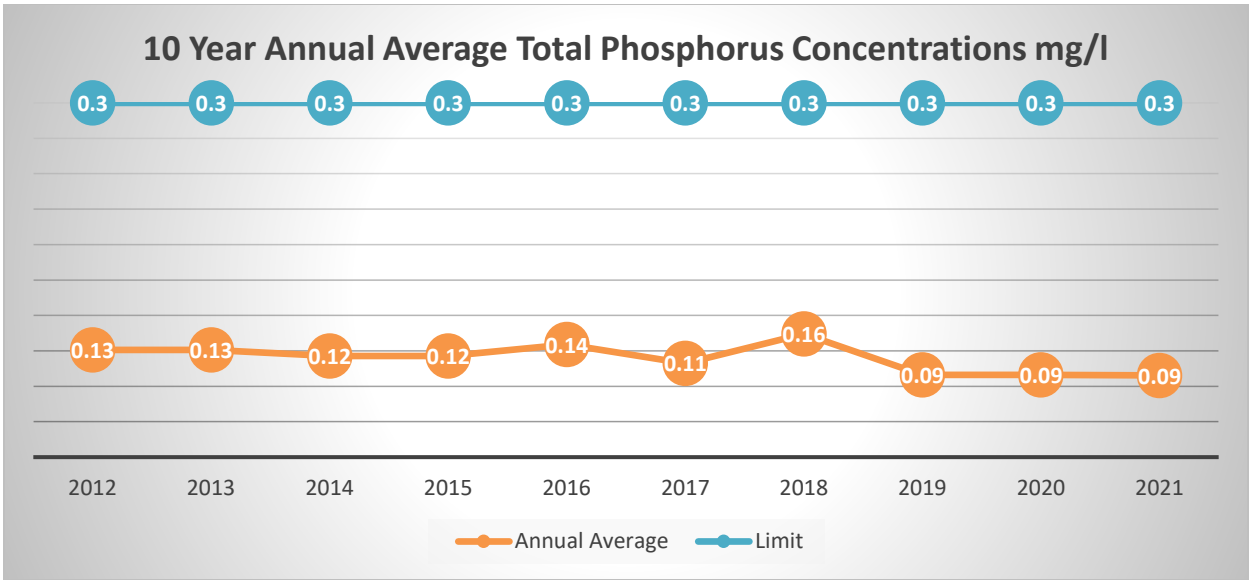

Figure 8: 10 Year Annual Average Total Phosphorus Concentrations

Total Phosphorus

Total Phosphorus is the sum of reactive, condensed and organic phosphorous. It is an essential element for plant life, but when there is too much of it in water, it can speed up eutrophication (a reduction in dissolved oxygen in water bodies caused by an increase of mineral and organic nutrients) of rivers and lakes.

The highest average monthly total phosphorus concentration of 0.13 mg/L took place during the month of November. This concentration results in a total monthly loading for November of 32.58 kg.

The annual average concentration of 0.09 mg/L was below the annual yearly objective of 0.3 mg/L and also well below the 0.4 mg/L monthly limit dictated by the ECA. The total annual phosphorus loading of 271.99 kg/year is well below the ECA limit of 1,716 kg/year. The monthly objective for phosphorus of 146 kg/month was also achieved with a monthly loading average of 22.67 kg/ month.

