YORK REGION

Municipal Sewage Collection System

Wastewater Annual Performance Report

for the 2024 Calendar Year

Prepared pursuant to reporting requirements under
Environmental Compliance Approval #013-W601

Accessible formats or communication supports are available upon request.
Please contact AccessYork@york.ca or call 1-877-464-9675.

Photo: the Second Concession SPS
Credit: Jonathan Magill.

York Region

2024 ANNUAL PERFORMANCE REPORT | KESWICK SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via Cook's Bay

FACILITY DESCRIPTION

The Keswick Sewage Pumping Station is part of the Keswick Sewage Collection Sub-System. It receives flow from the local collection system. The SPS is connected to two forcemains. Flows are sent to the Keswick Water Resource Recovery Facility (WRRF) for treatment.

PROCESS OVERVIEW

The Keswick Sewage Pumping Station is equipped with a two-celled wet well, a dry well, and four pumps. Each wet well is equipped with grinders to reduce solids to smaller sizes so they can pass through the system more effectively. Keswick SPS typically discharges through one forcemain to the Keswick Water Resource Recovery Facility (WRRF) but can discharge through two forcemains to the WRRF if required. Full wastewater treatment is received once the wastewater reaches the Keswick WRRF.

EMERGENCY POWER

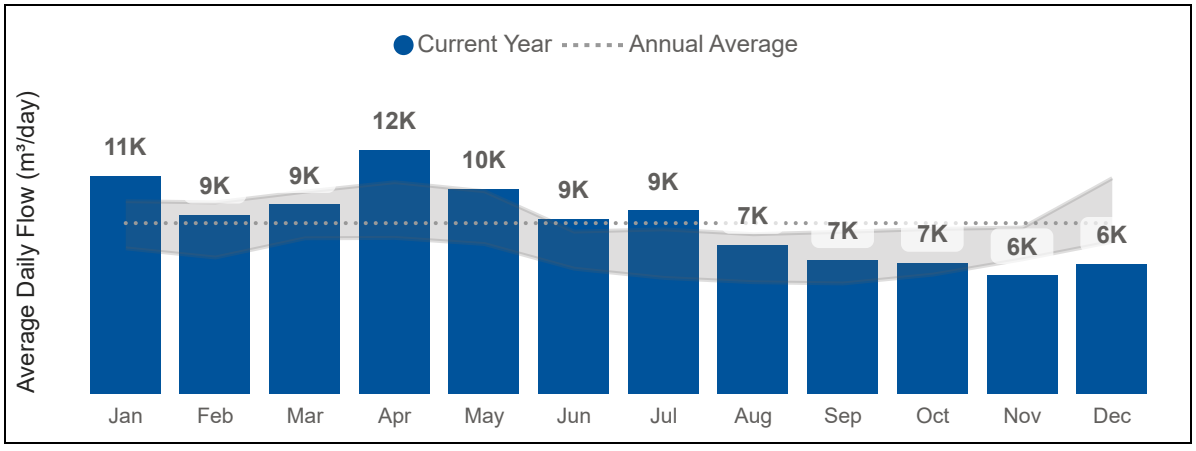
One standby diesel generator, two fuel storage tanks.

