



City of Barrie

Sewage Collection System

2020 Annual Monitoring Report

Environmental Compliance Approval 5921-ATUKKR

March 26, 2020

The City of Barrie
Wastewater Operations Branch
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Review and Sign-Off

Sanitary Collection System 2020 Annual Report Reviewed by:	Signature	Date
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Overview

The City of Barrie owns and operates a wastewater collection system which terminates at the Wastewater Treatment Facility located at 249 Bradford Street. The collection system currently operates under Ministry of the Environment, Conservation and Parks (MECP) Amended Environmental Compliance Approval (ECA) No. 5921-ATUKKR dated January 10, 2018. A recent history of collection system ECA approvals is as follows:

Table 1 System-Wide ECA Approvals History

System-Wide ECA Number	Date of Issue	Reason for Issue
7639-ACYHUF	October 5, 2016	All individual pump station approvals transferred to system-wide approval
2883-AKUJQZ	August 16, 2017	Approved Holly PS upgrade
7160-AQWSAX	September 11, 2017	Corrected error re: Minet's Point PS flow capacity
5921-ATUKKR	January 10, 2018	Decommissioning of Huronia Pump Station PS-3

In 2020 the system operated under the last approval (5921-ATUKKR). This report is prepared in accordance with the requirements of section 2.6(3) of this ECA.

Each section of this report shall be discussed in terms of

- Pump Stations and Force Mains
- Gravity collection system

The numbering of each section in this report follows the numbering of the ECA s. 2.6(3) reporting sections (a) to (k). Appendix A contains a copy of ECA 5921-ATUKKR dated January 10, 2018.

Reporting section 2.6 (3) (a): Summary and Interpretation of Monitoring Data

This section discusses all monitoring data and includes an overview of the success and adequacy of the works. The City of Barrie uses computerized work order management systems to track work orders, inspections, repairs, repair costs and internal and external service requests. These systems are the source of data presented in this report.

Pump Stations and Force Mains

Normal pump station operation is unmanned and automated by use of electronics, electro-mechanical devices and programmable logic controllers. Real-time condition data is monitored by a Supervisory Control and Data Acquisition (SCADA) system and recorded on a data server ("Historian") located at the Wastewater Treatment Facility, 249 Bradford Street, Barrie. Few pump stations have flow meters and, in general, smaller pump stations have less complex control and metering systems.

Station alarms will call out via telephone line or wireless network to an on-call operator 24/7/365. Alarms are annunciated at WwTF.

The following alarms are provided for all pump stations and will appear on a SCADA system until cleared. These alarms are “high priority” and, as a result, call-out to an on-call operator:

- HI Level
- HI HI Level
- LO Level
- Building or Panel Intrusion
- AC Fail, LO Temp
- Communication Failure
- Pumps Not in Auto
- Pump Fault

Each station can also have additional alarms and some of these may include the following:

- Generator Running
- Generator Fault
- Generator Not in Auto
- Generator Louver Fault
- Load Transfer Switch Not in Auto

All alarms are logged as well as operations actions and acknowledgments. There is one alarm file per day and daily reports are available upon request.

In addition to automated monitoring, inspections are routinely conducted by operators. Pump station inspections are performed 2- 3x week and generally consist of:

- Testing, cleaning (if necessary) and inspecting floats for proper operation (Once weekly)
- Test wet well alarms (Once weekly)
- Check intrusion alarm
- Pumping down the well to clean the well (Once weekly)
- Inspecting and recording pump hours for each pump in a pump hour logbook.
- Inspecting pump house or cabinet condition (as the case may be)
- Recording backup generator hours (if present) and inspect condition (oil levels, coolant etc.)
- Check all breakers and switches to ensure they are positioned correctly
- Check safety devices (fire extinguisher, eyewash station, emergency lighting etc.)
- Record all findings in the station log book and sign operator’s name
- Snow clearing as needed
- Safety inspection twice yearly

Less frequent maintenance will generally consist of (depends on station):

- Bi-weekly generator inspection and exercise
- Quarterly entry into the wet well and inspection/cleaning
- Annual generator/transfer switch inspection at load, replenish fluid levels

Maintenance, repairs, service requests and inspections are tracked through work orders on a computerized maintenance management system (CMMS).

Annual flow meter verification on pump stations is contracted out and was conducted in October and November 2020 as per Reporting section 2.6 (3) (d). Verification certificates are available upon request.

Four-year flow summaries are shown below except for two small stations; Perry Street and Innisfil Street.

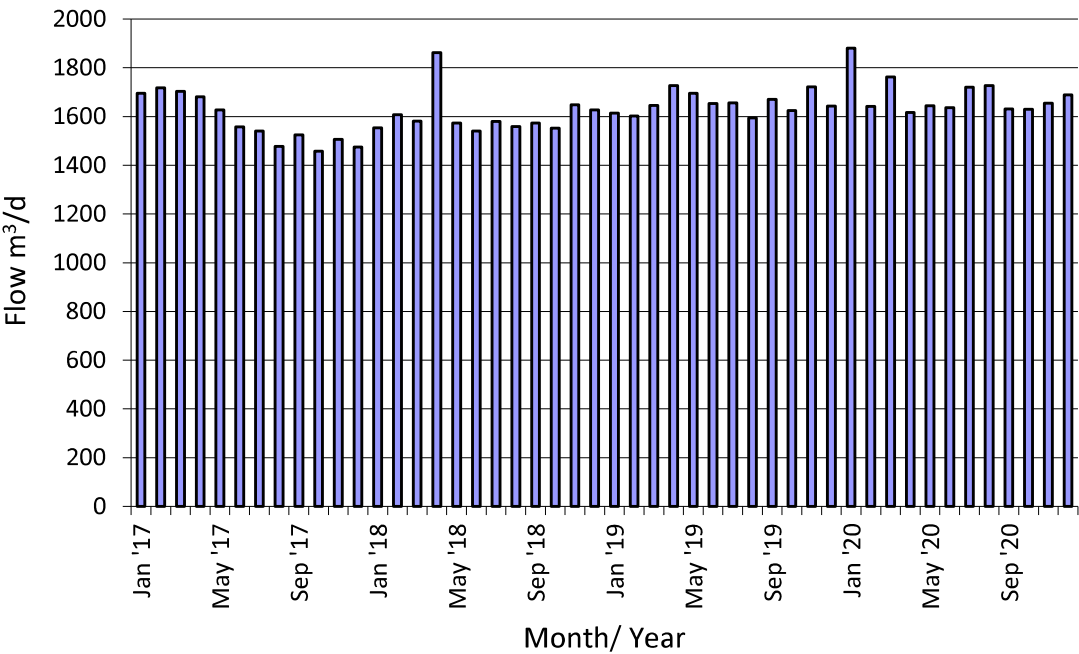


Figure 1 Grove Street SPS Monthly Average Daily Flows

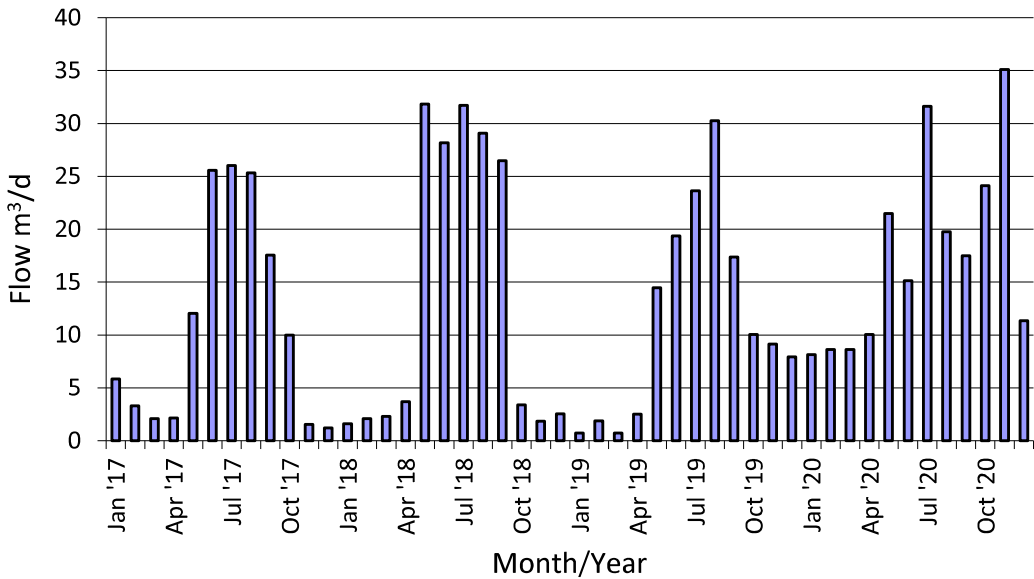


Figure 2 Heritage Park SPS Monthly Average Daily Flows

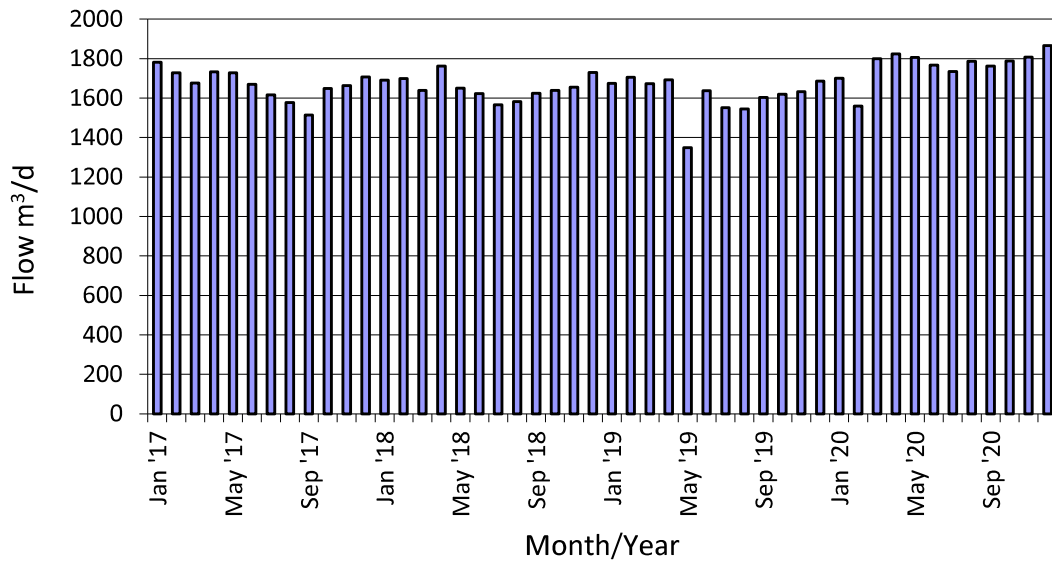


Figure 3 Holly SPS Monthly Average Daily Flows

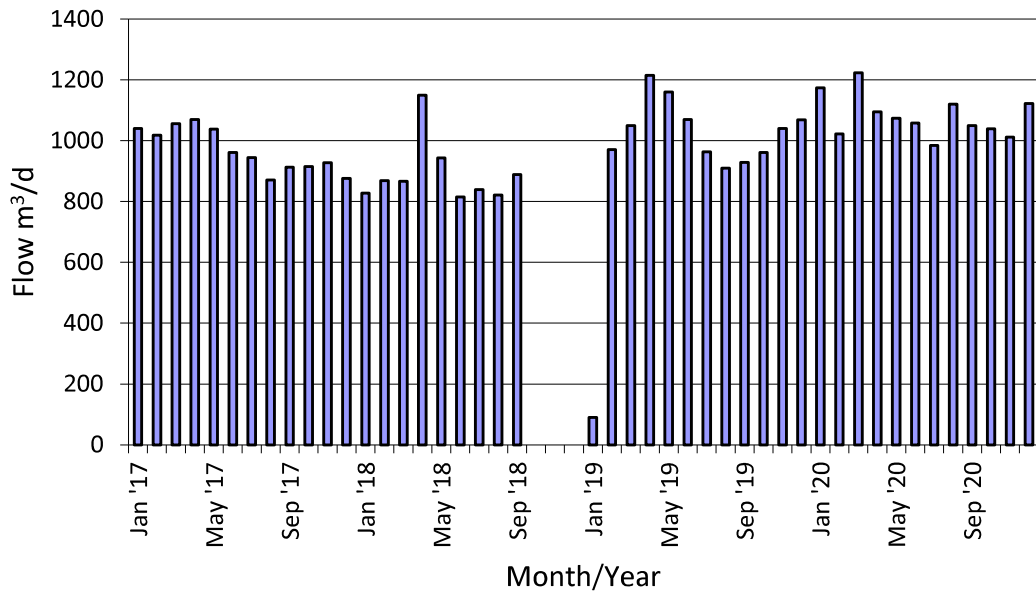


Figure 4 Little Lake SPS Monthly Average Daily Flows*

*Note that flows prior to September, 2018 were calculated before install and commissioning of flowmeter. Flows in January, 2019 and onward are measured.