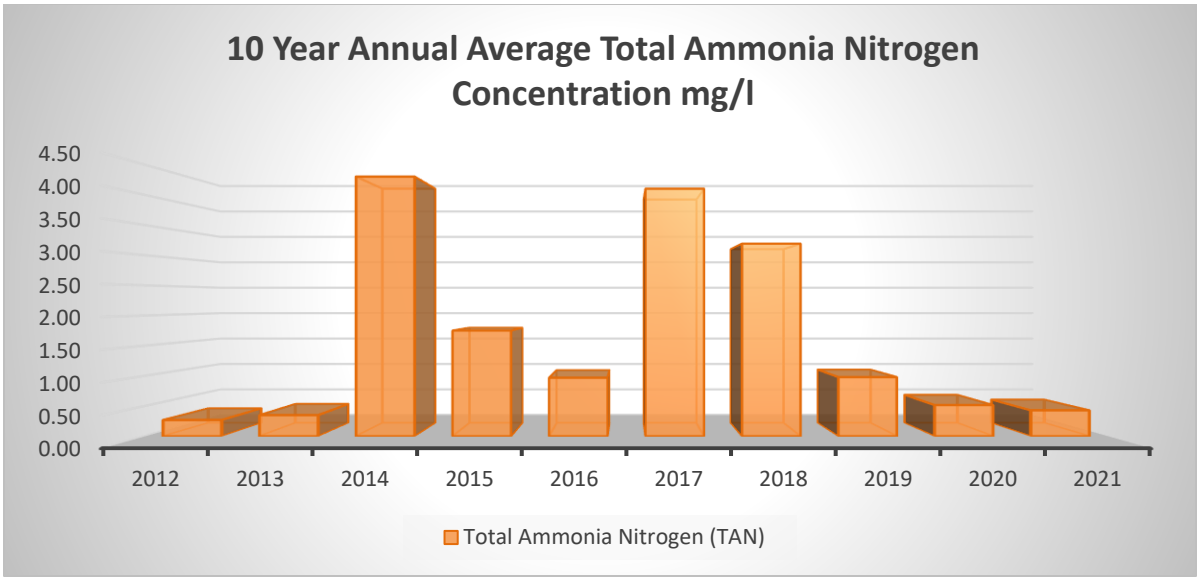

Figure 9: 10 Year Annual Average Total Ammonia Nitrogen Concentration

Total Ammonia Nitrogen

Total Ammonia is the sum of the free ammonia-nitrogen plus the amount of nitrogen from ammonia that has combined with chlorine. Ammonia pollution is a matter of increasing concern for regulatory authorities because of the serious threat it poses to the balance of sensitive habitats and to flora and fauna. Controlling ammonia discharges from wastewater treatment can make a significant contribution to reducing its environmental impact.

The average concentration of Total Ammonia Nitrogen (T.A.N.) between June 1st, 2021 to August 31st, 2021 (Summer) was 0.18 mg/L, the ECA limit is 10 mg/L.

The average concentration of Total Ammonia Nitrogen (T.A.N.) between January 1st, 2021 to May 31st, 2021 and September 1st, 2020 and December 31st 2020 (Winter) was 0.51 mg/L, the ECA limit is 15 mg/L.

The loading objective 5.0 mg/l identified in the ECA was also achieved for the reporting period of January 1st to December 31st, 2021.

Midland Wastewater Treatment Plant 2021 Chlorine Usage and Effluent Residuals														
	January	February	March	April	May	June	July	August	September	October	November	December	Total	Monthly Average
Monthly Chlorine Usage	496.80	436.28	439.40	419.28	492.66	557.93	560.34	451.24	431.87	444.56	500.70	591.57	5822.63	485.22
Monthly Average Daily Chlorine Use	16.03	15.58	14.17	13.98	15.89	18.60	18.08	14.56	14.40	14.34	16.69	19.08		15.95
Monthly Average Effluent Residual	0.000	0.002	0.005	0.001	0.000	0.001	0.001	0.001	0.000	0.000	0.001	0.002		0.001

Figure 10: Monthly and daily chlorine usage in Kg's.

Chlorine Usage

The monthly usage of Chlorine was consistant throughout 2021 with a total usage of 5822.63 kg. The average daily usage also remained consistant and remained between 13.98 kg/day and 119.08 kg/day for the reporting period January 1st and December 31st 2021. The Total Chlorine Residual of 0.001 mg/l in the Effluent was well below the 0.02 mg/l Objective and Limits set out in the ECA.