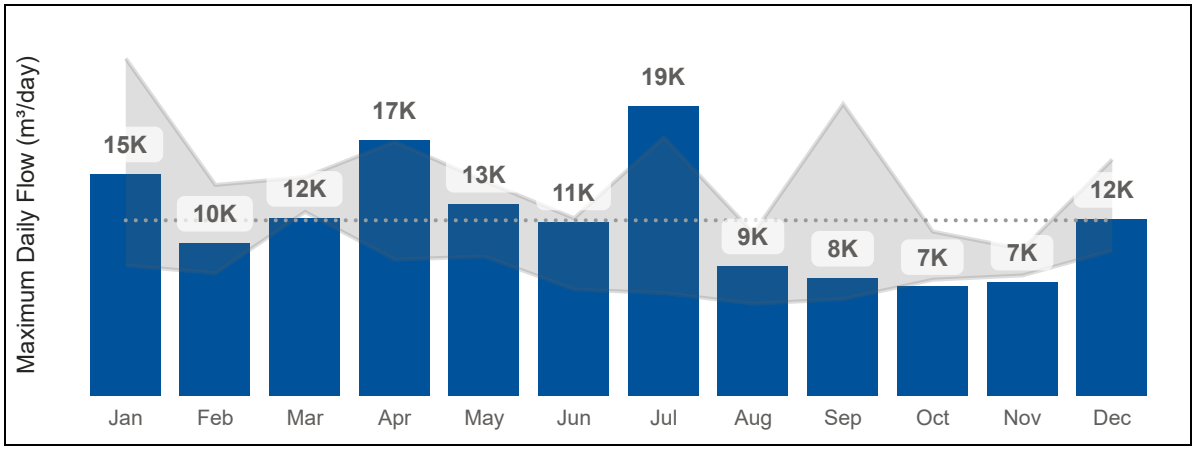
AIR MANAGEMENT

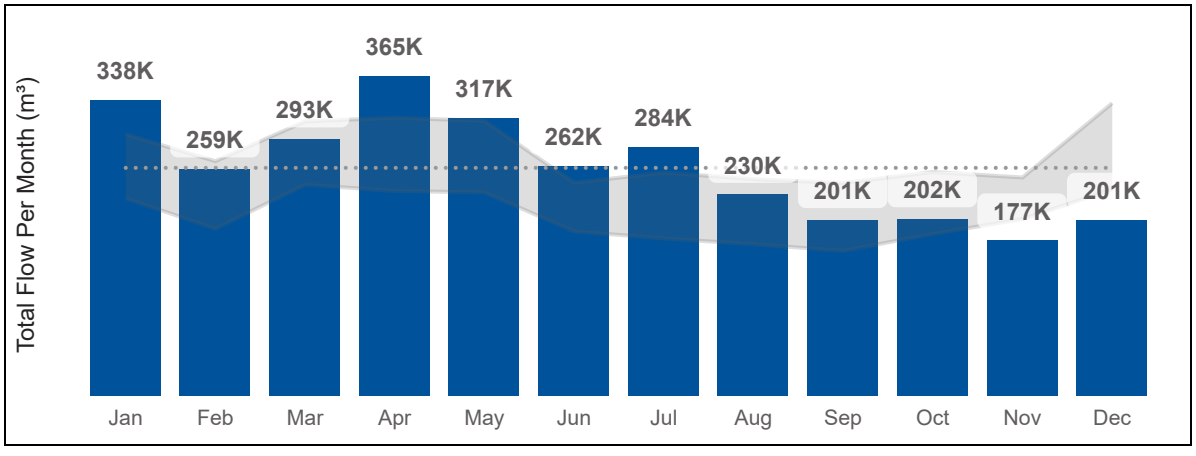
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
KESWICK SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | KESWICK GEORGINA NO.4 SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via Cook's Bay

FACILITY DESCRIPTION

The Keswick Georgina No.4 Sewage Pumping Station is part of the Keswick Collection Sewage Sub-System. It receives flow from the local collection system. The SPS is connected to two forcemains. Flows are sent to the Keswick WRRF for treatment.

PROCESS OVERVIEW

The Georgina No.4 Sewage Pumping Station is equipped with a two-celled wet well, a dry well and three pumps. The inlet is equipped with a screen to remove large solids before flowing into the wet wells. The Station discharges to twinned forcemains, eventually converging to a gravity sewer which flows into the Keswick WRRF. Full wastewater treatment is received once the wastewater reaches the Keswick WRRF.

EMERGENCY POWER

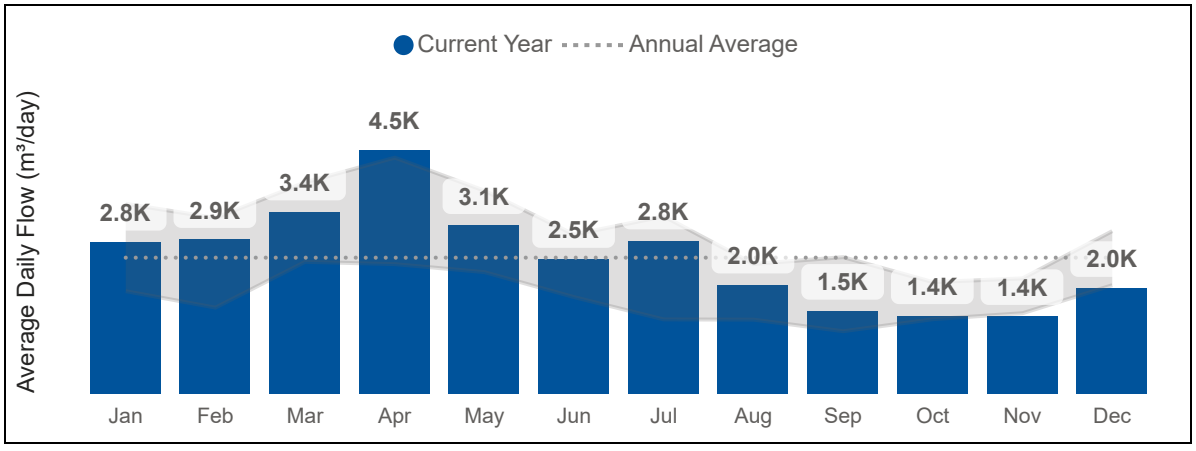
One standby diesel generator, two fuel storage tanks.