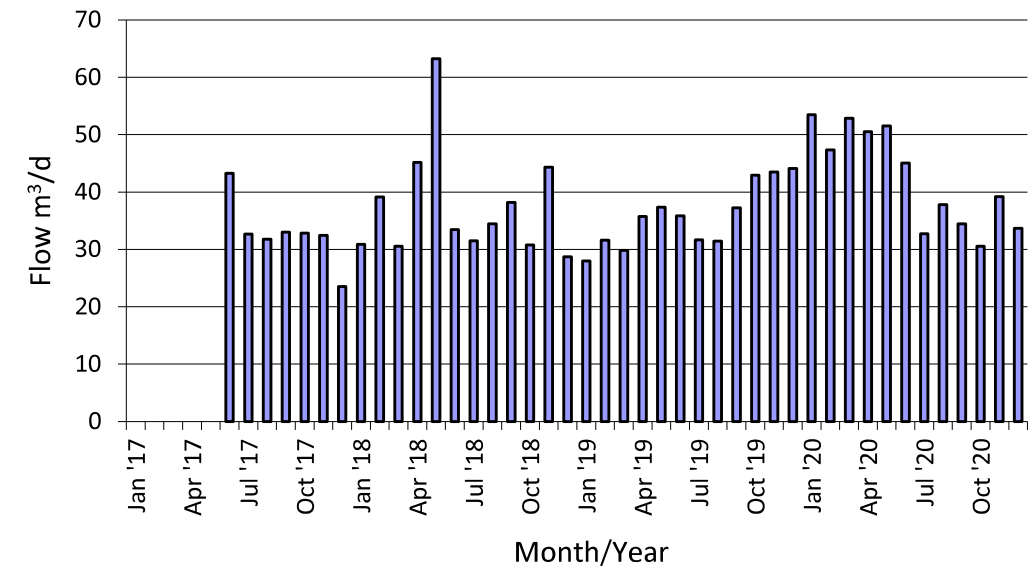


Figure 5 Lockhart SPS Monthly Average Daily Flows

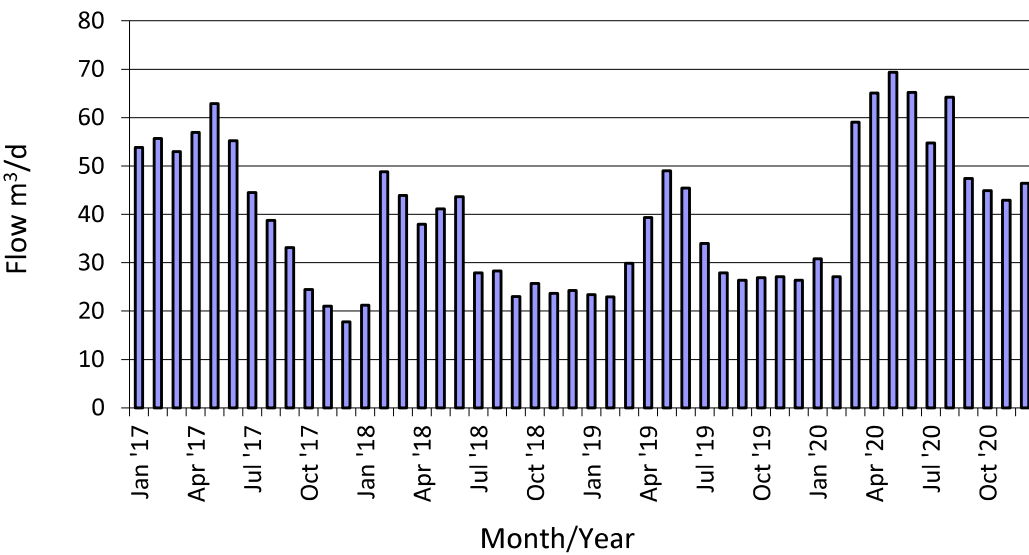


Figure 6 Minet's Point SPS Monthly Average Daily Flows

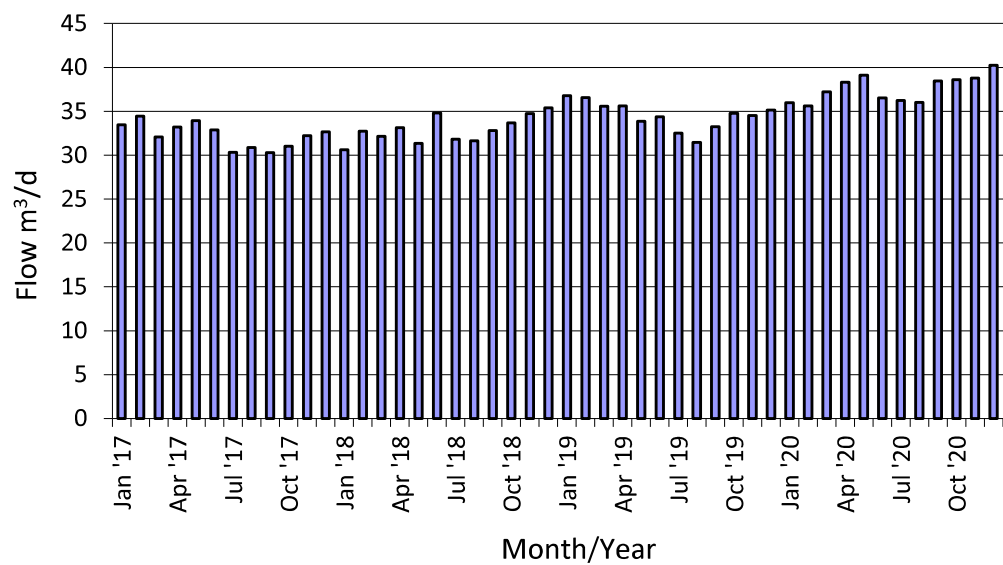


Figure 7 Mooregate SPS Monthly Average Daily Flows

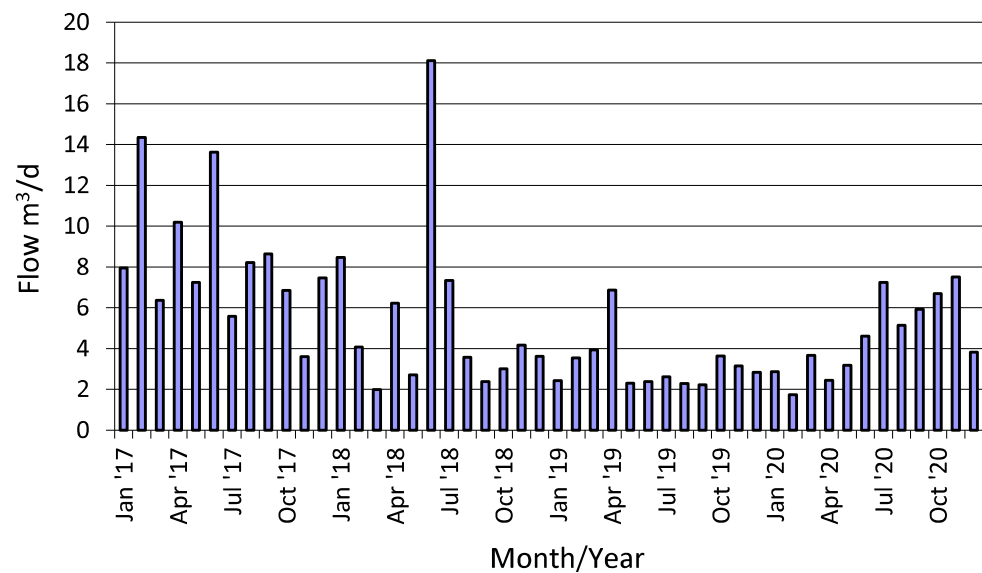


Figure 8 Splash Pond SPS Monthly Average Daily Flows

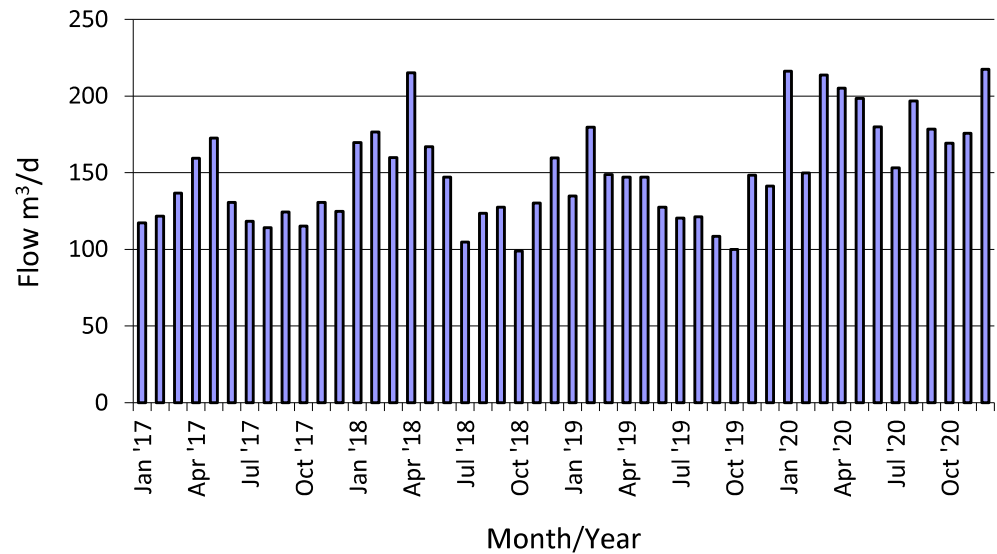


Figure 9 Tyndale Park SPS Monthly Average Daily Flows

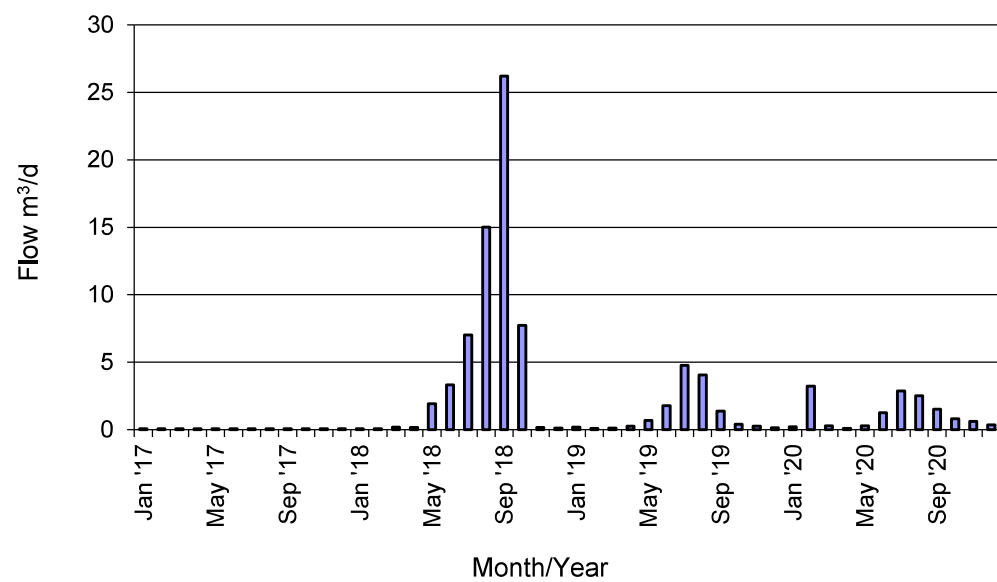


Figure 10 Johnson's Beach SPS Monthly average Daily Flows

Average daily flows for pump stations based on yearly average are estimated as follows:

Table 2 Pump Station Average Daily Flow (m³/d)

Pump Station	Average Flow (m ³ /d)			
	2017	2018	2019	2020
Holly SPS	1668	1654	1612	1768
Tyndale Park SPS	130	148	135	188
Splash Pond SPS	8	5	3	5
Mooregate SPS	32	33	34	38
Lockhart SPS	33	37	36	42
Minet's Point SPS	43	32	32	52
Heritage Park SPS	11	14	12	18
Johnson's Beach SPS	0	5	1	1
Grove Street SPS	1581	1604	1654	1687
Little Lake SPS	969	891	963	1082
Total	4475	4424	4481	4881

The trending in Table 2 suggests:

- Holly SPS has increased flow in 2020 due to the added catchment area from annexed land.
- Little Lake SPS and Minet's Point SPS flow values appear higher possibly due to increasing development in those drainage areas.

The adequacy of the existing system is generally sufficient. A quick update on the status of various projects is as follows:

- Capacity was increased and construction was continued through 2020 at Holly SPS to accommodate annexed land as approved by the August 2017 ECA. Contractual issues were experienced that delayed the project. The new station became operational in 2020 and substantial completion obtained in December 2020. The delays resulted in the need to haul sewage from Bear Creek Ridge Development to the Wastewater Treatment Facility in Barrie (WwTF) with MECP approval in January and February, 2020.
- A twin force main at Little Lake SPS was included in the original system-wide ECA but has not yet been tied into the existing sewer system. In 2020 the City of Barrie discontinued with the design of a new valve chamber to reduce project costs and incorporated the plumbing necessary to tie in the second force main into the existing wet well. Final design is underway with intention to tender in 2022.
- Most pump stations do not have flow meters. Those that do are Holly (2), Tyndale, Splash Pond, Little Lake and Mooregate (2).
- Where there is no flow meter, flows are calculated based on volume change in the well when a pump is running. The City is developing a program to eventually equip all stations with flow meters with larger stations being the priority.
- A WWOB project commenced in 2019 to install ultrasonic level measurement equipment at Tyndale SPS and was completed in 2020.
- In 2019, some wet wells (e.g. at Johnson's Beach SPS and Perry Street SPS) were identified as having unsatisfactory means of entrance. A new, safer ladder design was implemented at Johnson's Beach SPS in 2019 and the Perry Street ladder was completed in 2020.

Gravity Collection System

CCTV Inspection

The City of Barrie operates a closed-circuit television (CCTV) sewer inspection program for sanitary sewers. In 2020, the City's contractor conducted inspections on approximately 44.6 km of sanitary sewers (approximately 8.1% of the total network).

The 2020 condition rating of the sanitary sewer collection system is shown in Figure 11.

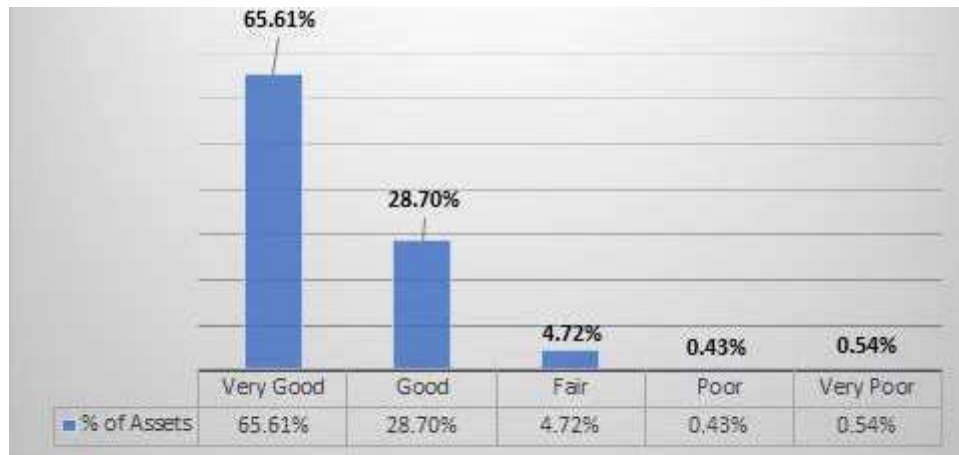


Figure 11 2020 Sanitary Sewer Condition Rating

Flow Monitoring

The City of Barrie does not conduct flow monitoring to measure the general performance of the gravity collection network at this time, however flow monitoring was conducted at two locations in 2020 and found the system to be performing adequately based on current demand at these locations. A summary of the results at these locations is provided below:

Table 3 2020 Flow Monitoring on Gravity Sewer System

Location and Date	Size	Material	Average Flow (Hourly Average)	Peak Flow (Hourly Average)	Capacity
Dunlop St. at Eccles St. June 25 – Sept 26	300mm	PVC	6.3 L/s	31.5 L/s	-
Mary St. South of Dunlop St. March 2 – July 31	300mm	PVC	4.1 L/s	56.6 L/s	-

Reporting section 2.6 (3) (b): Description of Operating Problems and Corrective Actions

Pump Stations and Force Mains

A sewer overflow on Kempview Drive on February 21, 2020 (SAC Incident number 6703-BLZNKK) resulted from a combination of factors at the Minet's Point sanitary pump station.

After a planned station wet well cleaning on February 19th, the station was not returned to normal operation and monitored for proper function. Normally this would result in a high-level alarm that would call out to WWOB staff, however the primary station control mechanism (the Milltronics level sensor) was set with too broad of an alarm setpoint range, resulting in the water rising above and submerging the sensor before an alarm was generated. In addition, the secondary level control mechanism (the float system) also did not generate an alarm despite being tested on both the 18th, and immediately after the station was returned to normal operation after the spill. It is the belief of staff that the floats, which must tip to allow mercury within the float to travel from one end of the float to the other to complete a circuit and generate an alarm, had floated up on the surface of the water, in a horizontal position, and were lodged up against the underside of a steel grate mezzanine in the well which prevented the float from fully tipping and creating the alarm. WWOB staff have since rectified this situation at Minet's Point SPS and all other pumping stations. The weekly float testing that checks the float alarms at each station is completed in accordance with industry standards and the WwTF Operating Manual, but it does not truly replicate a situation wherein the well floods and the water itself causes the float to tip. Staff have since performed true "high level" testing in all pumping stations by manually turning off pumps with staff present and widening Milltronics alarm setpoints to allow the wet wells to fill. This allowed operations staff to confirm that all floats will tip and produce an alarm when the water level rises, before impacting nearby laterals. Staff intend to complete this test on a regular schedule, in addition to the weekly checks. The City is also currently installing a 'loss of echo' alarm on the Milltronics sensors in all pump stations. This alarm will inform staff that the water level is high, and that the sensor is about to be submerged, regardless of level set points.

A list of repairs and modifications is as follows:

Table 4 Pump Station and Forcemain Repairs - 2020

Status	Work Description	Type	Building	Completed Date
Closed	Work order for 2019 to capture any repair work required to maintain communications to remote pumping stations.	Repair	Pump Stations	7/2/2020
Closed	Supply and installation of SCADA workstation.	Project	Mooregate	10/12/2020
Closed	Please modify the existing floats to the new configuration discussed on site.	Installation	Barrier Wall	25/3/2020
Closed	Eyewash station has fallen off wall and is empty. Secure in place and replenish.	Repair	Minet's Point	9/1/2020
Closed	First Aid Kit is missing. Install First Aid kit and secure with anti-tampering device.	Repair	Minet's Point	12/3/2020
Closed	No Inspection Sticker on Davit Base. Have Liftsafe inspect or apply valid inspection sticker from when it was inspected.	Repair	Lockhart Rd	19/6/2020
Closed	Hose laying on floor. Install hose rack and hang hose.	Repair	Mooregate	9/1/2020

Status	Work Description	Type	Building	Completed Date
Closed	Lock cover on the hatch to the station is missing and needs to be replaced.	Repair	Johnson's Beach	9/1/2020
Closed	Please replace the ups in Mooregate.	Repair	Mooregate	27/1/2020
Closed	noise deterrent is not working. Please repair or replace	Repair	Grove St.	6/1/2020
Closed	Pump#2 will not start in local, and leak fault light on it.	Repair	Heritage Park	27/1/2020
Closed	Pump failed and needs to be looked at.	Repair	Splash pond	3/3/2020
Closed	Please take old sewage pumps up to ORO for storage	Project	Holly	3/3/2020
Closed	Please investigate low flow on pump #1	Repair	Mooregate	27/3/2020
Closed	Can we have this looked at as it's volume per cycle is down and may need reversing.	Repair	Little Lake	7/4/2020
Closed	Hi Hi float is activated but hanging normal. Please repair.	Repair	Innisfil St.	2/4/2020
Closed	Code Rule: OESC 2018 Rule 02-200 - Electrical installations shall be installed and guarded to ensure public safety. Inspector Comments: It was identified that junction boxes on the side of the building have strip bolts and the cover doors could be opened without the use of a tool	Repair	Grove St.	8/5/2020
Closed	"Code Rule: OESC 2018 Rule 12-012 12) - Where an underground cable or raceway is subject to movement by settlement or frost, provision shall be made to prevent damage to the conductors, conductor insulation, or the electrical equipment. Inspector Comments: New conduit installation to well for pump"	Repair	Grove St.	8/5/2020
Closed	Station started pump lower without set point being changed giving lo alarms.	Repair	Heritage Park	6/5/2020
Closed	Frequently have low level alarms	Repair	Heritage Park	6/5/2020
Closed	Flush valve has fallen off of what we think was pump 2.	Repair	Tyndale Park	15/5/2020
Closed	It appears that we have a few issues with the alteration. First the trending is not showing the operation of pump #1. Secondly it appears that the lag is the only thing coming on and the duty does change unless I pump it manually to get it to switch.	Repair	Heritage Park	19/5/2020
Closed	please remove pump#1 and reinstall a new pump and take the old one to SPL for repair	Repair	Tyndale Park	16/6/2020
Closed	Loss of communication needs to be re established	Repair	Innisfil St	2/7/2020

Status	Work Description	Type	Building	Completed Date
Closed	Communication down needs to be re-established.	Repair	Perry St.	2/7/2020
Closed	The entry alarm is taking a few times fobbing to get it to clear if at all. Can you have a look at this and repair it.	Repair	Barrier Wall	22/7/2020
Closed	Local SCADA not working after the tower switch over. Can you please have a look and see what you can do.	Repair	Holly	23/7/2020
Closed	Both pumps are coming on and pumping the well down to the lo lo level. please check and repair.	Repair	Mooregate	10/8/2020
Closed	Hour meter on pump #1 not working needs to be replaced.	Repair	Little Lake	12/8/2020
Closed	Loss of communication to this station twice today. Currently the station has no communication.	Repair	Barrier Wall	15/8/2020
Closed	Please change the Miltonic's set point page to two decimal places.	Repair	Minet's Point	24/8/2020
Closed	Please have Wallwin change the ATS and generator engine controller. Quote #1920504	Repair	Little Lake	19/10/2020
Closed	Generator combustion air louvers are not working properly. Please investigate and repair. Doug H. has details if needed.	Repair	Little Lake	28/9/2020
Closed	Door Switch not working please repair	Repair	Johnson's Beach	4/9/2020
Closed	Require an electrician for Thursday Sept 10th @ 10am for pump station Little Lake and then Grove. Friday Sept 11th morning (time undecided) for Mooregate pump station. Will be assisting in float level testing and verification.	Project	Pump Stations	10/9/2020
Closed	Float seems to be sinking instead of floating needs to be replaced.	Repair	Pump Stations	23/11/2020
Closed	Install new ladder in the wet well as per code changes	Installation	Little Lake	31/12/2020
Closed	Please check and replace start float.	Repair	Mooregate	13/10/2020
Closed	Replace all floats in the station and set the heights.	Repair	Mooregate	6/10/2020
Closed	Pumps fault and will not run unless they are cleared during a diesel run	Repair	Minet's Point	19/10/2020
Closed	October Item #3 Class C. Hatches stick, lifting, exertion issue. Check loose hinges, fit.	Repair	Little Lake	25/11/2020
Closed	October Item #4 Class C. Hatches stick, lifting, exertion issue. Check alignment.	Repair	Mooregate	25/11/2020
Closed	Replace key switch for pump 1	Repair	Holly	5/11/2020
Closed	Emergency light doesn't work	Repair	Grove St.	23/11/2020