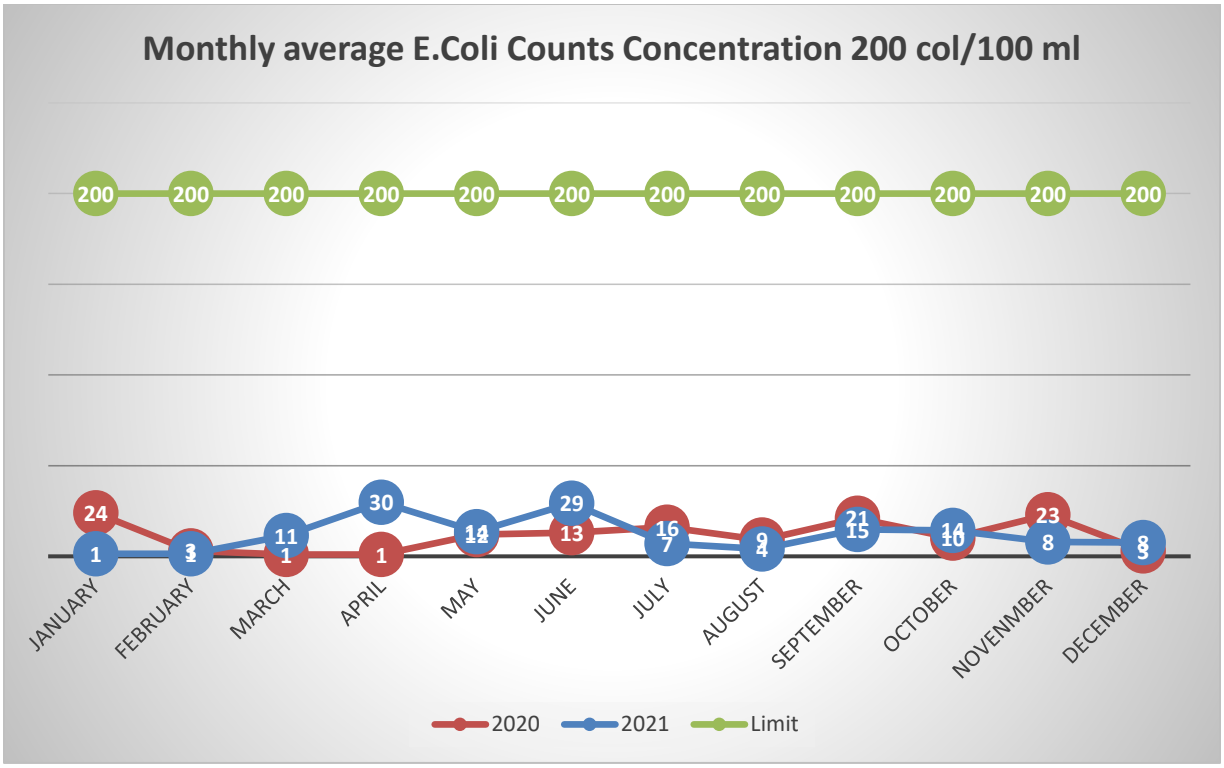

Figure 11: Monthly Average E.Coli Count Concentration 200 col/100 ml

E.Coli

Escherichia coli (*E. coli*) are a group of bacteria commonly found in the intestines of warm-blooded animals, including people. *E. coli* in fresh water can indicate the presence of pathogens (disease-causing organisms) from animal or human feces. The pathogens can cause illness for anyone who ingests them.

From the ECA, the E.Coli. on a Monthly Geometric Mean, must be less than 200 Colony-Forming units/100 ml (CFU's) released to the environment. Midland's Monthly Average E.coli count was 12 organisms per 100 ml of effluent discharged from the works.

Operational Improvements

2021 Sewer Sampling

In the month of October, all seven of Sewer Pumping Station (SPS) were sampled for parameters identified in the sewer use by-law. The sample taken at Pillsbury SPS revealed a result of 1.8 mg/l for Trichloroethylene. The By-Law limit for Trichloroethylene is 0.5 mg/l. Trichloroethylene is a chemical that is found in metal cleaners and varnishes. Using this data, we sample at locations in the industrial area of the Pillsbury SPS and did not find any Trichloroethylene results.

COVID-19 Sampling

The Town of Midland joined the Ontario's Wastewater Surveillance Initiative for COVID-19. The Ministry of the Environment, Conservation and Parks (MECP) selected the Town of Midland to be part of the Wastewater Surveillance Initiative with sampling and analysis began in February 2021.