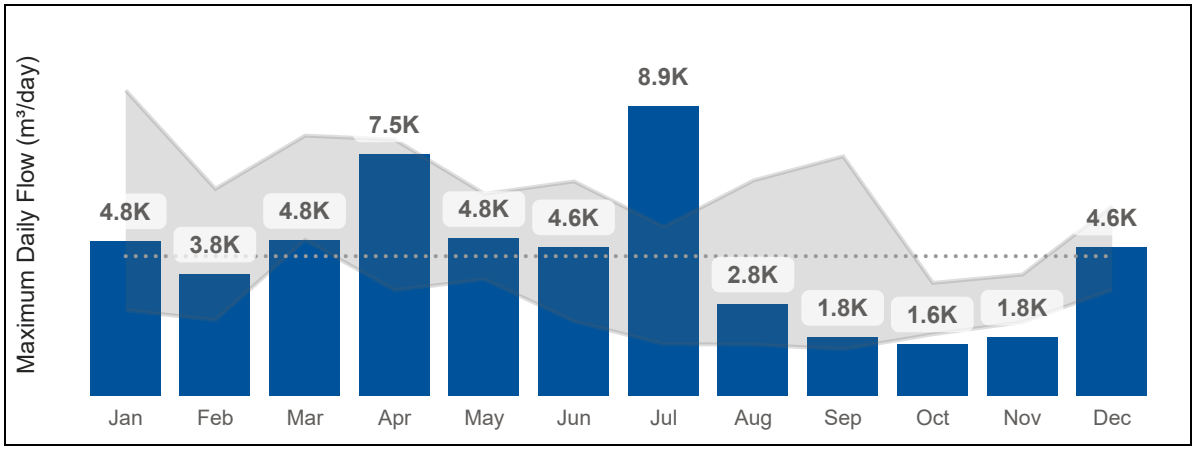
AIR MANAGEMENT

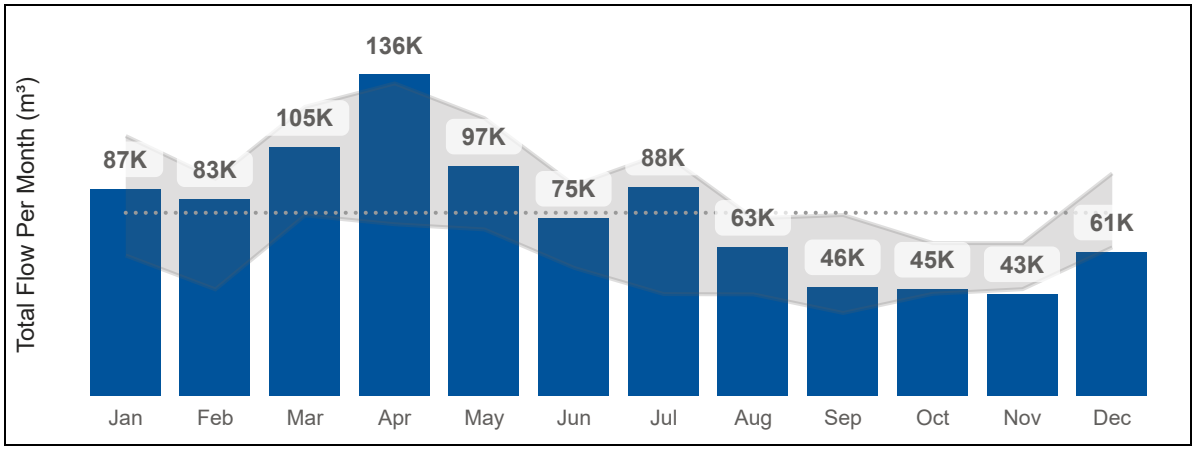
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
GEORGINA NO. 4 SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | KESWICK JOE DALES SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via Cook's Bay

FACILITY DESCRIPTION

The Keswick Joe Dales Sewage Pumping Station is part of the Keswick Sewage Collection Sub-System. It receives flow from the local collection system. The SPS is connected to three forcemains. Flows eventually reach the Keswick WRRF for treatment.

PROCESS OVERVIEW

The Keswick Joe Dales Sewage Pumping Station is equipped with a two-celled wet well, a dry well and three pumps. One inlet directs flows to the wet well, equipped with a channel grinder to reduce solids to smaller sizes so they can pass through the system more effectively. An "inlet bypass" structure flows around the grinder and is equipped with a screen to remove solids before reaching the wet well. The forcemain on Joe Dales Drive connects to a local forcemain, which ultimately reaches the Keswick WRRF through the local collection system. The other two forcemains are twinned and carry wastewater to Keswick WRRF. Full wastewater treatment is received once the wastewater reaches the Keswick WRRF.

EMERGENCY POWER

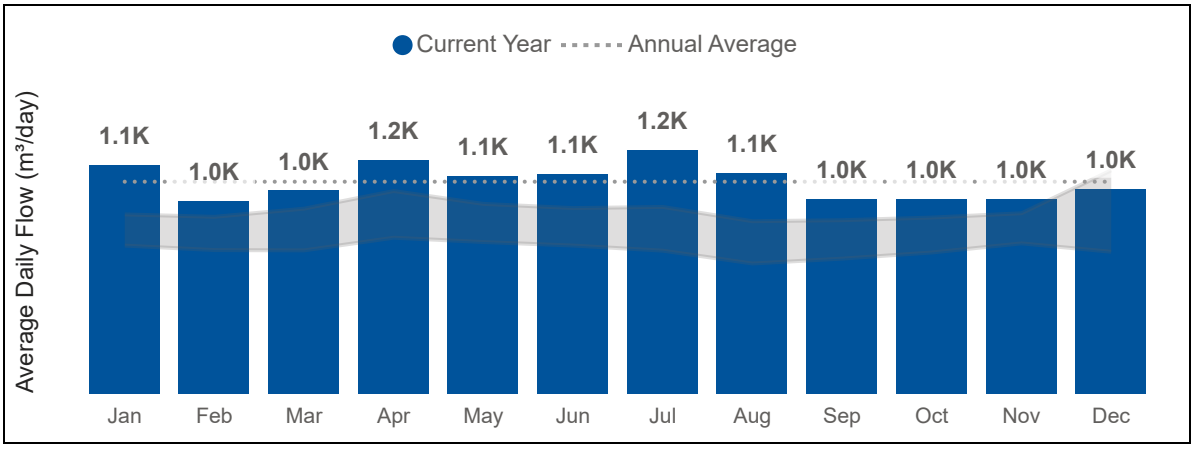
One standby diesel generator, two fuel storage tanks.