Status	Work Description	Type	Building	Completed Date
Closed	Replace 2 light fixtures above entrance ways to a lower lumen fixture.	Repair	Holly	16/12/2020
Closed	Float will not send signal back to SCADA	Repair	Holly	31/12/2020
Closed	Replace key switch for pump 1	Repair	Holly	5/11/2020

Gravity Collection System

The City of Barrie operates an annual in-situ repair program for the gravity collection system. Repair locations are derived from annual CCTV inspections and issues arising from field operations. Issues are prioritized and repaired to optimize available budget. The locations repaired in 2020 are noted below:

Table 5 In-situ Repairs to Gravity System in 2020

Street Location	Work Orders	Pipe	Action
Nelson Street	57673 54629 54628 57672	200 mm	Deposit Cutting, Root Cutting, CCTV and CIPP Lining
Melrose	57672 58117 58172 58177	200 mm	Root Cutting, CCTV and CIPP Lining
Codrington	58717 57672 57674 58171	250 mm	Deposit Cutting, Root Cutting, CCTV and CIPP Lining
Bowman Ave	57674 58117	200 mm	Deposit Cutting, Root Cutting, CCTV and CIPP Lining
Rose Street	57672 54628 58171	250 mm	Deposit Cutting, CCTV and CIPP Lining
Innisfil St. and Bayfield St.	62641 48190 53245	300 mm	CIPP Repair, Installation of Non-Structural Spot Repair, Filling Voids, Lateral Cutting and Light Cleaning.
Campbell Ave.	58934	200 mm	Deposit Cutting, Root Cutting, CCTV and CIPP Lining

Reporting section 2.6 (3) (c): Maintenance Summary

Pump Stations and Force Mains

In addition to the repairs and modifications cited in sections 2.6 (3) (a) and (b) above, pump stations were inspected 2-3 times per week in 2020 which involved the following preventative maintenance activities:

- Testing, cleaning (if necessary) and inspecting floats for proper operation
- Test wet well alarms
- Check intrusion alarm

- Pumping down the well to clean the well
- Inspecting and recording pump hours for each pump in a pump hour log book.
- Inspecting pump house or cabinet condition (as the case may be)
- Recording backup generator hours (if present) and inspect condition (oil levels, coolant etc.)
- Check all breakers and switches to ensure they are positioned correctly
- Check safety devices (fire extinguisher, eyewash station, emergency lighting etc.)
- Record all findings in the station log book and sign operator's name
- Snow clearing as needed

Less frequent preventative maintenance consisted of (depending on station equipment):

- Bi-weekly generator inspection and exercise
- Quarterly or semi-annual wet well inspection/cleaning
- Safety inspection twice yearly
- Annual generator/transfer switch inspection at load, replenish fluid levels

Gravity Collection System

Sanitary sewer cleaning is undertaken by a City operated flushing crew. The goal is to clean each local sanitary pipe in the City of Barrie every 2 to 3 years. Problem areas, usually in older parts of the City, are put on a weekly flushing list. The weekly flushing program keeps the pipe in working condition until the underlying problem can be addressed as part of our in-situ repair program, or as part of a larger Engineering project.

The following sewers were included in the weekly flushing program for 2020:

Table 6 Gravity Sewers on Weekly Flushing Program in 2020

Sewer ID	Location
SAL03136	Duckworth St.
SAN04142-SAN04141	Wellington St.
SAC07018-SAC07019	Glenwood Dr.
SAI06101-SAI06100	Cundles Rd.
SAC03026-SACC03025	Brookdale Dr.
SAL03034-SAL03032	Sophia St. E.
SAI02017-SAI02016	Sanford St.
SAB01021-SAB0109	Cumberland St.
SAE02001-SAE02002	Innisfil St.
SAE02010-SAE02011	Marcus St.

The City covers the cost of sanitary lateral replacements and critical repairs between the sewer main and homeowners' property lines if the repairs are related to a structural deficiency in the lateral. Misuse of the sewer system resulting in a blockage of the lateral (i.e. disposal of grease down the drain) is the responsibility of the homeowner. The lateral on private property is also still the homeowner's responsibility. Below is a list of properties where laterals were repaired or replaced in 2020.

Table 7 2020 Lateral Repair and Replacement Locations - 2020

Location	Location	Location
130 Innisfil St	60 Sanford St	287 Anne St N
413 Codrington St	68 Springhome Rd	150 Esther Dr
53 Burton Avenue	69 Maplehurst Cres	120 Henry St
45 Burton Avenue	20 Perry St	18 Northpark Rd
617 BBP	18 Perry St	132 Puget St
73 Holgate St	96 Penetang St	284 Innisfil St
95 Marshall St	143 Huronia	9 Nelson Sq E
26 Caroline St	28 Caroline	116 Puget St
99 Shanty Bay Rd	8 Frederick St	111 Copeman Cres
62 Cook St	42 Cumberland St	37 Tower Cres
255 Huronia Rd	353 Duckworth St	108 Livingstone St W
37 Bothwell Cres	17 Howard Cres	32 Downsview Dr
142 Blake St	25 Shannon St	16 Harding Ave
55 Davidson St	72 Clute Cres	5 and 6 Jonathan Crt
24 North Park	53 Davidson St	21 Bowman Ave
183 Wellington St E	58 Campbell Ave	

In addition to the above, the following maintenance was conducted on the gravity collection system in 2020:

Table 8 Other Maintenance on Gravity Sewers in 2020

Work Order	Description	Actual Finish	Address
348727	Boulevard Restoration	03-16-2020	
365466	CCTV Main	06-25-2020	
373583	CCTV Main	09-14-2020	
376354	CCTV Main	09-17-2020	
378133	CCTV Main	09-30-2020	
381843	CCTV Main	11-3-2020	
381952	CCTV Main	11-4-2020	
351110	Check Sanitary Main	03-10-2020	21 GOLDEN MEADOW RD
351186	Check Sanitary Main	03-20-2020	8 BROOKDALE DR
355469	Check Sanitary Main	05-7-2020	WILLIAM ST
348728	Clean Private Main	03-17-2020	
308858	Clean Sanitary Main	04-5-2020	
321304	Clean Sanitary Main	06-23-2020	205 BLAKE ST
337889	Clean Sanitary Main	01-2-2020	
338482	Clean Sanitary Main	01-7-2020	

Work Order	Description	Actual Finish	Address
338491	Clean Sanitary Main	01-3-2020	
339534	Clean Sanitary Main	01-15-2020	
341262	Clean Sanitary Main	01-27-2020	
341306	Clean Sanitary Main	01-28-2020	
341668	Clean Sanitary Main	01-28-2020	
341679	Clean Sanitary Main	01-27-2020	
341680	Clean Sanitary Main	01-15-2020	
341694	Clean Sanitary Main	01-29-2020	
341790	Clean Sanitary Main	01-30-2020	
341976	Clean Sanitary Main	01-31-2020	
342276	Clean Sanitary Main	02-2-2020	
342322	Clean Sanitary Main	02-4-2020	
342371	Clean Sanitary Main	02-4-2020	
343018	Clean Sanitary Main	02-11-2020	
343125	Clean Sanitary Main	02-12-2020	
343200	Clean Sanitary Main	02-13-2020	
343591	Clean Sanitary Main	02-19-2020	
343700	Clean Sanitary Main	02-19-2020	88 Sophia St E
344080	Clean Sanitary Main	03-26-2020	
344210	Clean Sanitary Main	02-25-2020	
347052	Clean Sanitary Main	03-2-2020	
347280	Clean Sanitary Main	03-4-2020	
347518	Clean Sanitary Main	03-6-2020	
347717	Clean Sanitary Main	03-9-2020	
347899	Clean Sanitary Main	03-10-2020	
348107	Clean Sanitary Main	03-11-2020	
348152	Clean Sanitary Main	03-11-2020	
348242	Clean Sanitary Main	03-12-2020	
348498	Clean Sanitary Main	03-16-2020	
348576	Clean Sanitary Main	04-9-2020	
348723	Clean Sanitary Main	03-17-2020	
348795	Clean Sanitary Main	03-17-2020	
348799	Clean Sanitary Main	03-18-2020	
348836	Clean Sanitary Main	03-19-2020	
348874	Clean Sanitary Main	03-20-2020	
348917	Clean Sanitary Main	03-20-2020	
349036	Clean Sanitary Main	03-24-2020	
349043	Clean Sanitary Main	03-23-2020	
349134	Clean Sanitary Main	03-23-2020	
349201	Clean Sanitary Main	03-24-2020	
349202	Clean Sanitary Main	04-7-2020	
349203	Clean Sanitary Main	04-8-2020	
349204	Clean Sanitary Main	03-24-2020	
349205	Clean Sanitary Main	03-24-2020	
349206	Clean Sanitary Main	03-24-2020	

Work Order	Description	Actual Finish	Address
349207	Clean Sanitary Main	03-26-2020	
349208	Clean Sanitary Main	03-24-2020	
349209	Clean Sanitary Main	03-24-2020	
349612	Clean Sanitary Main	03-25-2020	
349613	Clean Sanitary Main	03-31-2020	
349615	Clean Sanitary Main	04-1-2020	
349616	Clean Sanitary Main	04-6-2020	
349617	Clean Sanitary Main	04-2-2020	
349618	Clean Sanitary Main	03-27-2020	
349619	Clean Sanitary Main	03-30-2020	
349620	Clean Sanitary Main	03-31-2020	
349621	Clean Sanitary Main	04-1-2020	
349622	Clean Sanitary Main	03-30-2020	
349623	Clean Sanitary Main	04-3-2020	
350558	Clean Sanitary Main	04-6-2020	
350568	Clean Sanitary Main	04-6-2020	
350569	Clean Sanitary Main	04-7-2020	
350570	Clean Sanitary Main	04-8-2020	
350571	Clean Sanitary Main	04-9-2020	
350572	Clean Sanitary Main	04-6-2020	
350573	Clean Sanitary Main	04-6-2020	
350575	Clean Sanitary Main	04-6-2020	
350577	Clean Sanitary Main	04-6-2020	
351277	Clean Sanitary Main	03-16-2020	29 DAVIDSON ST
352656	Clean Sanitary Main		
352776	Clean Sanitary Main		
352777	Clean Sanitary Main		
353269	Clean Sanitary Main		
353270	Clean Sanitary Main		
370649	Clean Sanitary Main	04-6-2020	
377772	Clean Sanitary Main	09-29-2020	73 Bernick Drive
378223	Clean Sanitary Main	10-5-2020	
385630	Clean Sanitary Main	11-30-2020	
388773	Clean Sanitary Main	12-24-2020	
353939	Clean Sanitary Main - Master	04-28-2020	
354084	Clean Sanitary Main - Master	04-29-2020	
354087	Clean Sanitary Main - Master	04-29-2020	
354397	Clean Sanitary Main - Master	05-1-2020	
354599	Clean Sanitary Main - Master	05-1-2020	
354944	Clean Sanitary Main - Master	05-5-2020	
354947	Clean Sanitary Main - Master	05-5-2020	
355231	Clean Sanitary Main - Master	05-6-2020	
355404	Clean Sanitary Main - Master	05-7-2020	
355407	Clean Sanitary Main - Master	05-14-2020	
355541	Clean Sanitary Main - Master	05-8-2020	

Work Order	Description	Actual Finish	Address
355544	Clean Sanitary Main - Master	05-8-2020	
356029	Clean Sanitary Main - Master	05-12-2020	
356212	Clean Sanitary Main - Master	05-13-2020	
356277	Clean Sanitary Main - Master	05-14-2020	
356285	Clean Sanitary Main - Master	06-16-2020	
356728	Clean Sanitary Main - Master	05-15-2020	
357485	Clean Sanitary Main - Master	05-19-2020	
357670	Clean Sanitary Main - Master	05-20-2020	
358775	Clean Sanitary Main - Master	05-21-2020	
360161	Clean Sanitary Main - Master	05-22-2020	
360406	Clean Sanitary Main - Master	05-25-2020	
360545	Clean Sanitary Main - Master	05-26-2020	
360720	Clean Sanitary Main - Master	05-27-2020	
361856	Clean Sanitary Main - Master	06-1-2020	
361963	Clean Sanitary Main - Master	06-2-2020	
361988	Clean Sanitary Main - Master	06-2-2020	
362226	Clean Sanitary Main - Master	06-3-2020	
362229	Clean Sanitary Main - Master	06-3-2020	
362505	Clean Sanitary Main - Master	06-4-2020	
362742	Clean Sanitary Main - Master	06-5-2020	
363083	Clean Sanitary Main - Master	06-8-2020	
363087	Clean Sanitary Main - Master	06-8-2020	90 Burton.
363346	Clean Sanitary Main - Master	06-9-2020	
363475	Clean Sanitary Main - Master	06-11-2020	
363478	Clean Sanitary Main - Master	06-10-2020	
363700	Clean Sanitary Main - Master	06-11-2020	
363703	Clean Sanitary Main - Master	06-11-2020	
363871	Clean Sanitary Main - Master	06-12-2020	
364223	Clean Sanitary Main - Master	06-16-2020	
364442	Clean Sanitary Main - Master	06-16-2020	
364639	Clean Sanitary Main - Master	06-17-2020	
364778	Clean Sanitary Main - Master	06-18-2020	
364782	Clean Sanitary Main - Master	06-18-2020	
364972	Clean Sanitary Main - Master	06-22-2020	
364979	Clean Sanitary Main - Master	06-22-2020	
365463	Clean Sanitary Main - Master	06-23-2020	
365650	Clean Sanitary Main - Master	06-24-2020	
365771	Clean Sanitary Main - Master	06-25-2020	
365774	Clean Sanitary Main - Master	06-25-2020	
366035	Clean Sanitary Main - Master	06-29-2020	
366278	Clean Sanitary Main - Master	06-30-2020	
366778	Clean Sanitary Main - Master	07-6-2020	
367259	Clean Sanitary Main - Master	07-7-2020	
367352	Clean Sanitary Main - Master	07-8-2020	
367838	Clean Sanitary Main - Master	07-13-2020	

Work Order	Description	Actual Finish	Address
368106	Clean Sanitary Main - Master	07-14-2020	
368264	Clean Sanitary Main - Master	07-15-2020	
368563	Clean Sanitary Main - Master	07-20-2020	
368625	Clean Sanitary Main - Master	07-21-2020	
368968	Clean Sanitary Main - Master	07-22-2020	
369101	Clean Sanitary Main - Master	07-23-2020	
369687	Clean Sanitary Main - Master	07-28-2020	
369861	Clean Sanitary Main - Master	07-29-2020	
369964	Clean Sanitary Main - Master	08-4-2020	
371066	Clean Sanitary Main - Master	08-13-2020	
371413	Clean Sanitary Main - Master	08-12-2020	
371497	Clean Sanitary Main - Master	08-14-2020	
371868	Clean Sanitary Main - Master	08-27-2020	
371871	Clean Sanitary Main - Master	08-17-2020	
371997	Clean Sanitary Main - Master	08-18-2020	
372124	Clean Sanitary Main - Master	08-19-2020	
372505	Clean Sanitary Main - Master	08-23-2020	
372999	Clean Sanitary Main - Master	08-25-2020	
373325	Clean Sanitary Main - Master	08-27-2020	
374023	Clean Sanitary Main - Master	09-1-2020	
374122	Clean Sanitary Main - Master	09-1-2020	
374281	Clean Sanitary Main - Master	09-2-2020	
374405	Clean Sanitary Main - Master	09-3-2020	
374959	Clean Sanitary Main - Master	09-8-2020	
375118	Clean Sanitary Main - Master	09-9-2020	
375413	Clean Sanitary Main - Master	09-11-2020	
375515	Clean Sanitary Main - Master	09-12-2020	
375818	Clean Sanitary Main - Master	09-14-2020	
376050	Clean Sanitary Main - Master	09-15-2020	
376255	Clean Sanitary Main - Master	09-16-2020	
376894	Clean Sanitary Main - Master	09-23-2020	
376995	Clean Sanitary Main - Master	09-23-2020	
377701	Clean Sanitary Main - Master	09-29-2020	
377931	Clean Sanitary Main - Master	10-1-2020	
378468	Clean Sanitary Main - Master	10-2-2020	
378621	Clean Sanitary Main - Master	10-5-2020	
378685	Clean Sanitary Main - Master	10-6-2020	
378688	Clean Sanitary Main - Master	10-6-2020	
378848	Clean Sanitary Main - Master	10-7-2020	
378851	Clean Sanitary Main - Master	10-8-2020	
379136	Clean Sanitary Main - Master	10-10-2020	
379433	Clean Sanitary Main - Master	10-13-2020	
379556	Clean Sanitary Main - Master	10-14-2020	
379777	Clean Sanitary Main - Master	10-15-2020	
380163	Clean Sanitary Main - Master	10-20-2020	

Work Order	Description	Actual Finish	Address
380271	Clean Sanitary Main - Master	10-20-2020	
380583	Clean Sanitary Main - Master	10-22-2020	
380946	Clean Sanitary Main - Master	10-26-2020	
381084	Clean Sanitary Main - Master	10-27-2020	
381193	Clean Sanitary Main - Master	10-28-2020	
381303	Clean Sanitary Main - Master	10-29-2020	
382015	Clean Sanitary Main - Master	11-4-2020	
382415	Clean Sanitary Main - Master	11-9-2020	
382715	Clean Sanitary Main - Master	11-11-2020	
383289	Clean Sanitary Main - Master	11-16-2020	
386558	Clean Sanitary Main - Master	12-7-2020	
387236	Clean Sanitary Main - Master	12-10-2020	
339202	Clear Blocked Sanitary Main	01-4-2020	
339203	Clear Blocked Sanitary Main	01-3-2020	7 Weldon Cr
349607	Clear Blocked Sanitary Main	03-26-2020	15 MORROW RD
340210	Clear Debris/Obstruction in Maintenance Hole	01-21-2020	
362426	Clear Debris/Obstruction in Maintenance Hole	06-3-2020	
372000	Clear Debris/Obstruction in Maintenance Hole	08-18-2020	
382138	Clear Debris/Obstruction in Maintenance Hole	11-5-2020	336 Saunders Road
382517	Clear Debris/Obstruction in Maintenance Hole	11-9-2020	134, 159 Collier
382778	Clear Debris/Obstruction in Maintenance Hole	11-13-202	
367356	Easement Maintenance Hole Inspection	07-20-2020	
367841	Easement Maintenance Hole Inspection	07-20-2020	
368267	Easement Maintenance Hole Inspection	07-15-2020	
368629	Easement Maintenance Hole Inspection	08-4-2020	
369619	Easement Maintenance Hole Inspection	07-28-2020	
369864	Easement Maintenance Hole Inspection	08-4-2020	
369963	Easement Maintenance Hole Inspection	07-30-202	
374284	Easement Maintenance Hole Inspection	09-4-2020	
375121	Easement Maintenance Hole Inspection	09-9-2020	
384449	Grit Bin - Clean out	11-20-2020	
384450	Grit Bin - Clean out	11-20-2020	
340560	Inspection for Contracted Repairs	01-21-2020	