The Town of Midland sends weekly (3 times a week) samples to the Ontario Technology University in Durham Region, where samples are tested and results uploaded to a repository where municipalities, health units, and the provincial and federal governments can review the results and plan the appropriate response in those communities.

Locally, the Simcoe Muskoka District Health Unit uses data from the Wastewater Surveillance Initiative to better determine the impact of COVID-19 in Midland, and the response needed.

Sewer Relining

Approximately 2000m of the Sanitary Collection System was relined in 2021. Sections of sewer with known defects or low risk end-of-life sections were selected for this rehabilation measure. This technology does add structural strength to the pipes and reduces the likelyhood of blockages due to misaligned joints. This technology is also known as Cured In Place Pipe (CIPP)

The process for each indentified and relined pipe is as follows:
- Identified sewer is cleaned using a high-pressure tooling
- The section is inspected using a pipe crawler outfitted with CCTV
- The recorded information is analysed for relining situability
- The custom resin impregentated fiberglass sleeve is fabricated
- Fiberglass sleeve is pulled through the sewer
- Sleeve is inflated using steam which starts the resin activation process
- Once the sleeve has cured, and pipe crawler outfitted with a cutting tool cuts the holes of the lateral sewers
- Data is stored and displayed on GIS

CIPP is a technology that can effectively extend the life of a sanitary sewer, however cannot replace the benefits of complete replacement. This is due to the lateral connections remaining untouched.

Deeptrekker DT320 Pipe Crawler (CCTV)

The DT320 is portable and is an easy to operate crawler for between 6" and 18" (150-450mm) diameter pipes. The DT320 is fully steerable with a compact track belt driving the vehicle. This track belt enables the crawler to get over disjoints and obstacles as well as mud and debris. It uses a counter reel that indicates on screen the distance you have travelled in the pipe so we can determine where in the pipe defects are when we identify them. It has a pan tilt camera that allows you to rotate the camera 360 degrees and tilt the camera 270 degrees to make a full, thorough inspection. The crawler and handheld controller are battery powered, allowing us to deploy it from remote locations.

The pipe crawler allows quick inspections of suspected defects in the sanitary collection system. Reducing the need for contacted service and its asscoiated costs. Information gathered using this tool directly impacts the priority of rehabilitation or replacements. Ultimately with the goal of elimating pipe failures.

Maintenance Hole Inspections using 360 Camera

The 360 Camera is a portable camera that allows quick inspection of sanitary maintenance hole (MH) structures. The 360 camera allows an immersive view from inside the MH, and the ability to throughly inspect the condition. This directly affects the maintenance, rehabilation or replacement of these assets. This works in conjunction with SL-RAT program and the above DT320 CCTV inspections.

Odour Control

Septage receiving can produce hydrogen sulphide (H2S) which contributes to odours and is an area of concern with respect to health and safety. Hydrogen sulfide is a colorless, flammable, extremely hazardous gas with a “rotten egg” smell. Some common names for the gas include sewer gas, swamp gas and manure gas. Installation of the odour control unit that uses clay and activated carbon to remove or convert this H2S has significantly reduced concerns.

Microscope equipped with HD camera

The addition of wastewater treatment digital HD microscope has made the identification of organisms in wastewater much easier. In addition, the microscope allows a view live images on the HD monitor, the ability to capture and save images, as well as make measurements. This microscope is used to identify bacteria, rotifers and protozoa in wastewater. This give the

operators a real glimspe into the health and population of the bacteria found in the activated sludge process.

Jar Tester

The addition of a four (4) jar tester, act as a pilot-scale test of the treatment chemicals used in a particular wastewater plant. It simulates the coagulation/flocculation process in a wastewater treatment plant and helps operators determine if they are using the right amount of treatment chemicals, and, thus, improves the plant's performance.

Chamber A Weir Improvements

Through a detailed investigation it was determined that a flow measurement modification performed in the 1980's to the Chamber A weir was causing strain on SPS#1 during heavy rain events and sometimes resulting in CSOs. With the use of modern radar level sensing equipment the weir was repaired and re-confirgured back to its 1965 design. This repair has directly contributed to the reduction of CSOs, resulting in only one event driven overflow in 2021.