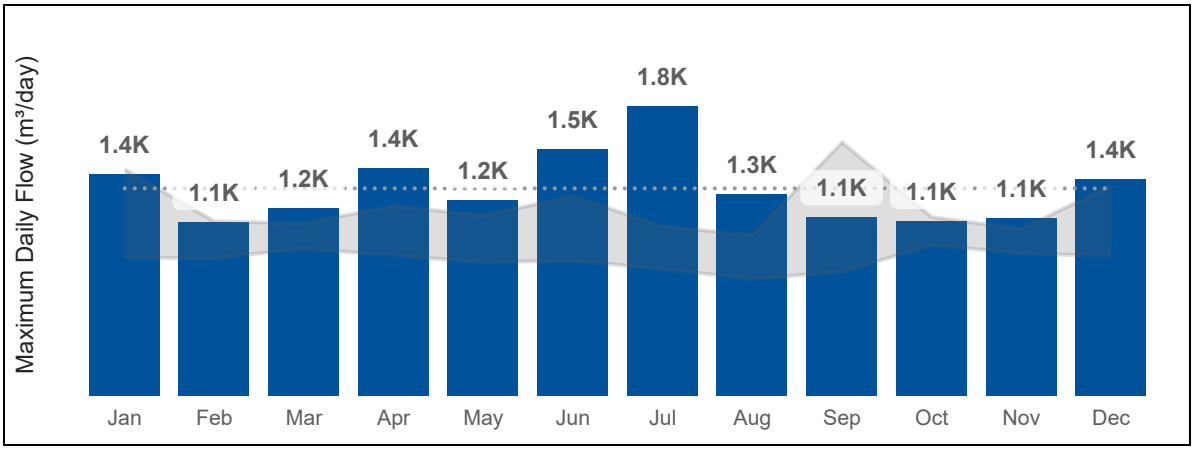
AIR MANAGEMENT

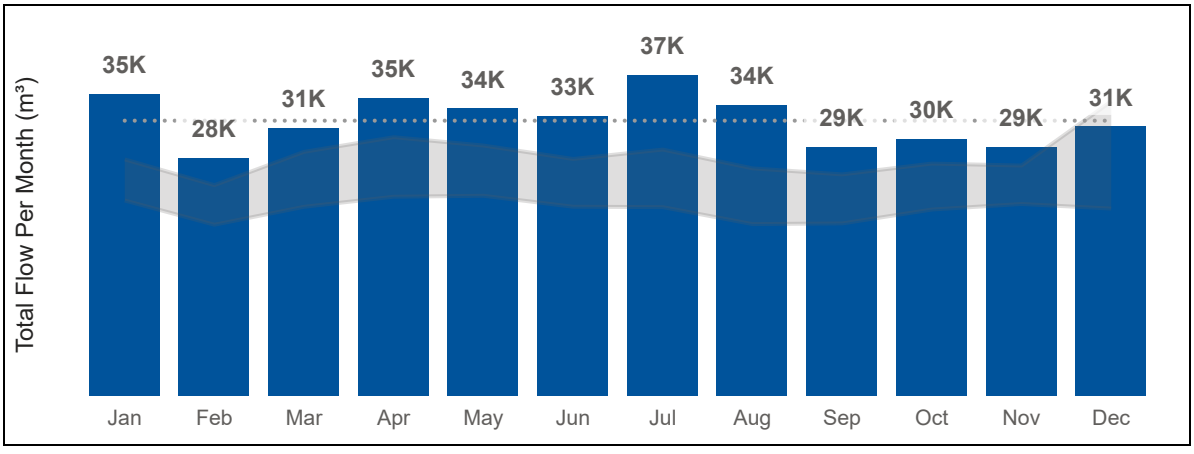
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
JOE DALES SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | MOUNT ALBERT SPS

FACILITY INFORMATION

Municipality Serviced: Town of East Gwillimbury

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via Mount Albert Creek and Vivian Creek

FACILITY DESCRIPTION

The Mount Albert Sewage Pumping Station is part of the Mount Albert Collection Sewage Sub-System. The Station receives flow through local sewers and directs it through one forcemain to Mount Albert WRRF for treatment. A drain line can return flows to the wet well from the forcemain.

PROCESS OVERVIEW

The Mount Albert Sewage Pumping Station is equipped with a wet well, a dry well and two pumps. The station discharges to one forcemain towards the Mount Albert WRRF for full wastewater treatment.

EMERGENCY POWER

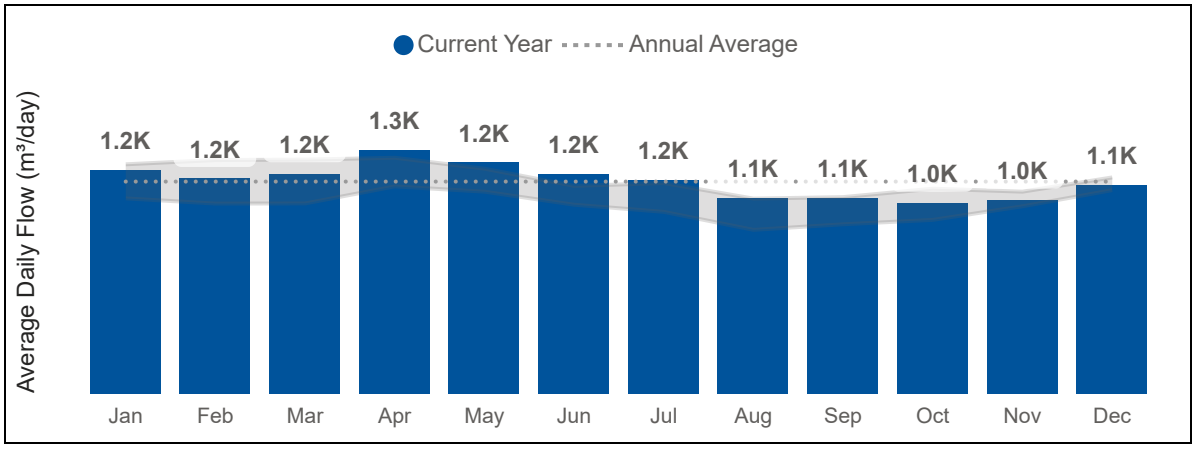
One standby diesel generator, one fuel storage tank.