Work Order	Description	Actual Finish	Address
344096	Inspection for Contracted Repairs	02-24-2020	
348153	Inspection for Contracted Repairs	03-11-2020	
375821	Investigate Blocked Lateral	09-14-2020	
353941	Maintenance Hole - Atmospheric Testing	04-28-2020	
354085	Maintenance Hole - Atmospheric Testing	04-29-2020	
354088	Maintenance Hole - Atmospheric Testing	04-30-2020	
354600	Maintenance Hole - Atmospheric Testing	05-1-2020	
354945	Maintenance Hole - Atmospheric Testing	05-6-2020	
354948	Maintenance Hole - Atmospheric Testing	05-5-202	
355232	Maintenance Hole - Atmospheric Testing	05-6-2020	
355405	Maintenance Hole - Atmospheric Testing	05-7-2020	
355408	Maintenance Hole - Atmospheric Testing	05-7-2020	
355542	Maintenance Hole - Atmospheric Testing	05-8-2020	
355545	Maintenance Hole - Atmospheric Testing	05-12-2020	
356031	Maintenance Hole - Atmospheric Testing	05-12-2020	
356213	Maintenance Hole - Atmospheric Testing	05-13-2020	
356278	Maintenance Hole - Atmospheric Testing	05-14-2020	
356729	Maintenance Hole - Atmospheric Testing	06-2-2020	
357486	Maintenance Hole - Atmospheric Testing	05-19-2020	
357671	Maintenance Hole - Atmospheric Testing	05-20-2020	
358776	Maintenance Hole - Atmospheric Testing	05-21-2020	
360162	Maintenance Hole - Atmospheric Testing	06-16-2020	
360407	Maintenance Hole - Atmospheric Testing	05-25-2020	
360546	Maintenance Hole - Atmospheric Testing	05-26-2020	
360721	Maintenance Hole - Atmospheric Testing	05-27-2020	
360932	Maintenance Hole - Atmospheric Testing	05-28-2020	

Work Order	Description	Actual Finish	Address
361857	Maintenance Hole - Atmospheric Testing	06-1-2020	
361964	Maintenance Hole - Atmospheric Testing	06-2-2020	
361990	Maintenance Hole - Atmospheric Testing	06-2-2020	
362227	Maintenance Hole - Atmospheric Testing	06-3-2020	
362230	Maintenance Hole - Atmospheric Testing	06-3-2020	
362506	Maintenance Hole - Atmospheric Testing	06-4-2020	
362743	Maintenance Hole - Atmospheric Testing	06-5-2020	
363084	Maintenance Hole - Atmospheric Testing	06-8-2020	
363347	Maintenance Hole - Atmospheric Testing	06-9-2020	
363476	Maintenance Hole - Atmospheric Testing	06-10-2020	
363701	Maintenance Hole - Atmospheric Testing	06-11-2020	
363704	Maintenance Hole - Atmospheric Testing	06-16-2020	
363872	Maintenance Hole - Atmospheric Testing	06-12-2020	
363875	Maintenance Hole - Atmospheric Testing	06-16-2020	
364224	Maintenance Hole - Atmospheric Testing	06-15-2020	
364443	Maintenance Hole - Atmospheric Testing	06-17-2020	
364640	Maintenance Hole - Atmospheric Testing	06-17-2020	
364779	Maintenance Hole - Atmospheric Testing	06-18-2020	
364783	Maintenance Hole - Atmospheric Testing	06-18-2020	
364973	Maintenance Hole - Atmospheric Testing	06-19-2020	
364977	Maintenance Hole - Atmospheric Testing	06-22-2020	
364980	Maintenance Hole - Atmospheric Testing	06-19-2020 11:53	
365464	Maintenance Hole - Atmospheric Testing	06-23-2020 02:04	
365651	Maintenance Hole - Atmospheric Testing	06-24-2020	
365772	Maintenance Hole - Atmospheric Testing	06-25-202	

Work Order	Description	Actual Finish	Address
365900	Maintenance Hole - Atmospheric Testing	06-26-2020	
366038	Maintenance Hole - Atmospheric Testing	06-29-2020	
366279	Maintenance Hole - Atmospheric Testing	06-30-2020	
366564	Maintenance Hole - Atmospheric Testing	07-3-2020	
366779	Maintenance Hole - Atmospheric Testing	07-6-2020	
367260	Maintenance Hole - Atmospheric Testing	07-7-2020	
367353	Maintenance Hole - Atmospheric Testing	07-10-2020	
367670	Maintenance Hole - Atmospheric Testing	07-10-2020	
367839	Maintenance Hole - Atmospheric Testing	07-13-2020	
368107	Maintenance Hole - Atmospheric Testing	07-14-2020	
368265	Maintenance Hole - Atmospheric Testing	07-15-2020	
368338	Maintenance Hole - Atmospheric Testing	07-16-2020	
368564	Maintenance Hole - Atmospheric Testing	07-21-2020	
368627	Maintenance Hole - Atmospheric Testing	07-21-2020	
368969	Maintenance Hole - Atmospheric Testing	07-22-2020	
369102	Maintenance Hole - Atmospheric Testing	07-23-2020	
369286	Maintenance Hole - Atmospheric Testing	07-24-2020	
369688	Maintenance Hole - Atmospheric Testing	07-28-2020	
369862	Maintenance Hole - Atmospheric Testing	07-29-2020	
369966	Maintenance Hole - Atmospheric Testing	08-12-2020	
370048	Maintenance Hole - Atmospheric Testing	07-31-2020	
371068	Maintenance Hole - Atmospheric Testing	08-12-2020	
371415	Maintenance Hole - Atmospheric Testing	08-12-2020	
371498	Maintenance Hole - Atmospheric Testing	08-13-2020	
371671	Maintenance Hole - Atmospheric Testing	08-14-2020	

Work Order	Description	Actual Finish	Address
371869	Maintenance Hole - Atmospheric Testing	08-27-2020	
371872	Maintenance Hole - Atmospheric Testing	08-17-2020	
371998	Maintenance Hole - Atmospheric Testing	08-18-2020	
372125	Maintenance Hole - Atmospheric Testing	08-19-2020	
372306	Maintenance Hole - Atmospheric Testing	08-20-2020	
373000	Maintenance Hole - Atmospheric Testing	08-27-2020	
373326	Maintenance Hole - Atmospheric Testing	08-27-2020	
373581	Maintenance Hole - Atmospheric Testing	09-29-2020	
374025	Maintenance Hole - Atmospheric Testing	08-31-2020	
374123	Maintenance Hole - Atmospheric Testing	09-1-2020	
374282	Maintenance Hole - Atmospheric Testing	09-2-2020	
374406	Maintenance Hole - Atmospheric Testing	09-3-2020	
374546	Maintenance Hole - Atmospheric Testing	09-4-2020	
374960	Maintenance Hole - Atmospheric Testing	09-8-2020	
375119	Maintenance Hole - Atmospheric Testing	09-9-2020	
375414	Maintenance Hole - Atmospheric Testing	09-10-2020	
375516	Maintenance Hole - Atmospheric Testing	09-14-2020	
375819	Maintenance Hole - Atmospheric Testing	09-14-2020	
376051	Maintenance Hole - Atmospheric Testing	09-15-2020	
376281	Maintenance Hole - Atmospheric Testing	09-16-2020	
376351	Maintenance Hole - Atmospheric Testing	09-18-2020	
376895	Maintenance Hole - Atmospheric Testing	09-23-2020	
376996	Maintenance Hole - Atmospheric Testing	09-24-2020	
377299	Maintenance Hole - Atmospheric Testing	09-25-2020	
377702	Maintenance Hole - Atmospheric Testing	09-29-2020	

Work Order	Description	Actual Finish	Address
377932	Maintenance Hole - Atmospheric Testing	10-5-2020	
378470	Maintenance Hole - Atmospheric Testing	10-7-2020	
378622	Maintenance Hole - Atmospheric Testing	10-5-2020	
378686	Maintenance Hole - Atmospheric Testing	10-6-2020	
378849	Maintenance Hole - Atmospheric Testing		
378852	Maintenance Hole - Atmospheric Testing	10-7-2020	
379434	Maintenance Hole - Atmospheric Testing	10-13-2020	
379560	Maintenance Hole - Atmospheric Testing	10-15-2020	
379778	Maintenance Hole - Atmospheric Testing	10-15-202	
379922	Maintenance Hole - Atmospheric Testing	10-16-2020	
380164	Maintenance Hole - Atmospheric Testing	10-20-2020	
380272	Maintenance Hole - Atmospheric Testing	10-20-2020	
380584	Maintenance Hole - Atmospheric Testing	10-22-2020	
380841	Maintenance Hole - Atmospheric Testing	11-16-2020	
380947	Maintenance Hole - Atmospheric Testing	10-27-2020	
381085	Maintenance Hole - Atmospheric Testing	10-27-2020	
381194	Maintenance Hole - Atmospheric Testing	10-29-2020	
381304	Maintenance Hole - Atmospheric Testing	10-29-2020	
382016	Maintenance Hole - Atmospheric Testing	11-4-2020	
382133	Maintenance Hole - Atmospheric Testing	11-9-2020	
382417	Maintenance Hole - Atmospheric Testing	11-10-2020	
382717	Maintenance Hole - Atmospheric Testing	11-11-2020	
383290	Maintenance Hole - Atmospheric Testing	11-16-2020	
383717	Maintenance Hole - Atmospheric Testing	11-19-2020	
385185	Maintenance Hole - Atmospheric Testing	11-26-2020	

Work Order	Description	Actual Finish	Address
385629	Maintenance Hole - Atmospheric Testing	11-30-2020	
385631	Maintenance Hole - Atmospheric Testing	11-30-2020	
386190	Maintenance Hole - Atmospheric Testing	12-3-2020	
386559	Maintenance Hole - Atmospheric Testing	12-7-2020	
387238	Maintenance Hole - Atmospheric Testing	12-10-2020	
343126	Maintenance Hole - Inspection	02-12-2020	
351185	Maintenance Hole - Inspection	01-27-2020	
353942	Maintenance Hole - Inspection	04-28-2020	
354086	Maintenance Hole - Inspection	04-29-2020	
354089	Maintenance Hole - Inspection	04-29-2020	
354601	Maintenance Hole - Inspection	05-1-2020	
354946	Maintenance Hole - Inspection	05-5-2020	
354949	Maintenance Hole - Inspection	05-5-2020	
355233	Maintenance Hole - Inspection	05-6-2020	
355406	Maintenance Hole - Inspection	05-7-2020	
355409	Maintenance Hole - Inspection	05-8-2020	
355543	Maintenance Hole - Inspection	05-8-2020	
356032	Maintenance Hole - Inspection	05-12-2020	
356214	Maintenance Hole - Inspection	05-13-2020	
356279	Maintenance Hole - Inspection	05-14-2020	
356286	Maintenance Hole - Inspection	05-15-2020	
356730	Maintenance Hole - Inspection	05-15-2020	
357487	Maintenance Hole - Inspection	05-19-2020	
357672	Maintenance Hole - Inspection	05-20-2020	
358777	Maintenance Hole - Inspection	05-21-2020	
360163	Maintenance Hole - Inspection	05-25-2020	
360359	Maintenance Hole - Inspection	06-11-2020	
360408	Maintenance Hole - Inspection	05-25-2020	
360547	Maintenance Hole - Inspection	05-26-2020	
360722	Maintenance Hole - Inspection	05-27-2020	
360933	Maintenance Hole - Inspection	05-28-2020	
361858	Maintenance Hole - Inspection	06-1-2020	
361965	Maintenance Hole - Inspection	06-2-2020	
361991	Maintenance Hole - Inspection	06-2-2020	
362228	Maintenance Hole - Inspection	06-3-2020	
362231	Maintenance Hole - Inspection	06-3-2020	
362507	Maintenance Hole - Inspection	06-4-2020	
362741	Maintenance Hole - Inspection		
362745	Maintenance Hole - Inspection	06-5-2020	
363085	Maintenance Hole - Inspection	06-8-2020	
363092	Maintenance Hole - Inspection	06-10-2020	

Work Order	Description	Actual Finish	Address
363348	Maintenance Hole - Inspection	06-10-2020	
363477	Maintenance Hole - Inspection	06-10-2020	
363480	Maintenance Hole - Inspection	06-11-2020	
363702	Maintenance Hole - Inspection	06-11-2020	
363705	Maintenance Hole - Inspection	06-15-2020	
363873	Maintenance Hole - Inspection	06-12-2020	
363876	Maintenance Hole - Inspection	06-15-2020	
364225	Maintenance Hole - Inspection	06-15-2020	
364444	Maintenance Hole - Inspection	06-16-2020	
364659	Maintenance Hole - Inspection	06-17-2020	
364780	Maintenance Hole - Inspection	06-18-2020	
364784	Maintenance Hole - Inspection	06-18-2020	
364975	Maintenance Hole - Inspection	06-19-2020	
364978	Maintenance Hole - Inspection	06-19-2020	
364981	Maintenance Hole - Inspection	06-19-2020	
365465	Maintenance Hole - Inspection	06-23-2020	
365652	Maintenance Hole - Inspection	06-24-2020	
365773	Maintenance Hole - Inspection	06-25-2020	
365775	Maintenance Hole - Inspection	06-25-2020	
365776	Maintenance Hole - Inspection	06-26-2020	
365902	Maintenance Hole - Inspection	06-26-2020	
366041	Maintenance Hole - Inspection	06-29-2020	
366280	Maintenance Hole - Inspection	06-30-2020	
366565	Maintenance Hole - Inspection	07-3-2020	
366780	Maintenance Hole - Inspection	07-6-2020	
367261	Maintenance Hole - Inspection	07-8-2020	
367355	Maintenance Hole - Inspection	07-9-2020	
367672	Maintenance Hole - Inspection	07-10-2020	
367840	Maintenance Hole - Inspection	07-13-2020	
368108	Maintenance Hole - Inspection	07-14-2020	
368266	Maintenance Hole - Inspection	07-15-2020	
368565	Maintenance Hole - Inspection	07-20-2020	
368628	Maintenance Hole - Inspection	07-21-2020	
368970	Maintenance Hole - Inspection	07-22-2020	
369104	Maintenance Hole - Inspection	07-24-2020	
369288	Maintenance Hole - Inspection	07-24-2020	
369689	Maintenance Hole - Inspection	07-28-2020	
369863	Maintenance Hole - Inspection	07-29-2020	
369965	Maintenance Hole - Inspection	07-30-2020	
370049	Maintenance Hole - Inspection	08-12-2020	
371070	Maintenance Hole - Inspection	08-11-2020	
371416	Maintenance Hole - Inspection	08-12-2020	
371499	Maintenance Hole - Inspection	08-13-2020	
371672	Maintenance Hole - Inspection	08-14-2020	
371870	Maintenance Hole - Inspection	08-18-2020	

Work Order	Description	Actual Finish	Address
371873	Maintenance Hole - Inspection	08-17-2020	
371999	Maintenance Hole - Inspection	08-18-2020	
372126	Maintenance Hole - Inspection	08-19-2020	
372506	Maintenance Hole - Inspection	08-21-2020	
372507	Maintenance Hole - Inspection	08-23-2020	
373001	Maintenance Hole - Inspection	08-25-2020	
373327	Maintenance Hole - Inspection	08-27-2020	
373582	Maintenance Hole - Inspection	08-31-2020	
374024	Maintenance Hole - Inspection		
374124	Maintenance Hole - Inspection	09-2-2020	
374283	Maintenance Hole - Inspection	09-2-2020	
374407	Maintenance Hole - Inspection	09-3-2020	
374547	Maintenance Hole - Inspection	09-4-2020	
374962	Maintenance Hole - Inspection	09-8-2020	
375120	Maintenance Hole - Inspection	09-9-2020	
375415	Maintenance Hole - Inspection	09-10-2020	
375517	Maintenance Hole - Inspection	09-17-2020	
375820	Maintenance Hole - Inspection	09-15-202	
376052	Maintenance Hole - Inspection	09-15-2020	
376282	Maintenance Hole - Inspection	09-16-2020	
376352	Maintenance Hole - Inspection	09-19-2020	
376896	Maintenance Hole - Inspection	09-23-2020	
376997	Maintenance Hole - Inspection	09-24-2020	
377300	Maintenance Hole - Inspection	09-29-2020	
377703	Maintenance Hole - Inspection	09-29-2020	
377933	Maintenance Hole - Inspection	10-2-2020	
378469	Maintenance Hole - Inspection	10-5-2020	
378623	Maintenance Hole - Inspection	10-6-2020	
378687	Maintenance Hole - Inspection	10-6-2020	
378691	Maintenance Hole - Inspection	10-6-2020	
378850	Maintenance Hole - Inspection	10-7-2020	
378853	Maintenance Hole - Inspection	10-7-2020	
379138	Maintenance Hole - Inspection	10-9-2020	
379435	Maintenance Hole - Inspection	10-13-2020	
379557	Maintenance Hole - Inspection	10-14-2020	
379779	Maintenance Hole - Inspection	10-15-2020	
379923	Maintenance Hole - Inspection	10-16-2020	
380165	Maintenance Hole - Inspection	10-20-2020	
380273	Maintenance Hole - Inspection	10-20-2020	
380585	Maintenance Hole - Inspection	10-22-2020	
380843	Maintenance Hole - Inspection	10-23-2020	
380948	Maintenance Hole - Inspection	10-26-2020	
381086	Maintenance Hole - Inspection	10-27-2020	
381195	Maintenance Hole - Inspection	10-29-2020	
381305	Maintenance Hole - Inspection	10-29-2020	