Total Solids Portable Probe

The main identicator of supernanant is the measurement of its clarity or amount of solids. Traditionally a test for calculation of this solids amount would be delayed and not a true representation. The addition of this portable probe allows for the live measurement of the supernanant precent solids, which helps dictate the amount of liquid available to return to the treatment system and not to be hauled as bio-solids.

NASM/Biosolids

In 2021, 11328 m^3 of Digested Biosolids were hauled from the Town of Midland Wastewater Treatment Plant under contract L04-49844 by Region of Huronia Environmental Services (ROHES). This is a 2% increase from 2020.

2021 Biosolids Generated and Hauled

2021	January	February	March	April	May	June	July	August	September	October	November	December	Total
Loads	19	20	23	24	25	20	26	25	21	23	23	21	270
Volume m^3	798	840	966	1008	1050	840	1086	1050	882	966	966	876	11328

Table 1: 2021 Biosolids Generated and Hauled

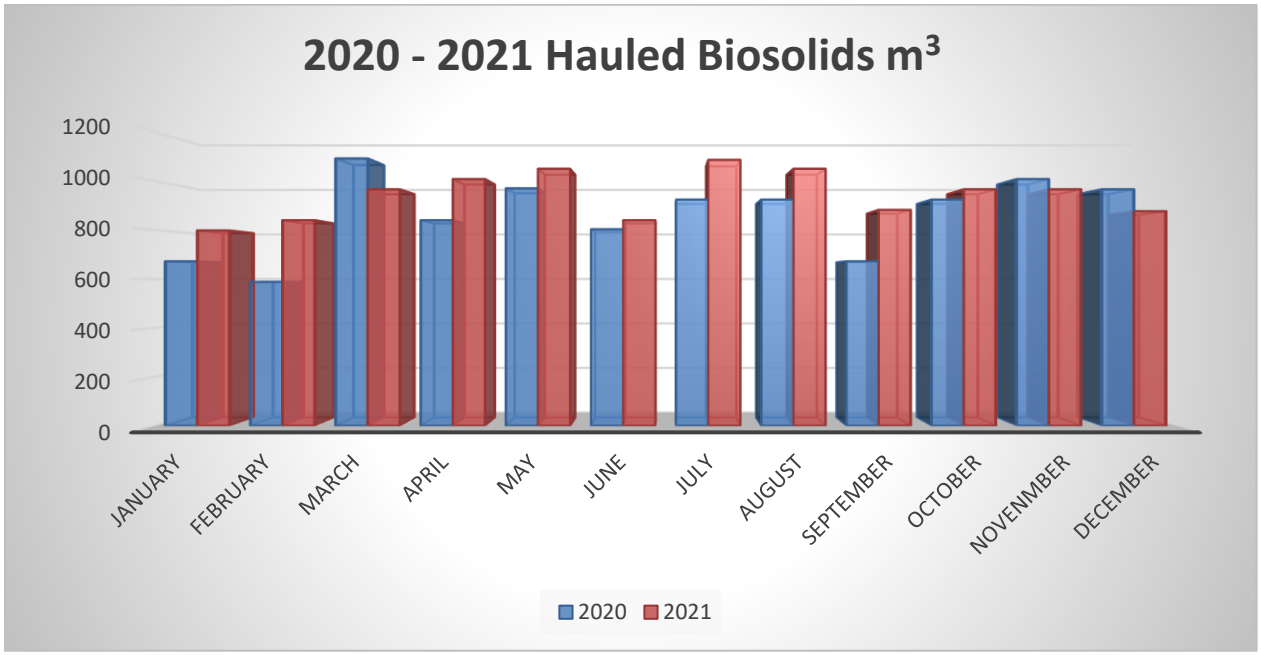

Figure 12: 2020-2021 Hauled Biosolids

Summary of Effluent Quality Assurance and Control Measures

Midland Wastewater Operators collect samples from Raw Sewage, Primary Clarifier Effluent, Aeration Effluent, Primary and Secondary Digesters and Final Effluent on a regular basis throughout the work week and month. Staff use standardized and accepted laboratory techniques when samples are tested for various parameters in-house for process control and effluent quality assurance. A spreadsheet is used to track in-house lab results to perform several calculations used to monitor and measure the effectiveness of the plant performance. In addition to the in-house analysis, samples are collected weekly and sent to a certified laboratory, Caduceon Environmental Laboratories. These sample results are used to determine compliance with the ECA and Ministry Regulation.