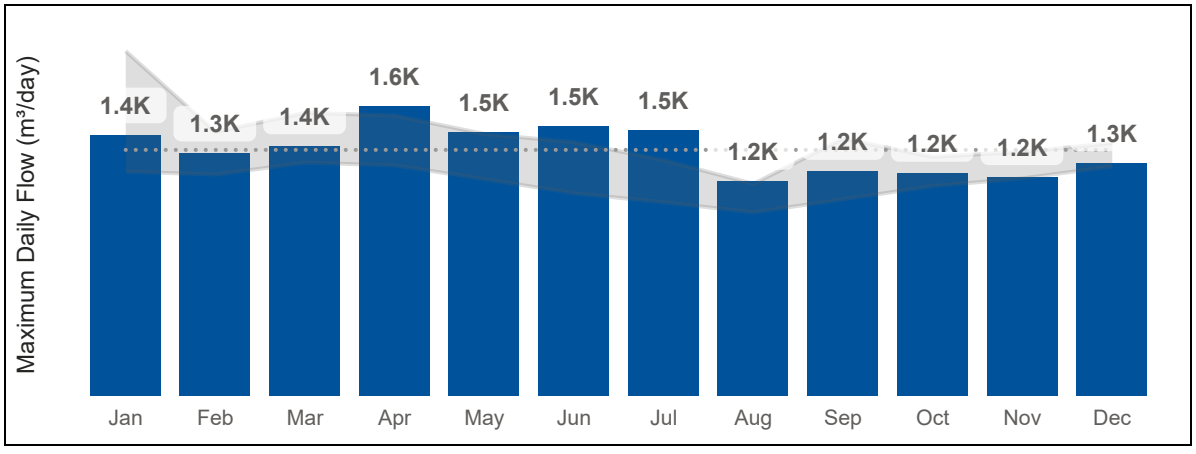
AIR MANAGEMENT

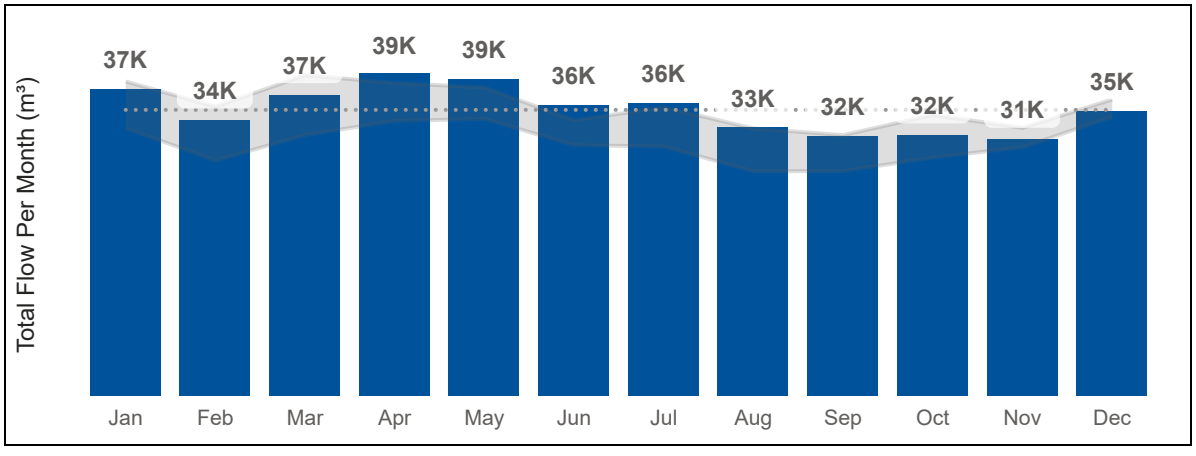
Not applicable at Mount Albert SPS.

2024 ANNUAL PERFORMANCE REPORT
MT. ALBERT SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | NOBLETON JANET AVE SPS

FACILITY INFORMATION

Municipality Serviced: Township of King

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System III

Receiving Water Bodies: Lake Ontario via the Humber River

FACILITY DESCRIPTION

The Nobleton Janet Avenue Sewage Pumping Station is part of the Nobleton Sewage Collection Sub-System. It receives flows from the local collection system. Flows are sent to the Nobleton WRRF for treatment.

PROCESS OVERVIEW

The Nobleton Janet Avenue Sewage Pumping Station is equipped with a three-chambered wet well, a dry well and three pumps. It discharges through one forcemain to the Nobleton WRRF. Full wastewater treatment is received once the wastewater reaches the Nobleton WRRF.

EMERGENCY POWER

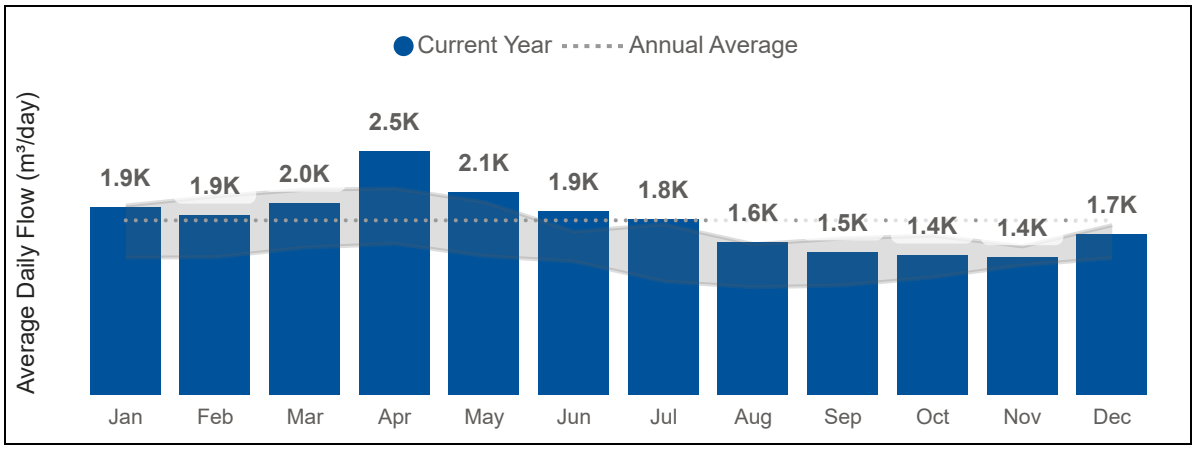
One standby diesel generator, one fuel storage tank.