Work Order	Description	Actual Finish	Address
382017	Maintenance Hole - Inspection	11-4-2020	
382134	Maintenance Hole - Inspection	11-5-2020	
382418	Maintenance Hole - Inspection	11-10-2020	
382716	Maintenance Hole - Inspection	11-11-2020	
383291	Maintenance Hole - Inspection	11-16-2020	
383718	Maintenance Hole - Inspection	11-24-2020	
385186	Maintenance Hole - Inspection	11-26-2020	
385628	Maintenance Hole - Inspection	11-30-2020	
385632	Maintenance Hole - Inspection	11-30-2020	
386191	Maintenance Hole - Inspection	12-3-2020	
386560	Maintenance Hole - Inspection	12-7-2020	
387237	Maintenance Hole - Inspection	12-10-2020	
388496	Maintenance Hole - Inspection	12-23-2020	
356073	Repair/Replace Sanitary Main		ISOBEL ST
365467	Repair/Replace Sanitary Main	06-22-2020	30 COLLETE CRES
371634	Repair/Replace Sanitary Main	03-23-2020	16 HOLGATE ST
347334	Replace Lid and Frame	03-4-2020	
348433	Replace Lid and Frame	03-13-2020	
353368	Sanitary Maintenance Hole Repair	06-30-2020	4 Ryan Crt
354568	Sanitary Maintenance Hole Repair		
366560	Sanitary Maintenance Hole Repair	07-3-2020	123 CLAPPERTON ST
366561	Sanitary Maintenance Hole Repair	07-3-2020	17 HEATH ST
380113	Sanitary Maintenance Hole Repair	10-19-2020	
382853	Sanitary Maintenance Hole Repair	11-12-2020	33 BOTHWELL CRES
388134	Sanitary Maintenance Hole Repair		
355435	Sanitary Maintenance Hole Repair - Contractor	07-27-2020	438 BIG BAY POINT RD
355896	Sanitary Maintenance Hole Repair - Contractor	07-27-2020	440 BIG BAY POINT RD
355897	Sanitary Maintenance Hole Repair - Contractor	07-27-2020	440 BIG BAY POINT RD
367504	Trace Lateral (Utility Locate)	07-7-2020	111 COPEMAN CRES
368340	Trace Lateral (Utility Locate)	07-21-2020	108 LIVINGSTONE ST W
375034	Trace Lateral (Utility Locate)	09-8-2020	96 PENETANG ST
337986	Video Lateral	01-3-2020	4 Jonathan Crt
338872	Video Lateral	01-10-2020	4 Jonathan Crt
339279	Video Lateral	01-13-2020	27 MARCUS ST
343099	Video Lateral	02-11-2020	
343100	Video Lateral	02-11-2020	1 CAMPBELL AVE
343188	Video Lateral	02-12-2020	215 MARY ANNE DR

Work Order	Description	Actual Finish	Address
343737	Video Lateral	02-9-2020	88 Sophia St E
343791	Video Lateral	02-20-2020	24 North Park @ 0900
344117	Video Lateral	02-24-2020	113 Strabane @ 1300 hrs
347063	Video Lateral	03-3-2020	132 Puget
360635	Video Lateral		18 MELINDA CRES
366286	Video Lateral	06-26-2020	87 GARDEN DR
373464	Video Lateral	08-27-2020	20 Perry St
374963	Video Lateral	09-9-2020	143 Huronia Rd
375199	Video Lateral	09-9-2020	10 BELLEVUE CRES
337977	Weekly Cleaning of Sanitary Main	01-3-2020	
338859	Weekly Cleaning of Sanitary Main	01-10-2020	
339484	Weekly Cleaning of Sanitary Main	01-16-2020	
342066	Weekly Cleaning of Sanitary Main	02-2-2020	
342979	Weekly Cleaning of Sanitary Main	02-10-2020	
343421	Weekly Cleaning of Sanitary Main	02-18-2020	
344146	Weekly Cleaning of Sanitary Main	02-25-2020	
347347	Weekly Cleaning of Sanitary Main	03-5-2020	
348831	Weekly Cleaning of Sanitary Main	03-18-2020	
349624	Weekly Cleaning of Sanitary Main	03-26-2020	
352294	Weekly Cleaning of Sanitary Main		
354117	Weekly Cleaning of Sanitary Main	04-24-2020	
360931	Weekly Cleaning of Sanitary Main	05-28-2020	
362740	Weekly Cleaning of Sanitary Main	06-5-2020	
363874	Weekly Cleaning of Sanitary Main	06-12-2020	
364976	Weekly Cleaning of Sanitary Main	06-22-2020	
365899	Weekly Cleaning of Sanitary Main	06-26-2020	
366563	Weekly Cleaning of Sanitary Main	07-3-2020	
367669	Weekly Cleaning of Sanitary Main	07-10-2020	
368337	Weekly Cleaning of Sanitary Main	07-16-2020	

Work Order	Description	Actual Finish	Address
369285	Weekly Cleaning of Sanitary Main	07-24-2020	
370047	Weekly Cleaning of Sanitary Main	07-31-2020	
371670	Weekly Cleaning of Sanitary Main	08-14-2020	
372305	Weekly Cleaning of Sanitary Main	08-20-2020	
373580	Weekly Cleaning of Sanitary Main	08-30-2020	
374545	Weekly Cleaning of Sanitary Main	09-4-2020	
376349	Weekly Cleaning of Sanitary Main	09-18-2020	
377298	Weekly Cleaning of Sanitary Main	09-28-2020	
378678	Weekly Cleaning of Sanitary Main	10-5-2020	
379921	Weekly Cleaning of Sanitary Main	10-16-2020	
380840	Weekly Cleaning of Sanitary Main	10-25-2020	
382132	Weekly Cleaning of Sanitary Main	11-5-2020	
383716	Weekly Cleaning of Sanitary Main	11-19-2020	
385184	Weekly Cleaning of Sanitary Main	11-26-2020	
386189	Weekly Cleaning of Sanitary Main	12-3-2020	
388490	Weekly Cleaning of Sanitary Main	12-21-2020	
388491	Weekly Cleaning of Sanitary Main	12-21-2020	
388494	Weekly Cleaning of Sanitary Main	12-21-2020	

Reporting section 2.6 (3) (d): Summary of Calibration and Maintenance Program

This section summarizes calibration and maintenance on all monitoring equipment.

Pump Stations and Force Mains

Flow meter verifications were conducted in in October by Indus Controls as follows:

Table 9 2020 Flow Meter Verifications

Tag ID	Description	Serial No.	Flow Range	Mfr	Result	Date
PSBW_FIT100	Barrier Wall PS (West) 217 Dunlop St	A0133714	13.6 m ³ /h	Krohne	Passed	Oct. 29
PSMO_FIT200	Moorgate PS 300 Kozlov St.	F7013916000	360 m ³ /hr	E+H	Passed	Oct. 29
PSHO_FIT100	Holly PS 65 Logan Cr.	3K6720182909 56	400.90 l/s	ABB	Passed	Oct. 30
PSHO_FIT200	Holly PS 65 Logan Cr	3K6720182909 58	400.90 l/s	ABB	Passed	Oct. 30
PSMO_FIT201	Moorgate PS Discharge	F7015916000	360 m ³ /h	E+H	Passed	Oct. 29
PSSP_FIT100	Splash Pond PS 5 Lakeshore Dr	E60EC616000	90 m ³ /h	E+H	Passed	Oct. 29
PSTD_FIT100	Tyndale Park PS 45 Tyndale Rd	F31BE719000	68.1 m ³ /h	E+H	Passed	Oct. 29
PSLL_FIT100	Little Lake PS 510 Duckworth	J30B8416000	500 m ³ /h	E+H	Passed	Oct. 15

Gravity Collection System

The City of Barrie does not maintain any monitoring equipment in the gravity collection system at this time. For the flow monitoring described above in Table 3 of Section 2.6 (3) (a), calibration of the flow monitoring equipment was the responsibility of the City's consultant in accordance with the contract terms.

Reporting section 2.6 (3) (e): Summary of Complaints and Responses

Pump Stations and Force Mains

Verbal complaints were received in 2020 regarding Holly SPS; nearly all of which were related to construction, construction noise, construction vibration (when compacting granular base prior to pavement), and the height of the roof which is blocking the neighbours', north of the station, view of County Road 27 going south. The construction vibration complaint was addressed by reducing the vibration of the compactor. Another such complaint had to do with the light fixtures over the access doors (both east and south doors). This was addressed with the replacement of the fixtures with similar make fixtures that have a softer colour (3000K vs 5000K design).

Gravity Collection System

The City uses the Cityworks (computerized maintenance management system) to track all internal and external service requests as well as work orders generated from service requests. During the 2020 calendar year, the City of Barrie received 194 service requests related to the gravity collection system. They are broken down into the following categories and compared to 2019 data in Table 10:

Table 10 Service Request Summary

Type of Service Request	Number of Requests	
	2019	2020
Miscellaneous Service Requests	9	10
Sanitary Lateral Problems	42	51
Sewer back up in basement	110	102
Sewer Smell	8	10
Maintenance Hole Cover off	10	11
Maintenance Hole Overflow	4	4
Maintenance Hole Sunken	10	6

All Service requests are investigated in the field by City of Barrie Staff and work is addressed as necessary. Below is a complete list of the service requests received by the City in 2020:

Table 11 2020 Service Request Details

Request ID	Date/Time	Comments
75600	01-27-2020 11:15	Maintenance Hole Cover Off
76115	02-14-2020 10:15	Maintenance Hole Cover Off
78979	06-5-2020 11:31	Maintenance Hole Cover Off
79908	06-19-2020 11:08	Maintenance Hole Cover Off
84427	08-4-2020 10:56	Maintenance Hole Cover Off
84462	08-4-2020 03:00	Maintenance Hole Cover Off
86063	09-1-2020 04:30	Maintenance Hole Cover Off
86725	09-17-2020 11:23	Maintenance Hole Cover Off
89197	11-26-2020 09:43	Maintenance Hole Cover Off
89510	12-8-2020 10:00	Maintenance Hole Cover Off
89725	12-15-2020 11:35	Maintenance Hole Cover Off
77021	03-26-2020 10:59	Maintenance Hole Overflow
79347	06-12-2020 08:44	Maintenance Hole Overflow
84863	08-11-2020 09:00	Maintenance Hole Overflow
88370	11-2-2020 01:15	Maintenance Hole Overflow
76645	03-9-2020 10:42	Maintenance Hole Sunken
76688	03-10-2020 11:21	Maintenance Hole Sunken
78918	06-4-2020 11:21	Maintenance Hole Sunken

Request ID	Date/Time	Comments
79494	06-15-2020 11:25	Maintenance Hole Sunken
87358	10-2-2020 10:51	Maintenance Hole Sunken
88242	10-28-2020 03:50	Maintenance Hole Sunken
75892	02-5-2020 03:51	Miscellaneous Service Request
77230	04-7-2020 09:51	Miscellaneous Service Request
79495	06-15-2020 11:44	Miscellaneous Service Request
80652	06-30-2020 09:56	Miscellaneous Service Request
83146	07-17-2020 02:51	Miscellaneous Service Request
85824	08-26-2020 02:06	Miscellaneous Service Request
86705	09-17-2020 10:00	Miscellaneous Service Request
87419	10-5-2020 10:47	Miscellaneous Service Request
89017	11-19-2020 11:39	Miscellaneous Service Request
89981	12-30-2020 12:30	Miscellaneous Service Request
75151	01-6-2020 04:42	Sanitary Lateral Problems
75216	01-10-2020 09:01	Sanitary Lateral Problems
75388	01-16-2020 03:57	Sanitary Lateral Problems
75494	01-21-2020 01:34	Sanitary Lateral Problems
76515	03-4-2020 11:22	Sanitary Lateral Problems
76956	03-23-2020 09:44	Sanitary Lateral Problems
77119	04-1-2020 09:58	Sanitary Lateral Problems
77606	04-27-2020 11:07	Sanitary Lateral Problems
77654	04-28-2020 12:59	Sanitary Lateral Problems
77701	04-30-2020 10:53	Sanitary Lateral Problems
78023	05-13-2020 10:12	Sanitary Lateral Problems
78072	05-14-2020 04:26	Sanitary Lateral Problems
78323	05-22-2020 03:14	Sanitary Lateral Problems
78396	05-25-2020 01:08	Sanitary Lateral Problems
78527	05-27-2020 11:03	Sanitary Lateral Problems
80158	06-23-2020 11:16	Sanitary Lateral Problems
80680	06-30-2020 12:57	Sanitary Lateral Problems
80797	07-2-2020 02:51	Sanitary Lateral Problems
83412	07-21-2020 11:19	Sanitary Lateral Problems
84189	07-29-2020 01:42	Sanitary Lateral Problems

Request ID	Date/Time	Comments
84327	07-31-2020 11:07	Sanitary Lateral Problems
84339	07-31-2020 12:47	Sanitary Lateral Problems
84601	08-6-2020 12:31	Sanitary Lateral Problems
84602	08-6-2020 12:37	Sanitary Lateral Problems
84637	08-7-2020 08:57	Sanitary Lateral Problems
85346	08-18-2020 12:52	Sanitary Lateral Problems
85602	08-21-2020 12:50	Sanitary Lateral Problems
85801	08-26-2020 11:26	Sanitary Lateral Problems
85943	08-28-2020 01:14	Sanitary Lateral Problems
86597	09-14-2020 04:27	Sanitary Lateral Problems
87116	09-25-2020 01:21	Sanitary Lateral Problems
87391	10-2-2020 04:30	Sanitary Lateral Problems
87839	10-16-2020 09:15	Sanitary Lateral Problems
87869	10-16-2020 04:09	Sanitary Lateral Problems
87894	10-19-2020 10:27	Sanitary Lateral Problems
87907	10-19-2020 11:25	Sanitary Lateral Problems
88088	10-23-2020 09:20	Sanitary Lateral Problems
88236	10-28-2020 02:50	Sanitary Lateral Problems
88383	11-3-2020 08:19	Sanitary Lateral Problems
88632	11-9-2020 03:41	Sanitary Lateral Problems
88748	11-12-2020 02:54	Sanitary Lateral Problems
88880	11-16-2020 03:37	Sanitary Lateral Problems
88919	11-17-2020 03:03	Sanitary Lateral Problems
89033	11-19-2020 02:21	Sanitary Lateral Problems
89140	11-24-2020 11:10	Sanitary Lateral Problems
89163	11-25-2020 10:31	Sanitary Lateral Problems
89283	12-1-2020 08:21	Sanitary Lateral Problems
89408	12-3-2020 03:41	Sanitary Lateral Problems
89603	12-10-2020 09:51	Sanitary Lateral Problems
89904	12-24-2020 11:14	Sanitary Lateral Problems
90017	12-31-2020 10:44	Sanitary Lateral Problems
75097	01-3-2020 02:00	Sewer back up in basement
75128	01-6-2020 12:24	Sewer back up in basement

Request ID	Date/Time	Comments
75129	01-6-2020 12:26	Sewer back up in basement
75271	01-13-2020 01:01	Sewer back up in basement
75346	01-15-2020 02:19	Sewer back up in basement
75350	01-15-2020 03:58	Sewer back up in basement
75401	01-17-2020 09:29	Sewer back up in basement
75404	01-17-2020 09:53	Sewer back up in basement
76021	02-11-2020 09:29	Sewer back up in basement
76025	02-11-2020 10:16	Sewer back up in basement
76027	02-11-2020 10:56	Sewer back up in basement
76138	02-18-2020 09:33	Sewer back up in basement
76165	02-18-2020 03:17	Sewer back up in basement
76194	02-19-2020 08:05	Sewer back up in basement
76252	02-21-2020 09:12	Sewer back up in basement
76253	02-21-2020 09:34	Sewer back up in basement
76260	02-21-2020 11:43	Sewer back up in basement
76284	02-24-2020 10:52	Sewer back up in basement
76372	02-26-2020 02:52	Sewer back up in basement
76385	02-27-2020 10:14	Sewer back up in basement
76499	03-3-2020 04:54	Sewer back up in basement
76588	03-6-2020 10:03	Sewer back up in basement
76692	03-10-2020 11:45	Sewer back up in basement
76697	03-10-2020 01:32	Sewer back up in basement
76717	03-10-2020 03:40	Sewer back up in basement
76799	03-12-2020 01:18	Sewer back up in basement
76850	03-16-2020 09:30	Sewer back up in basement
76854	03-16-2020 10:19	Sewer back up in basement
76900	03-18-2020 03:05	Sewer back up in basement
76931	03-20-2020 12:00	Sewer back up in basement
76973	03-24-2020 11:23	Sewer back up in basement
77077	03-30-2020 10:24	Sewer back up in basement
77148	04-2-2020 03:05	Sewer back up in basement
77157	04-3-2020 10:19	Sewer back up in basement
77209	04-6-2020 02:06	Sewer back up in basement