Bypasses and Overflows

In 2021 there was (1) scheduled maintenance by-pass event over 3 days and (1) overflow events that occurred during the reporting period of January 1st to December 31st.

Bypass Event 1, On April 28th to 30th, there was a planned by-pass event for the maintenance and cleaning of the chlorine contact chamber. The measured volume discharged to Georgian Bay from the treatment plant was 17,989 m^3 and the event lasted 52 hours. This volume was treated, without the addition of sodium hypochlorite (chlorine) and calcium thiosulfate (Captor).

Overflow Event 2, On June 26rd 1285.6 m^3 overflowed from Chamber "A" to Georgian Bay during a rain event.

This is also known as a Collection Sewer Overflow (CSO). All overflows are reported to the Ministry of Environment, Conservation and Parks (MECP) aswell to the Town of Midland's social platforms.

2021 By-Pass and Overflow Report					
Date	**Location**	**Type**	**Volume m^3**	**Duration (Hrs)**	**Rainfall (mm)**
April 28, 2021	Plant	Planned	5591.58	15	-
April 29, 2021	Plant	Planned	8055.52	24	-
April 30, 2021	Plant	Planned	4342.88	13	-
June 26, 2021	Chamber A	Overflow	1285.60	0.43	79

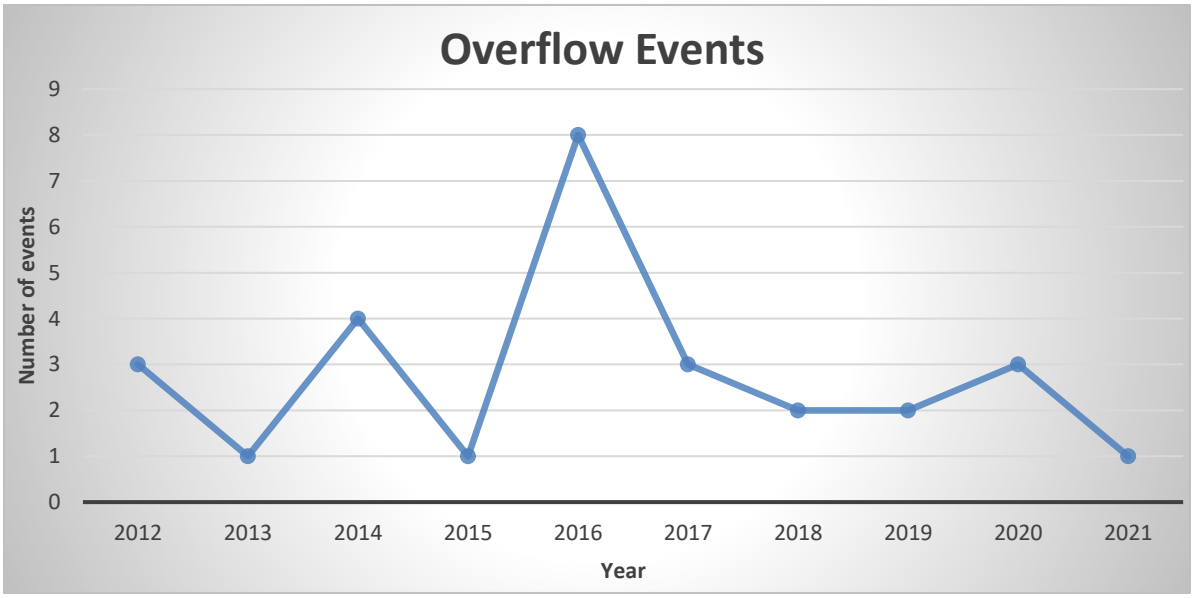

Figure 13: Historical Overflow Information

Calibrations

All flow meters, level transmitter, probes and analyzers are calibrated as per the manufacturers recommendations by a trained, knowledgeable and experienced technician. Calibrations are completed a minimum of once a year. Calibration was completed in May and June 2021 by SCG Flowmetrix. Calibration Certificates are submitted and retained electronically for each unit and devices. Below is a list of locations of units and devices and description.