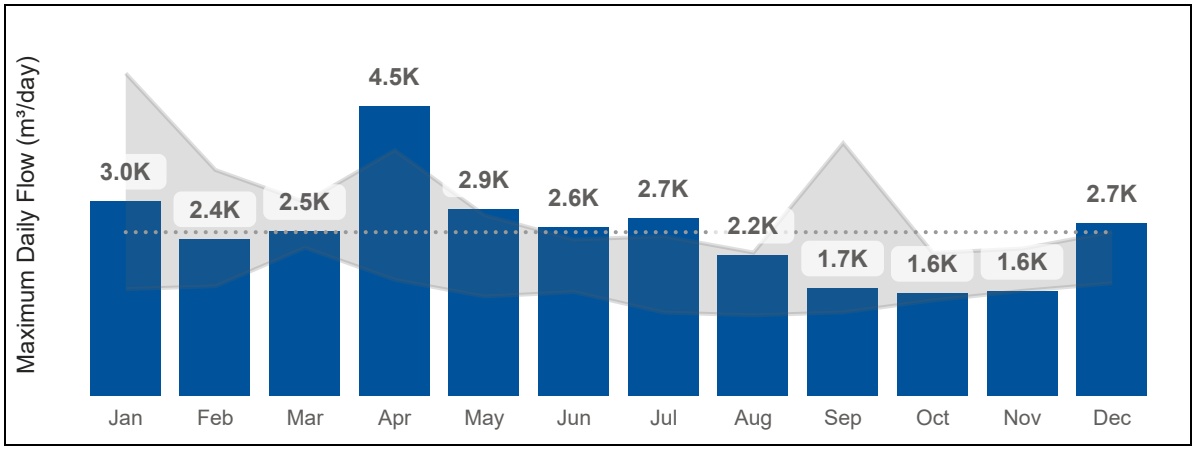
AIR MANAGEMENT

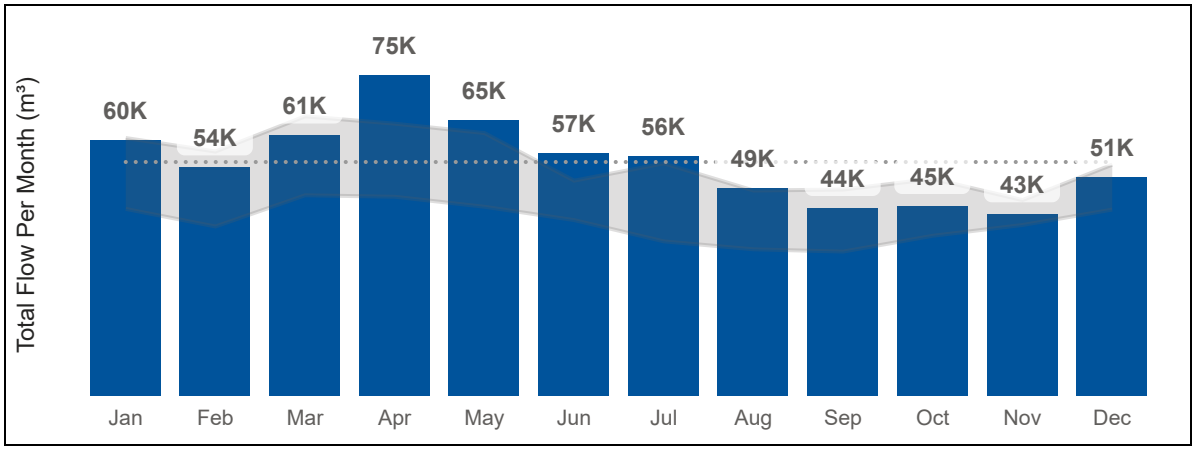
Not applicable at Nobleton SPS.

2024 ANNUAL PERFORMANCE REPORT
NOBLETON SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | SCHOMBERG DR. KAY SPS

FACILITY INFORMATION

Municipality Serviced: Township of King

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via the Schomberg River

FACILITY DESCRIPTION

The Schomberg Dr. Kay Sewage Pumping Station is part of the Schomberg Sewage Collection Sub-System. It receives flow from the local collection system. Flows are sent to the Schomberg WRRF for treatment.

PROCESS OVERVIEW

The Schomberg Dr. Kay SPS is equipped with a circular wet well, two pumps, and a valve chamber to attach a portable pump during emergency situations. It discharges through one forcemain to the Schomberg WRRF for treatment.

EMERGENCY POWER

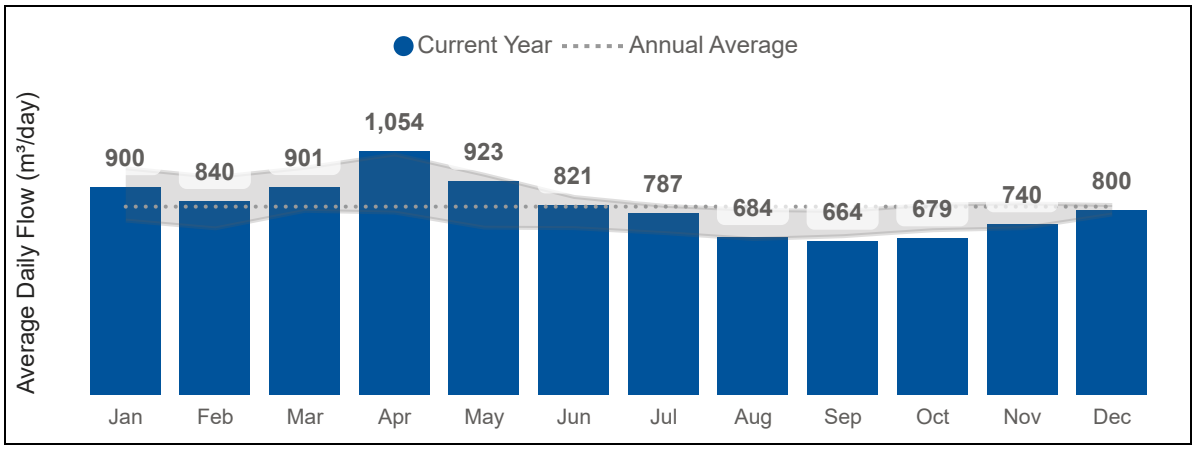
One standby diesel generator, one fuel storage tank.