Request ID	Date/Time	Comments
77347	04-14-2020 09:46	Sewer back up in basement
77348	04-14-2020 10:38	Sewer back up in basement
77417	04-16-2020 03:29	Sewer back up in basement
77429	04-17-2020 11:45	Sewer back up in basement
77468	04-20-2020 11:27	Sewer back up in basement
77703	04-30-2020 11:15	Sewer back up in basement
77705	04-30-2020 01:12	Sewer back up in basement
77856	05-6-2020 11:01	Sewer back up in basement
77867	05-6-2020 03:45	Sewer back up in basement
77958	05-11-2020 09:17	Sewer back up in basement
77965	05-11-2020 11:09	Sewer back up in basement
78005	05-12-2020 01:28	Sewer back up in basement
78010	05-12-2020 04:02	Sewer back up in basement
78052	05-14-2020 11:02	Sewer back up in basement
78068	05-14-2020 03:53	Sewer back up in basement
78213	05-20-2020 11:17	Sewer back up in basement
78372	05-25-2020 10:39	Sewer back up in basement
78380	05-25-2020 11:02	Sewer back up in basement
78420	05-25-2020 02:52	Sewer back up in basement
78424	05-25-2020 03:25	Sewer back up in basement
78469	05-26-2020 10:35	Sewer back up in basement
78698	06-1-2020 09:54	Sewer back up in basement
78888	06-3-2020 04:18	Sewer back up in basement
78990	06-5-2020 01:51	Sewer back up in basement
79149	06-9-2020 12:23	Sewer back up in basement
79387	06-12-2020 12:29	Sewer back up in basement
79815	06-18-2020 10:45	Sewer back up in basement
80238	06-24-2020 08:27	Sewer back up in basement
80271	06-24-2020 11:07	Sewer back up in basement
80485	06-26-2020 01:15	Sewer back up in basement
80525	06-29-2020 08:41	Sewer back up in basement
81234	07-8-2020 08:48	Sewer back up in basement
81709	07-13-2020 08:42	Sewer back up in basement

Request ID	Date/Time	Comments
81911	07-14-2020 09:47	Sewer back up in basement
81975	07-14-2020 01:18	Sewer back up in basement
82586	07-16-2020 10:01	Sewer back up in basement
84248	07-30-2020 12:30	Sewer back up in basement
84298	07-31-2020 08:57	Sewer back up in basement
84340	07-31-2020 12:47	Sewer back up in basement
84478	08-5-2020 09:00	Sewer back up in basement
84511	08-5-2020 01:27	Sewer back up in basement
84750	08-7-2020 04:11	Sewer back up in basement
85116	08-14-2020 09:33	Sewer back up in basement
85631	08-24-2020 09:37	Sewer back up in basement
86255	09-4-2020 02:34	Sewer back up in basement
86562	09-14-2020 11:43	Sewer back up in basement
87046	09-24-2020 01:23	Sewer back up in basement
87072	09-24-2020 04:08	Sewer back up in basement
87241	09-29-2020 11:42	Sewer back up in basement
87371	10-2-2020 11:49	Sewer back up in basement
87372	10-2-2020 11:54	Sewer back up in basement
87384	10-2-2020 03:30	Sewer back up in basement
87628	10-8-2020 11:25	Sewer back up in basement
87684	10-13-2020 08:36	Sewer back up in basement
87731	10-13-2020 04:09	Sewer back up in basement
88368	11-2-2020 01:11	Sewer back up in basement
88614	11-9-2020 02:14	Sewer back up in basement
88819	11-16-2020 09:08	Sewer back up in basement
88913	11-17-2020 02:00	Sewer back up in basement
89014	11-19-2020 11:25	Sewer back up in basement
89018	11-19-2020 11:42	Sewer back up in basement
89096	11-23-2020 10:13	Sewer back up in basement
89098	11-23-2020 10:26	Sewer back up in basement
89106	11-23-2020 11:39	Sewer back up in basement
89167	11-25-2020 10:57	Sewer back up in basement
89347	12-2-2020 12:23	Sewer back up in basement

Request ID	Date/Time	Comments
89814	12-21-2020 08:15	Sewer back up in basement
78201	05-20-2020 09:17	Sewer Smell
78783	06-2-2020 12:05	Sewer Smell
80067	06-22-2020 01:52	Sewer Smell
83631	07-23-2020 09:39	Sewer Smell
84911	08-11-2020 02:20	Sewer Smell
85630	08-24-2020 09:32	Sewer Smell
85886	08-27-2020 12:20	Sewer Smell
86265	09-4-2020 03:38	Sewer Smell
87543	10-6-2020 01:05	Sewer Smell
87589	10-7-2020 01:32	Sewer Smell

Reporting section 2.6 (3) (f): Summary of Pump Station Overflows

Pump Stations and Force Mains

There were no pump station or force main overflows in 2020. There were four (4) overflows/spills in the sanitary collection system which are highlighted in Table 11.

Reporting section 2.6 (3) (g): Copies of Sch. 'C' section (1) Notices of Modifications Including Status

This section contains the status of all Notices of Modifications which were in effect in 2020. Copies of these Notices are contained in Appendix B.

Pump Stations and Force Mains

No Notices of Modification were in effect in 2020.

Gravity Collection System

The Notices of Modification in Table 12 were not substantially complete in 2020. The status as of Dec. 31, 2020 is indicated.

Table 12 Notices of Modifications & Status

Number	Description	Date Signed	Status as of Dec. 31/20	Well Head Protection Area
2018-02	Big Bay Pt. Rd./Bayview Dr. Intersection	Jun. 18/18	Construction Ongoing	Q2 WHPA-B
2018-05	Harvie Rd. to Big Bay Pt. Rd. – New Hwy 400 Xing	Dec. 11/18	Construction Ongoing	WHPA-D
2019-02	Dunlop Street – Eccles to Toronto St.- replacement of local sewer & re-routing of Cundles trunk sewer.	Nov. 21/19	Construction Ongoing	WHPA-B/C

Reporting section 2.6 (3) (h): Report Summary for Schedule C Section 1(3)

Pump Stations and Force Mains

No Notifications were issued in 2020 regarding Schedule C Section 1(3).

Gravity Collection System

No Notifications were issued in 2020 regarding Schedule C Section 1(3).

Reporting section 2.6 (3) (i): Modifications Posing a Significant Threat

This section discusses new modifications which may pose a significant threat to sources of drinking water.

Pump Stations and Force Mains

There were no Notifications of Modifications in effect in 2020.

Gravity Collection System

All modifications for which a Notice was issued were at least partly within the well head protection areas identified in Table 12. Limited information on each risk was included with the Notice and is contained in Appendix “B”.

Reporting section 2.6 (3) (j): Notices of Assumption

This section contains a copy of all Notices of Assumption per condition 2.9.

Pump Stations and Force Mains

There were no Notices of Assumption as per condition 2.9.

Gravity Collection System

There were no Notices of Assumption as per condition 2.9.

Reporting section 2.6 (3) (k): Other Info Required by the Water Supervisor

This section summarizes other info required by the Water Supervisor.

Pump Stations and Force Mains

There were no requests for information from the Water Supervisor.

Gravity Collection System

There were no requests for information from the Water Supervisor.

APPENDIX A: SYSTEM-WIDE ECA



Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en
matière de changement climatique

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 5921-ATUKKR
Issue Date: January 10, 2018

The Corporation of the City of Barrie
70 Collier Street
Post Office Box No. 400
Barrie, Ontario
L4M 4T5

Site Location: Municipal sanitary sewage collection system owned and operated by the City of Barrie servicing the Barrie Wastewater Treatment Facility, County of Simcoe.

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

system-wide municipal sanitary sewage Works serving the City of Barrie for the collection and transmission of sanitary sewage, connected to the Barrie Wastewater Treatment Facility;

The Environmental Compliance Approval includes the following:

Schedule	Contents
Schedule A	Description of Works
Schedule B	Terms and Conditions
Schedule C	Limited Operational Flexibility
Schedule D	Assumption of Ownership of Sewage Works
Schedule E	Supporting Documents

Schedule A: Description of Works

System Owner and Operator	The Corporation of the City of Barrie
System Name	Sanitary Collection System servicing the Barrie Wastewater Treatment Facility

The sanitary sewage collection system serving the Barrie Wastewater Treatment Facility consists of approximately 539 kilometres (km) of sanitary sewers and sanitary forcemains and twelve (12) sewage pumping stations (SPS). The sanitary sewage collection system also includes all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances that are essential for the proper operation of the Works. The sanitary sewage collection system serves the urban area of the City of Barrie.

Schedule A includes:

- 1.0 System-Wide Approval – Sanitary Sewage Collection System
- 2.0 System-Wide Approval – Sewage Pumping Stations
- 3.0 System-Wide Approval – Flow Regulators, Storage Tanks, and Pressure Release Valves

1.0 System Wide Approval – Sanitary Sewage Collection System

The main components of the Sanitary Sewage Collection System include the Mains and Forcemains described below:

1.1. Gravity sewer Mains and Forcemains included in Table 1:

Table 1. Sanitary Sewage Collection System	
Plan / Files	Revision Date
Sanitary Infrastructure Map - City of Barrie (not to scale)	March 2, 2016

Classification of the Sanitary Sewage Collection System at the date of issuance of this Approval by length:

Table 2. Sanitary Sewage Collection System by Length			
System Type	Pipe Diameter (mm)	Length (km)	System Total Length (km)
Sanitary sewers	0-250	408.77	530.23
	300-500	73.57	
	525-1,050	44.15	
	≥1,200	3.74	
Forcemains	0-250	2.20	9.00
	300-500	6.81	
	525-1,050	0.00	
	≥1,200	0.00	
Total length			539.23

2.0 System Wide Approval – Sewage Pumping Stations

2.1 Grove Street Sewage Pumping Station	
Location	238 Penetanguishene Road.
UTM Coordinates	607673.4 E, 4918006.8 N (UTM Nad83 Zone 17).
Description	Two (2) buildings, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 157.8 L/s at 10.0m TDH, 26 kW (35 HP), connected to an approximately 254m long, 400mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 2403-5WFRH5 issued on February 25, 2004.
Notes	The drainage area is bounded in general by the City limit to the north and east, Grove Street East to the south, and Highway 400 to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 177.6 ha comprised of a mixture of residential, commercial and industrial contributions. Overflow is received by a storm detention pond or ditch located north of the pumping station.

2.2 Minets Point Sewage Pumping Station	
Location	2 Lismer Boulevard.
UTM Coordinates	606188.4 E, 4914455.9 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 61.34 L/s at 19.0m TDH, 22 kW (29 HP), connected to an approximately 401m long, 250mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 3-0200-85-006 issued on December 13, 1985 and 7739-8931.2S issued on September 29, 2010, respectively.
Notes	The drainage area is bounded in general by Kempenfelt Bay to the north, Brennan Avenue to the east, Hurst Drive and Lakeshore Drive to the south, and Allandale Station Park to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 21.3 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.3 Lockhart Road Sewage Pumping Station	
Location	799 Bayview Drive.
UTM Coordinates	605603.9 E, 4908831.1 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 51.4 L/s at 17.5m TDH, 22 kW (29 HP) connected to an approximately 464m long, 200mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 3-0975-83-877 issued on June 2, 1987.
Notes	The drainage area is bounded in general by Saunders Drive to the north, Bayview Drive to the east, Lockhart Road to the south and Highway 400 to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 32.0 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.4 Holly Sewage Pumping Station	
Location	65 Logan Court.
UTM Coordinates	600907.4 E, 4908353.1 N (UTM Nad83 Zone 17).
Description	One (1) building, two (2) wet well and four (4) pumps.
Pumps	Four (4) pumps with a nominal rated capacity of approximately 232 L/s at 51.2 m TDH, connected to an approximately 1,937m long, 350mm diameter sanitary forcemain and approximately 2000m long, 400mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 3-1547-94-006 issued on December 2, 1994 and 7639-ACYHUF, issued on October 5, 2016, respectively.
Notes	The drainage area is bounded in general by Ardagh Bluffs West and Mapleton Avenue to the north, Essa Road to the east, Loughheed Road and Columbia Road to the south, and County Road 27 to the west, and southern annexed lands. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 373 ha comprised of a mixture of residential, commercial and industrial contributions. Overflow is received by Bear Creek.

2.5 Little Lake Sewage Pumping Station	
Location	510 Little Lake Road.
UTM Coordinates	605638.9 E, 4919108.4 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 110 L/s at 46.66m TDH, 66 kW (88 HP) connected to an approximately 742m long twin 450mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 3-1113-97-006 dated September 5, 1997.
Notes	The drainage area is bounded in general by the City Limit to the north, Little Lake Park East to the east, Cundies Road East, St. Vincent Street and Livingstone Street E to the south, and Bayfield Street to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 165.0 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.6 Johnson's Beach Sewage Pumping Station	
Location	1 Johnson Street.
UTM Coordinates	606944.7 E, 4916433.8 N (UTM Nad83 Zone 17).
Description	No building, one (1) wet well and one (1) pump.
Pumps	One (1) pump with an unknown nominal rated capacity, approximately 4 kW (5 HP) connected to an approximately 100m long, 100mm diameter sanitary forcemain.
Standby Power	None.
Previous ECA	No approval record or historically unapproved equipment.
Notes	The drainage area is bounded in general by Shanty Bay Road to the north, Barrie Yacht Club to the east, Kempenfelt Bay to the south and Johnsons Beach Park to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of 1.2 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.7 Perry Street Sewage Pumping Station	
Location	83 Perry Street.
UTM Coordinates	603403.5 E, 4915206.1 N (UTM Nad83 Zone 17).
Description	No building, one (1) wet well, two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 7.3 L/s at 9.0m TDH, 4 kW (5 HP) connected to an approximately 127m long, 100mm diameter sanitary forcemain.
Standby Power	None.
Previous ECA	ECA No. 2165-5VUL4Q issued on February 5, 2004.
Notes	The drainage area is bounded in general by Perry Street to the north, west and south, and Boys Street South to the east. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of 0.5 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.8 Innisfil Street Sewage Pumping Station	
Location	4 Innisfil Street.
UTM Coordinates	603705.4 E, 4915369.7 N (UTM Nad83 Zone 17).
Description	No building, one (1) wet well and one (1) pump.
Pumps	One (1) pump with an unknown nominal rated capacity, approximately 7 kW (9 HP).
Standby Power	None.
Previous ECA	No approval record or historically unapproved equipment.
Notes	The drainage area is bounded in general by Perry Street to the north, Innisfil Street to the east, Audrey Milligan Pond to the south and west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of approximately 1.7 ha comprised of a mixture of residential, commercial and industrial contributions. Overflow is received by Bunker's Creek.

2.9 Tyndale Park Sewage Pumping Station	
Location	45 Tyndale Road.
UTM Coordinates	608005.6 E, 4914300.6 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well, two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 10.6 L/s at 16.1m TDH, 8 kW (11 HP) connected to an approximately 372m long, 100mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 8061-6GFJ37 issued on September 23, 2005.
Notes	The drainage area is bounded in general by Kempenfelt Bay to the north, Plunkett Court to the east, Capps Drive, Turner Drive and Dock Road to the south, and Cox Mill Road to the west. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of 44.6 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.10 Heritage Park Sewage Pumping Station	
Location	5 Simcoe Street.
UTM Coordinates	604653.9 E, 4915784.8 N (UTM Nad83 Zone 17).
Description	No building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 3.9 L/s at 16.7m TDH, 4 kW (5 HP) connected to an approximately 147m long, 60mm diameter sanitary forcemain.
Standby Power	None.
Previous ECA	ECA No. 7-0188-91-006 issued on July 22, 1991.
Notes	The pumping station provides for the collection and transmission of sanitary sewage, servicing the Heritage Park washrooms. There is no engineered overflow.

2.11 Mooregate Sewage Pumping Station	
Location	300 Kozlov Street.
UTM Coordinates	601884.6 E, 4918687.7 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 12 L/s at 20.7m TDH, 5 kW (7 HP) connected to an approximately 472m long, 100mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 0158-8G4PXX issued on May 4, 2011.
Notes	The drainage area is bounded in general by the City limit to the north and west, Bayfield Street to the east, and Pearcey Crescent and Hanmer Natural Area and Hanmer Park to the south. The pumping station provides for the collection and transmission of sanitary sewage, servicing an area of 12.3 ha comprised of a mixture of residential, commercial and industrial contributions. There is no engineered overflow.

2.12 Splash Pond Sewage Pumping Station	
Location	9 Simcoe Street.
UTM Coordinates	604685.7 E, 4915805.9 N (UTM Nad83 Zone 17).
Description	One (1) building, one (1) wet well and two (2) pumps.
Pumps	Two (2) pumps with a nominal rated capacity of approximately 8.7 L/s at 4.5m TDH, 4 kW (5 HP) connected to an approximately 113m long, 100mm diameter sanitary forcemain.
Standby Power	Provided.
Previous ECA	ECA No. 8001-8EQL3B issued on March 31, 2011.
Notes	The pumping station provides for the collection and transmission of water servicing the Heritage Park Water Facility. Normally discharges to Lake Simcoe.

3.0

**System Wide Approval – Flow Regulators, Storage Tanks and
Pressure Release Valves**

3.1 Holly Sewage Pumping Station Pressure Release Valve	
Location	Mapleview Drive at Seymour Crescent.
UTM Coordinates	601479.3 E, 4908868.6 N (UTM Nad83 Zone 17).
Description	Pressure relief valve, 50mm diameter, 1,034 kPa (150 psi).

Schedule B: Terms and Conditions

System Owner and Operator	The Corporation of the City of Barrie
System Name	Sanitary Collection System servicing the Barrie Wastewater Treatment Facility

Schedule B includes:

- 1.0 Definitions
- 2.0 Terms and Conditions
- 3.0 Reasons

1.0 Definitions

For the purpose of this environmental compliance approval, the following definitions apply:

"Approval" means this entire document and any schedules attached to it, and the application;

"Assumed Works" means those portions of the sewage works whose ownership has been assumed by the Owner from a different previous owner;

"BOD5" (also known as TBOD₅) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"Class Environmental Assessment Project" means an Undertaking that does not require any further approval under the EAA if the planning process set out in the class environmental assessment document is followed and successfully completed.