	Date	Location	Description	Serial #
1	May 31 2021	Midland WWTP	WAS Flow Meter	A98 14063
2	May 31 2021	Midland WWTP	RAS Flow Meter	302418
3	May 31 2021	Midland WWTP	Final Effluent Flow Meter	PBD/L3050094
4	May 31 2021	Midland WWTP	Raw Sewage Tank Level	PDB/K0020132
5	May 31 2021	Midland WWTP	Bypass Flow Meter	PBD/A7210157
6	May 31 2021	Midland WWTP	Calcium Thiosulfate Level North	PBD/A6281118
7	May 31 2021	Midland WWTP	Calcium Thiosulfate Level South	PBD/A680892
8	May 31 2021	Midland WWTP	Dechlor Chemical Flow Meter	N1K1225102
9	May 31 2021	Midland WWTP	Storm Tank Overflow Meter	PBD/L3271235
10	May 31 2021	Midland WWTP	Storm Tank Level	PBD/L3271195
11	June 1 2021	Midland WWTP	Influent Flow Meter	N/A
12	May 31 2021	Midland WWTP	Primary Raw Sludge Flow Meter	A964188
13	May 31 2021	Midland WWTP	Alum Pump #1 Flow Meter	N1K2145086
14	May 31 2021	Midland WWTP	Alum Pump #2 Flow Meter	N1K2145145
15	May 31 2021	Midland WWTP	Bio-Solids Haulage Flow	N1K502510
16	June 1 2021	Midland WWTP	Septage Tank Level	N/A
17	June 1 2021	Midland WWTP	Chlorine Tank Level	PBD/L4010338
18	May 31 2021	Midland WWTP	Secondary Flow to Clarifier	N/A
19	May 31 2021	Midland WWTP	Sodium Hypochlorite Flow	N1K4105037
20	June 2 2022	Aberdeen SPS #3	Well Level	N/A
21	June 2 2022	Aberdeen SPS #3	Station Flow	PBD/L0234564
22	June 2 2022	Pillsbury SPS #4	Well Level	PBD/M3040016
23	June 2 2022	Pillsbury SPS #4	Station Flow	3K620000240145
24	June 2 2022	Howard SPS #5	Well Level	N/A
25	June 1 2021	Vindin SPS #6	Well Level	PBD/W2190022
26	June 1 2021	Vindin SPS #6	Outflow Meter	1320A359
27	June 1 2021	Bay Port SPS #7	Station Flow Meter	282948
28	June 1 2021	Bay Port SPS #7	Well Level	PBD/X5290260
29	June 18 2021	Chamber A	Bypass Flow Meter	060903101XV
30	June 1 2021	Bay SPS #1	Well Level	N/A

Summary of Maintenance Performed Throughout the Reporting Period

In addition to regular maintenance management programs and maintenance to all effluent monitoring equipment, works were upgraded or replaced in accordance with the Capital Plan as follows:

Treatment and Lift Station Facilities

- Odour Control System
- Storm Tank Ladder
- SCADA controlled actuator for SPS#2 cleaning
- Primary clarifier actuator
- Front gate and door security cameras
- Door lock and padlock replacement
- Aerator Mixer Repair

Collection System

- SL-RAT Program Development
- 2000m of Sanitary Sewer Relining
- Hannah Street Reconstruction – included sanitary sewer

Summary of Complaints received throughout the Reporting Period

There were no complaints received by the Town of Midland municipal staff throughout the Reporting Period for the Town of Midland Wastewater Treatment Plant.

Limited Operational Flexibility-Notice of Modifications Form

There were no Limited Operation Flexibility or Notice of Modification forms submitted throughout the Reporting Period. All upgrades/modifications have been completed in accordance with the Terms and Conditions of the ECA.

Closing Remarks

Throughout the Reporting Period the Midland WWTP operated to the best of its ability while subject to extensive construction activity, and seasonal influences. With continued construction and typical average daily flows, operations staff expect the WWTP to operate as designed over the next Reporting Period.