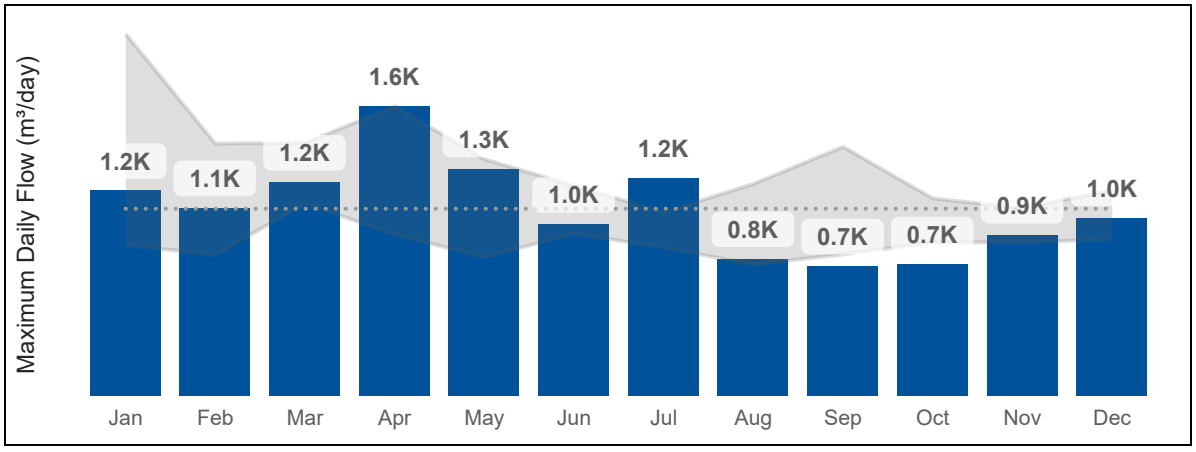
AIR MANAGEMENT

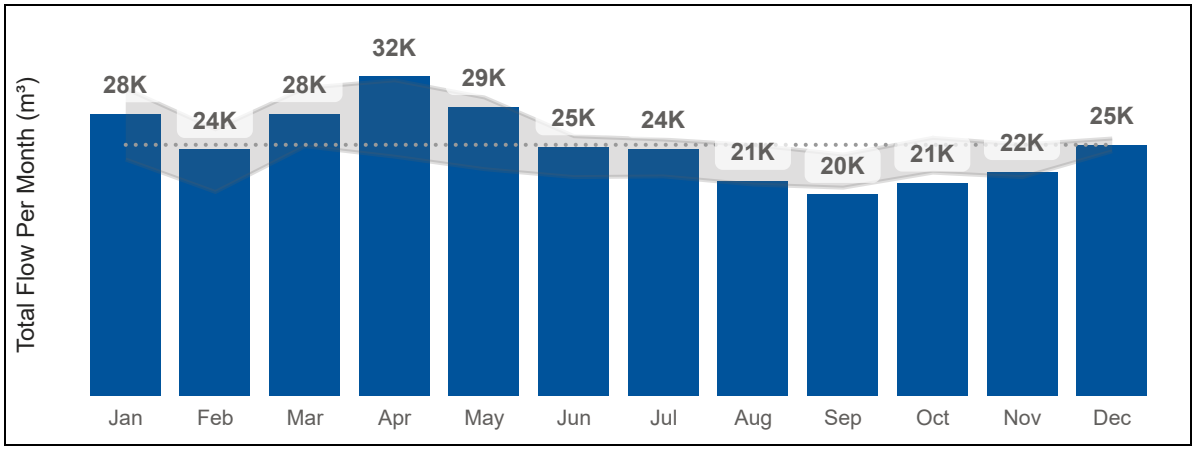
Not applicable at Dr. Kay SPS.

2024 ANNUAL PERFORMANCE REPORT
DR. KAY SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | SUTTON HIGH ST SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via the Black River

FACILITY DESCRIPTION

The Sutton High Street Sewage Pumping Station is part of the Sutton Sewage Collection Sub-System. It receives flow from the local collection system. Flows are sent to the Sutton WRRF for treatment.

PROCESS OVERVIEW

The High Street Sewage Pumping Station is equipped with a wet well and two submersible pumps. It discharges through one forcemain to the Sutton WRRF. Full wastewater treatment is received once the wastewater reaches the Sutton WRRF.

EMERGENCY POWER

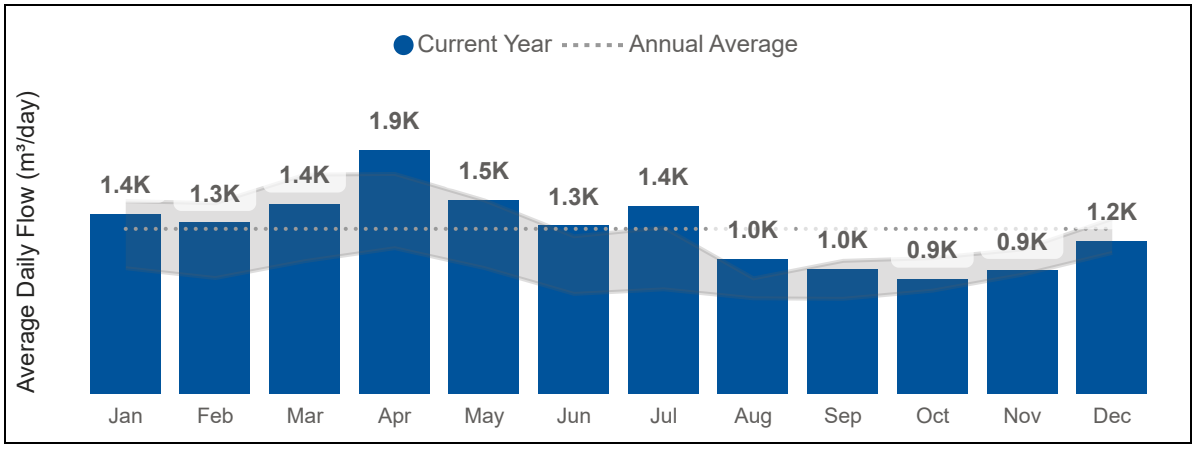
One standby diesel generator, one fuel storage tank.