"CWA" means the Clean Water Act, R.S.O. 2006, c.22, as amended;

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part III of the EPA;

"Duty to Consult" pertains to the Crown's legal obligation to consult with Aboriginal peoples where it contemplates decisions or actions that may adversely impact asserted or established Aboriginal or treaty rights;

"*E. coli*" refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"EAA" means the Environmental Assessment Act, R.S.O. 1990, c. E.18, as amended;

"Emergency Situation" means a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the Sewage Pumping Station or an unforeseen flow condition that may result in:

- a) danger to the health or safety of any person; or
- b) injury or damage to any property, or serious risk of injury or damage to any property;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

"Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

"Event" means an action or occurrence at the Sewage Pumping Station that causes a Sewage Pumping Station Overflow. An Event ends when there is no recurrence of a Sewage Pumping Station Overflow in the 12-hour period following the last Sewage Pumping Station Overflow. Two Events are separated by at least 12 hours during which there has been no recurrence of a Sewage Pumping Station Overflow;

"Limited Operational Flexibility" (LOF) means any modifications that the Owner is permitted to make to the Works under this Approval;

"Minister" means the Minister of the Environment and Climate Change;

"Ministry" means the ministry of the government of Ontario responsible for the EPA, CWA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Notice of Assumption" means the form entitled "Notice of Assumption of Sewage Works";

"Notice of Modifications" means the form entitled "Notice of Modification to Sewage Works";

"Owner" means the Corporation of the City of Barrie, and includes its successors and assignees;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;

"Part II Order" means an order issued by the Minister that makes a Class Environmental Assessment Project an Undertaking that is subject to Part II of the EAA;

"Professional Engineer" means a person entitled to practice as a Professional Engineer in the Province of Ontario under a licence issued under the Professional Engineers Act;

"Proposed Works" means those portions of the sewage works under Limited Operational Flexibility proposed as part of a Notice of Modifications;

"Significant Drinking Water Threat" has the same meaning as in the CWA;

"Significant Threat Policy(ies)" has the same meaning as in the CWA;

"Source Protection Plan" means a drinking water source protection plan prepared under the CWA;

"Rated Capacity" means the Average Daily Flow which the Works are approved to handle;

"Sewage Pumping Station Overflow" means any discharge from a Sewage Pumping Station to the environment that does not undergo any treatment or only receives partial treatment before it is discharged to the environment;

"Substantial Completion" has the same meaning as "substantial performance" in the Construction Lien Act;

"Undertaking" has the same meaning as in the EAA;

"Water Supervisor" means the Water Supervisor of the appropriate local office of the Safe Drinking Water Branch of the Ministry, where the Works are geographically located; and

"Works" means the sewage works described in the Owner's application, this Approval, Proposed Works and the modifications made under Limited Operational Flexibility.

2.0 Terms and Conditions

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

2.1 GENERAL CONDITIONS

- (1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.
- (3) Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.
- (4) Where there is a conflict between the documents listed in Schedule 'A' and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- (5) The conditions of this Approval are severable. If any condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2.2 CHANGE OF OWNER

- (1) The Owner shall notify the Water Supervisor and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - (a) change of Owner;
 - (b) change of address of the Owner;
 - (c) change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the Water Supervisor; or

- (d) change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the Water Supervisor.
- (2) In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the Water Supervisor and the Director.
- (3) The Owner shall ensure that all communications made pursuant to this condition refer to the number at the top of this Approval.

2.3 SEWAGE PUMPING STATION OVERFLOW

- (1) Any Sewage Pumping Station Overflow is prohibited, except:
 - (a) in an Emergency Situation; and
 - (b) where the Sewage Pumping Station Overflow is a direct and unavoidable result of a planned maintenance procedure, the Owner having notified the Water Supervisor at least fifteen (15) days prior to the occurrence of the Sewage Pumping Station Overflow and the Water Supervisor having given written consent of the Sewage Pumping Station Overflow.
- (2) The Owner shall forthwith notify the Spills Action Centre (SAC) and the Medical Officer of Health of all Events as soon as possible. This notice shall include, at a minimum, the following information:
 - (a) the date, time, and duration of the Event;
 - (b) the location of the Sewage Pumping Station Overflow and the receiver;
 - (c) the measured or estimated volume of the Event (unless the Event is ongoing); and
 - (d) the reason for the Event.
- (3) The Owner shall submit a summary report of the Sewage Pumping Station Overflow Events to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. The summary reports shall be in a format specified by the Ministry, which shall include, at a minimum, the following information on any Events that occurred during the preceding quarter:
 - (a) the date of the Event(s);

- (b) the measured or estimated volume of the Event(s);
 - (c) the duration of the Event(s);
 - (d) the location of the Sewage Pumping Station Overflow and the receiver;
 - (e) the reason for the Event(s); and
 - (f) the impact of the Event(s) on the receiver(s).
- (4) The Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Sewage Pumping Station Overflow and have it analyzed for the parameters outlined in Condition 2.5 using the protocols specified in Condition 2.5, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of the Sewage Pumping Station Overflow.
- (5) The Owner shall maintain a logbook of all Sewage Pumping Station Overflows, which shall contain, at a minimum, the types of information set out in sub-conditions 2(a) to 2(d) in respect of each Sewage Pumping Station Overflow.

2.4 OPERATION AND MAINTENANCE

- (1) The Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Approval and the EPA and regulations, adequate laboratory services, process controls and alarms and the use of process chemicals and other substances used in the Works.
- (2) The Owner shall prepare an operations manual for facilities within twelve (12) months of the issuance date of this Approval, that includes or references, but is not necessarily limited to, the following information:
- (a) operating and maintenance procedures for routine operation of the Works;
 - (b) inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - (c) inspection programs, to include closed-camera television inspection every 5 years, for sanitary sewers and related pipes within a vulnerable area where it would present a significant drinking water threat under the Clean Water Act and the methods or tests employed to detect when maintenance is necessary;
 - (d) repair and maintenance programs, including the frequency of repair and maintenance for

the Works;

- (e) procedures for the inspection and calibration of monitoring equipment;
 - (f) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification to the Spills Action Centre (SAC), the Medical Officer of Health, and the Water Supervisor; and
 - (g) procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
- (3) The Owner shall maintain the operations manual current and have access to a copy for each sewage pumping station for the operational life of the station. Upon request, the Owner shall make the manual available to Ministry and Source Protection Authority staff.
 - (4) The Owner shall provide for the overall operation of the sewage pumping stations an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

2.5 MONITORING AND RECORDING

The Owner shall carry out the following monitoring program:

- (1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the Sewage Pumping Station Overflow stream over the time period being monitored.
- (2) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3. Monitoring during a Sewage Pumping Station Overflow Event (Samples to be collected from the Sewage Pumping Station Overflow stream)	
Sample Type	Grab
Frequency	One sample at the beginning of the Event and the second sample approximately near the end of the Event
Parameters	BOD5, Total Suspended Solids, Total Phosphorus, Total Ammonia Nitrogen, <i>E. coli</i> ^f , and pH

Note 1: Sampling and analysis shall be performed only for Events that occur between April 1 and October 31 inclusive

- (3) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)", as amended from time to time by more recently published editions;
- (b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and
- (c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.

2.6 REPORTING

- (1) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
- (2) The Owner shall notify and consult with the Water Supervisor at least thirty (30) days prior to submitting a Notice of Modifications for Proposed Works that are subject to schedule B or schedule C of the Class Environmental Assessment process.
- (3) The Owner shall prepare and submit a performance report to the Water Supervisor 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 issuance of this Approval 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) a summary and interpretation of all monitoring data, including an overview of the success and adequacy of the Works;
 - (b) a description of any operating problems encountered and corrective actions taken;
 - (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
 - (d) a summary of the calibration and maintenance carried out on all monitoring equipment;
 - (e) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
 - (f) a summary of all Sewage Pumping Station Overflows, spill or abnormal discharge events;
 - (g) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of

Schedule C, Section 1(1), with a status report on the implementation of each modification;

- (h) a report summarizing all modifications completed as a result of Schedule C, Section 1(3);
 - (i) a report on any new modifications which could pose a significant threat to sources of drinking water as described in Schedule B, Section 2.8.
 - (j) a copy of all Notice of Assumptions submitted to the Water Supervisor as a result of Condition 2.9; and
 - (k) any other information the Water Supervisor requires from time to time.
- (4) The Owner shall, within thirty (30) calendar days of issuance of this Approval, submit a Municipal Wastewater System Profile Information Form, and shall resubmit the updated document every time a notification is provided to the Water Supervisor in compliance with requirements of change of ownership under this Approval.
 - (5) The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation, maintenance and monitoring activities required by this Approval.

2.7 SOURCE WATER PROTECTION

- (1) The Owner shall ensure for the Works located within Wellhead Protection Areas (WHPAs), Intake Protection Zones (IPZ), Highly Vulnerable Aquifers (HVA) and Significant Groundwater Recharge Areas (SGRAs), where this activity has been identified as a Significant Drinking Water Threat, there is an operation and maintenance program in place that includes, but is not limited to, the following requirements:
 - (a) regular maintenance and inspection;
 - (b) best management practices to be applied; and
 - (c) operational requirements as set out in the approved Standard Operating Policy for Sewage Works published on the Environmental Registry (Posting # 012-2968), as amended from time to time.
- (2) The Owner, upon request, shall make all reports and plans available to the Ministry or Source Protection Authority.
- (3) The Owner shall prepare a report within six (6) months of the issuance date of this Approval, that includes, but is not necessarily limited to:

- (a) an outline of the circumstances under which sewage Works pose a significant threat to sources of drinking water based on the Director's Technical Rules established under the Clean Water Act, 2006 as amended from time to time;
 - (b) a list of which components of the Works were found to be a significant drinking water threats;
 - (c) an outline of how the City screens the Works to identify drinking water threats under the Clean Water Act, as well as design considerations and mitigating measures taken during construction and operation of the Works to protect sources of drinking water.
- (4) The Owner shall maintain the report and have access to a copy for each location of the Works for the operational life of the Works. Upon request, the Owner shall make the report available to Ministry or Source Protection Authority staff.

2.8 LIMITED OPERATIONAL FLEXIBILITY

- (1) The Owner may make modifications to the Works in accordance with the terms and conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works", included under Schedule C of this Approval, as amended.
- (2) Sewage works proposed under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.
- (3) The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all terms and conditions of this Approval.
- (4) For greater certainty, the following are not permitted as part of Limited Operational Flexibility:
 - (a) modifications to the Works that result in an increase of the approved Rated Capacity of the Works;
 - (b) modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;
 - (c) modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;
 - (d) modifications to activities mentioned in sub-section 9(1) of the EPA;
 - (e) modifications to the Works pursuant to an order issued by the Ministry;

- (f) modifications to Works that are part of an Undertaking for which a request to issue a Part II Order has been submitted to the Ministry;
 - (g) modifications to Works that are part of an Undertaking for which a Part II Order has been issued by the Minister; and
 - (h) modifications to Works that will trigger the Duty to Consult.
- (5) Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.
- (6) If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, as deemed necessary in consultation with the Water Supervisor, provide a revised copy of this plan to the local fire services authority prior to implementing Limited Operational Flexibility.
- (7) For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the Environmental Protection Act, Environmental Assessment Act, Niagara Escarpment Planning and Development Act, Oak Ridges Moraine Conservation Act, Lake Simcoe Protection Act and Greenbelt Act.
- (8) At least thirty (30) days prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the Water Supervisor.
- (9) The Owner shall ensure that an engineering assessment is completed for each Notice of Modifications prior to submitting the Notice of Modifications to the Water Supervisor. The engineering assessment shall be prepared by a Professional Engineer that was not involved in the design of the Proposed Works. The Owner shall abide by the recommendations made under the engineering assessment for the Proposed Works. The engineering assessment shall include, at minimum, the following:
- (a) description of the Proposed Works;
 - (b) the documentation and drawings that were reviewed;
 - (c) regulatory requirements applicable to the Proposed Works;
 - (d) technical criteria used to assess the Proposed Works;
 - (e) any issues that were identified during the engineering review of the Proposed Works;
 - (f) design considerations and mitigating measures taken during construction and operation

of the Works to protect sources of drinking water, including Design and Operational Requirements included in the approved Standard Operating Policy for Sewage Works published on the Environmental Registry (Posting # 012-2968), as amended from time to time; and

- (g) recommendations.
- (10) Upon the Substantial Completion of Proposed Works, the Owner shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with the Notice of Modifications, and upon request, shall make the written statement available for inspection by Ministry personnel.
- (11) Within twelve (12) months of the Substantial Completion of Proposed Works, a set of as-built drawings showing the Proposed Works "as constructed" shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time, and be made available upon Ministry request.

2.9 ASSUMPTION OF OWNERSHIP OF SEWAGE WORKS

- (1) The Owner may make modifications to the Works in accordance with the terms and conditions of this Approval and subject to sub-sections (2), (3) and (4) of this condition.
- (2) The Owner may add Assumed Works to this Approval, provided that:
 - (a) the transfer of the ownership of the sewage works to the Owner is complete;
 - (b) the previous owner of the sewage works has notified the Director of the change in ownership; and
 - (c) the Assumed Works are part of the municipal sanitary sewage Works utilized for the collection and transmission of sanitary sewage in the City of Barrie that are connected to the Barrie Wastewater Treatment Facility.
- (3) To add Assumed Works to this Approval, the Owner shall complete a Notice of Assumption and submit it to the Water Supervisor, along with a copy of the approval issued to the sewage works prior to the transfer of ownership.
- (4) Upon submission of the Notice of Assumption to the Water Supervisor, the terms and conditions of this Approval apply to the Assumed Works for which the Notice of Assumption has been submitted.

2.10 REVIEW OF APPROVAL

- (1) No later than six (6) months past the fifth anniversary of the date of issuance of this Approval, the Owner shall submit to the Director an application to have the Approval

reviewed. The application shall include, at minimum, the following information:

- (a) an updated description of the Works, including any modifications to the Works that were made during the five (5) year period in accordance with the terms and conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works", included under Schedule C of this Approval, as amended;
- (b) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule C, Section 1(1), with the engineering assessment for each Notice of Modifications;
- (c) a status report on the implementation of each modification;
- (d) a copy of all Notice of Assumptions submitted to the Water Supervisor as a result of Condition 2.9, along with a copy of the approval issued to each sewage works that were assumed;
- (e) a performance report on the operation and maintenance of the Works; and
- (f) the application form.

3.0 Reasons

The reasons for the imposition of these terms and conditions are as follows:

- 3.1 Condition 2.1 is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted. This condition is also included to emphasize the precedence of conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
- 3.2 Condition 2.2 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
- 3.3 Condition 2.3 is included to indicate that Sewage Pumping Station Overflows are prohibited, except in circumstances where the failure to overflow could result in greater injury to the public interest than the Sewage Pumping Station Overflow itself. The notification and documentation requirements allow the Ministry to take action in an informed manner and ensure that the Owner is aware of the extent and frequency of Events.
- 3.4 Condition 2.4 is included to ensure that the Works are properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. The Condition also ensures that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and is made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, proper plant operation, and identification and planning for contingencies during abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the operation of the Works.
- 3.5 Condition 2.5 is included to provide additional details on the monitoring of Sewage Pumping Station Overflows.
- 3.6 Condition 2.6 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.
- 3.7 Condition 2.6 (3)(i), 2.7 and 2.8 (9)(f) is included to protect sources of drinking water and to conform with the Significant Threat Policies of the local Source Protection Plan, which requires that the Approval contain terms and conditions to protect sources of drinking water if the Works are a significant drinking water threat.
- 3.8 Condition 2.8 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. These conditions are also included to ensure that a Professional Engineer has

reviewed the proposed modifications and attests that the modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed modifications comply with the Ministry's requirements stipulated in the terms and conditions of this Approval, Ministry policies, guidelines, and industry engineering standards and best management practices.

- 3.9 Condition 2.9 is included to specify the requirements that need to be met by the Owner to add Assumed Works to this Approval.
- 3.10 Condition 2.10 is included to ensure that the Approval is updated on a regular basis by the Owner.

Schedule C: Limited Operational Flexibility

System Owner and Operator	The Corporation of the City of Barrie
System Name	Sanitary Collection System servicing the Barrie Wastewater Treatment Facility

Schedule C includes:

- 1.0 Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works
- 2.0 Notice of Modification to Sewage Works

1.0 Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.

1.1 Sanitary Sewers and Sanitary Force mains

- a. Alteration, extension, enlargement or replacement of existing sanitary sewers and sanitary force mains or establishment of new sanitary sewers and sanitary force mains, provided that:
 - i. the nominal pipe diameter is not greater than a total of 1,200 millimetres;
 - ii. the sewers and mains are not combined sewers;
 - iii. the sewers and mains do not discharge directly to a sewage treatment plant;
 - iv. the design of the modification to or establishment of the sewers and mains has been prepared by a Professional Engineer;
 - v. the consent of the property owner has been obtained for the establishment of new sewers and mains; and
 - vi. if the sanitary sewers and force mains are located in an area where they would be a significant drinking water threat, the designs adhere to the Design and Operational Requirements specified in the approved Standard Operating Policy for Sewage Works published on the Environmental Registry (Posting # 012-2968), as amended from time to time.

1.2 Sewage Pumping Stations

- a. Alteration of pumping capacity by adding or replacing equipment where new equipment is located within an existing sewage pumping station site, provided that the modifications do not result in an increase of the pumping station's Rated Capacity and the existing flow process and/or treatment train are maintained, as applicable; and
- b. If the pumping station is located in an area where it would be a significant drinking water threat the designs, shall be prepared by a Professional Engineer and shall adhere to the Design and Operational Requirements specified in the approved Standard Operating Policy for Sewage Works published on the Environmental Registry (Posting # 012-2968), as amended from time to time.

1.3 Flow Regulators, Storage Tanks and Pressure Release Valves

- a. Alteration of capacity by adding or replacing equipment, structures or instrumentation in the sanitary sewage collection system, provided that the modifications do not result in an increase in the Rated Capacity of the sewage pumping station(s) and that the existing flow processes are maintained; and
- b. If the storage tanks are located in an area where it would be a significant drinking water threat the designs, shall be prepared by a Professional Engineer and shall adhere to the Design and Operational Requirements specified in the approved Standard Operating Policy for Sewage published on the Environmental Registry (Posting # 012-2968), as amended from time to time.

1.4 Pilot Systems


- a. Installation of pilot systems for new or existing technologies provided that:
 - i. any effluent from the pilot system is discharged to the inlet of the sewage pumping station or hauled off-site for proper disposal;
 - ii. any effluent from the pilot system discharged to the inlet of the sewage pumping station or sewage conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process;
 - iii. the pilot system's duration does not exceed a maximum of two (2) years; and a report with results is submitted to the Director and Water Supervisor three (3) months after the completion of the pilot project; and
 - vi. if the pilot systems are located in an area where it would be a significant drinking water threat, the designs, shall be prepared by a Professional Engineer and shall adhere to the Design and Operational Requirements specified in the approved Standard Operating Policy for Sewage published on the Environmental Registry (Posting # 012-2968), as amended from time to time.
- 2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.
- 3. Normal or emergency operational modifications
 - a. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved unless they are located in an area that where the works are is a significant drinking water threat; and
 - b. If the modifications include repairs, reconstruction or renovations to existing equipment in an area where the sanitary sewage works would be a significant drinking water threat, the design of the

modifications shall be prepared by a Professional Engineer and shall adhere to the Design and Operational Requirements specified in the approved Standard Operating Policy for Sewage published on the Environmental Registry (Posting # 012-2968), as amended from time to time.

4. The modifications noted in sub-section (3a) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

2.0

Notice of Modification to Sewage Works

		Notice of Modification to Sewage Works	
RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)			
Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter.)</i>			
ECA Number:	Issuance Date (mm/dd/yyyy)	Notice number (if applicable):	
ECA Owner:		Municipality:	
Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>			
Description shall include: 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment, type/model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable. I.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)			
Part 3 – Declaration by Professional Engineer			
I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design: 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Conforms with the Limited Operational Flexibility as per the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.50 of the Ontario Water Resources Act; and other appropriate regulations. I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name (Print):		PEO License Number:	
Signature:		Date (mm/dd/yyyy):	
Name of Employer:			
Part 4 – Declaration by Owner			
I hereby declare that: 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. These modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i> . I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name of Owner Representative (Print):		Owner representative's title (Print):	
Owner Representative's signature:		Date (mm/dd/yyyy):	


Schedule D: Assumption of Sewage Works

System Owner and Operator	The Corporation of the City of Barrie
System Name	Sanitary Collection System servicing the Barrie Wastewater Treatment Facility

Schedule D includes:

1.0 Notice of Assumption of Sewage Works

1.0 Notice of Assumption of Sewage Works

		Notice of Assumption of Sewage Works	
<p>RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)</p>			
Part 1 – System-Wide Environmental Compliance Approval (ECA) <i>(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>			
ECA Number		Issuance Date (mm/dd/yyyy)	
		Notice number (if applicable)	
ECA Owner		Municipality	
Part 2: Transfer of Ownership of Sewage Works			
Name of Previous Owner (Print)		ECA Number and Issuance Date of Sewage Works whose Ownership has been Transferred	
Date of the Transfer of Ownership of Sewage Works (mm/dd/yyyy)		Confirmator that the Transfer of Ownership of Sewage Works is Complete (y/n)	
Part 3: Description of the Assumed Works <i>(Attach a detailed description of the sewage works: e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)</i>			
Part 4 – Declaration by Owner			
<p>I hereby declare that:</p> <ol style="list-style-type: none"> 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the addition of the Assumed Works to the System-Wide ECA; and 3. The Owner has fulfilled all applicable requirements of the Environmental Assessment Act. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.</p>			
Name of Owner Representative (Print)		Owner representative's title (Print)	
Owner Representative's Signature		Date (mm/dd/yyyy)	

Schedule E: Supporting Documents

System Owner and Operator	The Corporation of the City of Barrie
System Name	Sanitary Collection System servicing the Barrie Wastewater Treatment Facility

Schedule E includes:

- 1.0 Supporting Documents
- 2.0 Sanitary Infrastructure Map for the City of Barrie

1.0 Supporting Documents

1. Application for Environmental Compliance Approval for System-wide Municipal and Private Sewage Works, dated August 29, 2017, submitted by the Corporation of the City of Barrie;
2. Application for Environmental Compliance Approval for System-wide Municipal and Private Sewage Works, dated May 9, 2016, submitted by the Corporation of the City of Barrie;
3. Two (2) e-mails from Katie Thompson of the City of Barrie to the Ministry, dated September 16, 2016 and September 22, 2016, respectively;
4. E-mail from Tyler Adamson of the City of Barrie to the Ministry, dated September 27, 2016;
5. Two (2) e-mails from Katie Thompson of the City of Barrie to the Ministry, dated September 29, 2016;
6. E-mail from Bala Araniyasundaran of the City of Barrie to the Ministry, dated September 11, 2017; and
7. Detailed Description of Works, Sanitary Sewage Collection System: City of Barrie, dated September 29, 2016.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
7160-AQWSAX issued on September 11, 2017

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required; and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of
the Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 10th day of January, 2018



Christina Labarge, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

RU/
c: DWMD Supervisor, MOECC Barrie
Sinclair Garner, GHD Limited

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APPENDIX B: NOTICES OF MODIFICATIONS



Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
5921-ATUKKR	January 10, 2018	2018-02
ECA Owner	Municipality	
The Corporation of the City of Barrie	Barrie	

Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>	
Refer to attached Engineering Assessment.	2018-002 T PART C SANITARY
Description shall include:	
<ol style="list-style-type: none"> 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type, model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.) 	

Part 3 – Declaration by Professional Engineer	
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Conforms with the Limited Operational Flexibility as per the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act, and other appropriate regulations <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.</p>	
Name (Print)	PEO License Number
BRYAN F. STADTOW	90415795
Signature	Date (mm/dd/yy)
<i>[Signature]</i>	JUNE 19 2018
Name of Employer	
CCTATYAM ASSOCIATES LTD	

Part 4 – Declaration by Owner	
<p>I hereby declare that:</p> <ol style="list-style-type: none"> 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. These modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.</p>	
Name of Owner Representative (Print)	Owner representative's title (Print)
Robert Sutton, P.Eng.	Director of Engineering
Owner Representative's Signature	Date (mm/dd/yy)
<i>[Signature]</i> S. PIERCE	26/06/18

**CITY OF BARRIE - ENGINEERING ASSESSMENT FOR
NOTICE OF MODIFICATION TO SEWAGE WORKS**

(Requirement of ECA No. 5921-ATUKKR, in accordance with Schedule "B", Section (1))

Project:

Bayview Drive sanitary sewer replacement (north of Big Bay Point Road); part of Contract 2018-002T "Part C" – Big Bay Point Road and Bayview Drive Intersection.

Description of Project (Summary):

The proposed works include the replacement of approximately 213m of 600mm dia. sanitary sewer at the intersection of Bayview Drive and Big Bay Point Road, including the installation of two (2) 1,500mm dia. maintenance holes.

This work is being undertaken to improve the existing municipal infrastructure at the intersection of Big Bay Point Road and Bayview Drive and to accommodate future growth.

Documentation Reviewed:

- City of Barrie Contract document 2018-002T "Part C" – Big Bay Point Road and Bayview Drive Intersection.
- Engineering plans forming part of Contract 2018-002T "Part C".

Regulatory Requirement:

This work is being carried out in accordance with the Municipal Class Environmental Assessment, October 2000, as amended in 2007, 2011, and 2015.

Permits will be obtained from the Lake Simcoe Region Conservation Authority (LSRCA) pursuant to Ontario Regulation 179/06, as Bayview Drive intersects with a LSRCA regulated reach of Whiskey Creek.

Technical Criteria Used to Assess the Application:

The following technical criteria were used to assess this application:

- Ministry of the Environment and Climate Change, Design Guidelines for Sewage Works, 2008;
- City of Barrie, Sanitary Sewage Collection System Policies and Design Guidelines, 2017.

Issues Identified:

No issues have been identified.

New/Modified Terms and Conditions:



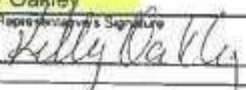
None.

Source Water Protection:

The proposed road improvement works at the intersection of Bayview Drive and Big Bay Point Road are located within a significant groundwater recharge area (vulnerability score of 4) and a Q2 wellhead protection area.

Recommendation:

The proposed works are recommended for approval under the Limited Operational Flexibility, in accordance with Schedule "B", section (1) and (2).

		Notice of Modification to Sewage Works	
RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)			
Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>			
ECA Number:	5921-ATUKKR	Issuance Date (mm/dd/yy)	01/10/18
		Notice number (if applicable)	2018-05
ECA Owner:	The Corporation of the City of Barrie		Municipality The Corporation of the City of Barrie
Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>			
Refer to attached Engineering Assessment. Harvie Road to Big Bay Point - New Hwy 400 Crossing: Sanitary			
Description shall include: 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)			
Part 3 – Declaration by Professional Engineer			
I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design: 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Conforms with the Limited Operational Flexibility as per the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations. I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name (Print)	Peter Rüsck, P.Eng.		PEO License Number 100073940
Signature			Date (mm/dd/yy) July 06, 2018
Name of Employer	Hatch Corporation		
Part 4 – Declaration by Owner			
I hereby declare that: 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. These modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the Environmental Assessment Act. I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name of Owner Representative (Print)	Kelly Oakley		Owner representative's title (Print) Director of Engineering (Acting)
Owner Representative's Signature			Date (mm/dd/yy) 10/11/18 Dec 11/18



Project Memo

H-353437

July 6, 2018

To: Todd Comfort – Colliers/City of Barrie From: Alberto Segura
cc: Biljana Rajlic – Hatch
Peter Rusch – Hatch
Andy Lambert – Hatch
Dave James – City of Barrie

City of Barrie
Harvie Road and Big Bay Point Road - New Highway 400 Crossing

Engineering Assessment for Notice of Modification to Sewage Works

1. Project

Sanitary Sewer Replacement for the New Highway 400 Crossing at Harvie Road and Big Bay Point Road from Essa Road to West of Bayview Drive.

2. Description of Project (Summary)

The proposed works includes the relocation and upgrade of approximately 157m of 450mm/600mm sanitary sewer and installation of approximately 1.2 km of new sanitary sewer including approximately 900m of 250mm dia., 115 m of 300 mm dia. and 176.5 m of 375 mm dia. This also includes installation of service connections, maintenance holes, and connections to the existing sanitary sewer system within the municipal right-of-way.

This work is being undertaken in order to improve the existing municipal infrastructure at Harvie Road and Big Bay Point Road to accommodate the new crossing of Highway 400 and future growth.

3. Documentation Reviewed

City of Barrie contract document 2018-002T – Harvie Road and Big Bay Point Road New Crossing – Highway 400

Engineering plans forming part of Contract 2018-002T – Harvie Road and Big Bay Point Road New Crossing – Highway 400

4. Regulatory Requirement

This work is being carried out in accordance with the Municipal Class Environmental Assessment, October 2000, as amended in 2007, 2011, and 2015.

If you disagree with any information contained herein, please advise immediately.
H353437-10-230-0004, Rev. A
Page 1

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5. Technical Criteria Used to Assess the Application

The following technical criteria were used to assess this application:

- Ministry of the Environment and Climate Change, Design Guidelines for Sewage Works, 2008;
- City of Barrie, Sanitary Sewage Collection System Policies and Design Guidelines, 2017.

6. Issues Identified

No issues have been identified.

7. New/Modified Terms and Conditions

None.

8. Source Water Protection

A segment of the proposed works between Essa Road and west of Veterans Dr. is located within WHPA-D.

9. Recommendation

The proposed works are recommended for approval under the Limited Operational Flexibility, in accordance with Schedule "B", section (1) and (2).

A handwritten signature in black ink, appearing to read "Alberto Segura". The signature is written over a horizontal line.

Alberto Segura, M.Sc., P.Eng.

AS:tc

- MOECC Notice of Modification to Sewage Works



Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
5921-ATUKKR	January 10, 2018	01- 3019-02
ECA Owner	Municipality	
The Corporation of the City of Barrie	Barrie	

Part 2: Description of the modifications as part of the Limited Operational Flexibility

(Attach a detailed description of the sewage works)

The proposed works on Dunlop Street extend approximately 300m, east from the end of the previous reconstruction on Dunlop Street to Toronto Street and will include roadway reconstruction (granulars, asphalt, sidewalk, curb and gutter), traffic detection loops, street lighting and the replacement of underground infrastructure including watermain, sanitary and storm sewers.

The sanitary sewer component of this project involves both the design of the replacement of the 195m long local sewer on Dunlop Street to 375mm and 450mm diameter concrete pipes and the rerouting of the 125m long Cundles Trunk Sanitary Sewer at High Street/Bradford Street and Dunlop Street to 450mm to 750mm diameter concrete pipes. The Cundles sanitary trunk sewer will be rerouted from High Street east along Dunlop Street and then south on Bradford Street to allow for the possible closure and redevelopment of High Street from Dunlop Street to Bradford Street.

Description shall include:

1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)
2. Confirmation that the anticipated environmental effects are negligible.
3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)

Part 3 – Declaration by Professional Engineer

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:

1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;
2. Conforms with the Limited Operational Flexibility as per the ECA;
3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s 53 of the Ontario Water Resources Act; and other appropriate regulations.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.

Name (Print)	PEO License Number
Drew Davidge, P.Eng	100162350
Signature	Date (mm/dd/yy)
	11/19/19
Name of Employer	
R.J. Burnside & Associates Limited	

Part 4 – Declaration by Owner

I hereby declare that:

1. I am authorized by the Owner to complete this Declaration;
2. The Owner consents to the modification; and
3. These modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.

4. The Owner has fulfilled all applicable requirements of the Environmental Assessment Act.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.

Name of Owner Representative (Print)	Owner Representative's title (Print)
Bala Araniyasundaran	Director of Engineering
Owner Representative's Signature	Date (mm/dd/yy)
	11/21/2019

**CITY OF BARRIE - ENGINEERING ASSESSMENT FOR
NOTICE OF MODIFICATION TO SEWAGE WORKS**

(Requirement of ECA No. 5921-ATUKKR, in accordance with Schedule "B", Section (1))

Project:

Dunlop Street Road Reconstruction (Eccles Street to Toronto Street)

Description of Project (Summary):

The proposed works on Dunlop Street extend approximately 300m, east from the end of the previous reconstruction on Dunlop Street to Toronto Street and will include roadway reconstruction (granulars, asphalt, sidewalk, curb and gutter), traffic detection loops, street lighting and the replacement of underground infrastructure including watermain, sanitary and storm sewers.

The proposed sanitary sewer work of this project involves both the design of the replacement of the 195m long local sewer on Dunlop Street to 375mm and 450mm diameter concrete pipes and the rerouting of the 125m long Cundles Trunk Sanitary Sewer at High Street/Bradford Street and Dunlop Street to 450mm to 750mm diameter concrete pipes. The Cundles sanitary trunk sewer will be rerouted from High Street east along Dunlop Street and then south on Bradford Street to allow for the possible closure and redevelopment of High Street from Dunlop Street to Bradford Street.

The proposed storm component of this project involves a proposed concrete rigid frame structure under Dunlop Street and open channel through the lands formerly occupied by Barrie Central Collegiate Institute which will ultimately be connected to the existing concrete box culvert under Simcoe Street east of Bradford Street. These drainage improvements would replace the existing 1,200 x 1,700mm concrete box culvert extending from the hotel/restaurant property on the north side of Dunlop Street easterly to Bradford Street.

There is a proposed precast concrete rigid frame structure to convey Kidd's Creek from Bradford Street to the existing Simcoe Street culvert. The proposed storm sewer is designed to convey the 5-year storm event as per the City of Barrie Storm Drainage and Stormwater Management Policies and Design Guidelines and will meet MOE and LSRC criteria. The storm sewer network includes four oil-grit separator to address quality control. The natural channel design will improve fish habitat and no barriers to fish movement will be created based on the proposed design of the new culverts. The Storm component of this work being reviewed under the City's MOECC Transfer of Review Process.

Documentation Reviewed:

City of Barrie contract document FIN2019-145T – Dunlop Street West Reconstruction – 2019
Engineering plans forming part of Contract FIN2019-145T – Dunlop Street West Reconstruction – 2019

Regulatory Requirement:

This work is being carried out in accordance with the Municipal Class Environmental Assessment, October 2000, as amended in 2007, 2011 & 2015.

Technical Criteria Used to Assess the Application:

The following technical criteria were used to assess this application:

- Ministry of the Environment and Climate Change, Design Guidelines for Sewage Works, 2008;
- City of Barrie, Sanitary Sewage Collection System Policies and Design Guidelines, 2017.

Issues Identified:

No issues have been identified.

New/Modified Terms and Conditions:

None.

Source Water Protection:

The proposed work is located within a Wellhead Protection Zone.

The proposed works are replacing existing pipes and all sewage will continue to flow to the City of Barrie Wastewater Treatment Facility. This work should be in conformance with requirement SEWG(b)-2 of the Approved South Georgian Bay Lake Simcoe Source Protection Plan.

Recommendation:

The proposed works are recommended for approval under the Limited Operational Flexibility, in accordance with Schedule "B", section (1) and (2).

R.J. Burnside & Associates Limited 128 Wellington Street West Suite 301 Barrie ON L4N 8J6 CANADA
telephone (705) 797-2047 fax (705) 797-2037 web www.rjburnside.com



November 19, 2019

Via: Email

Dave James, P.Eng.
Senior Project Engineer
City of Barrie
Engineering Department
70 Collier Street
Barrie ON L4M 4T5

Dear Mr. James:

**Re: Dunlop Street Reconstruction (Eccles Street to Toronto Street) Environmental Compliance Assessment (ECA) – Contract # FIN2019-145T
Project No.: 300034241.0000**

R.J. Burnside & Associates Limited (Burnside) has completed an Engineering Assessment for the modification of a Sanitary Sewer for the Dunlop Street Reconstruction (Eccles Street to Toronto Street) Project – Contract # FIN2019-145T.

Per Schedule B: "Limited Operational Flexibility Criteria for Modification to Sanitary Sewage Works", I have completed an Engineering Assessment for Modification to Sanitary Sewage Works as described in the Engineering Assessment for Notice of Modification to Sewage Works enclosed.

I have reviewed the engineering plans for the aforementioned project and certify that the design has been completed in general conformance with the applicable technical criteria and in accordance with good construction practices. My review of the design does not include the review of the upstream sanitary flows or catchment areas as this information was supplied by the City of Barrie and was used as provided.

Should you have any questions or require further information, please contact our office.

Yours truly,

R.J. Burnside & Associates Limited

Emie Groskopf, P.Eng.
Senior Design Lead
EG:sc
Enclosure(s) ECA Engineering Assessment
Notice of Modification to Sewage Works

cc: Drew Davidge, Burnside (enc.) (Via: Email – drew.davidge@rjburnside.com)

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Final 2020 Collection System Annual Report

















Final Audit Report

2021-03-26

Created:	2021-03-24
By:	Christine Kovacs (Christine.kovacs@barrie.ca)
Status:	Signed
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Agreement completed.

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