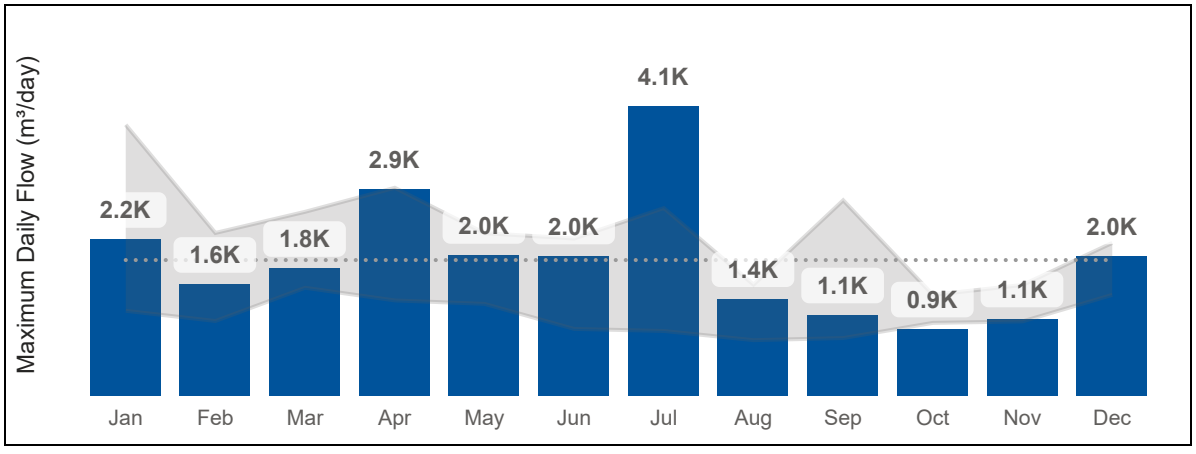
AIR MANAGEMENT

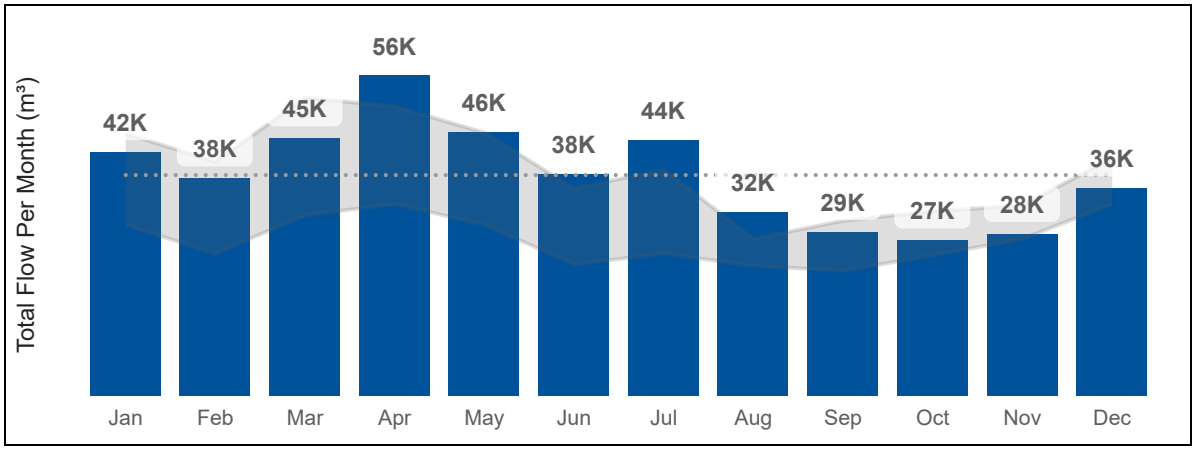
One on-site activated carbon adsorption unit (passive drum scrubber system).

2024 ANNUAL PERFORMANCE REPORT
HIGH STREET SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | SUTTON SOUTH RIVER SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via the Black River

FACILITY DESCRIPTION

The Sutton South River Sewage Pumping Station is part of the Sutton Sewage Collection Sub-System. This small station is sited outdoors, comprising of a chamber at ground level with an adjacent electrical panel to control the equipment. It receives flow from the local collection system and directs it to Woodriver Bend SPS. Flows eventually reach the Sutton WRRF for treatment.

PROCESS OVERVIEW

The South River Sewage Pumping Station is equipped with a circular wet well and two submersible pumps. It discharges through one forcemain to the Woodriver Bend Sewage Pumping Station. Full wastewater treatment is received once the wastewater reaches the Sutton WRRF.

EMERGENCY POWER

An uninterruptible power supply (UPS) temporarily powers the equipment. The facility can also be connected to a portable generator.

AIR MANAGEMENT

Not applicable at South River SPS.

2024 ANNUAL PERFORMANCE REPORT | SUTTON WOODRIVER BEND SPS

FACILITY INFORMATION

Municipality Serviced: Town of Georgina (Sutton)

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Simcoe via the Black River.

FACILITY DESCRIPTION

The Sutton Woodriver Bend Sewage Pumping Station is part of the Sutton Sewage Collection Sub-System. It receives flow from the local collection system and from the upstream South River SPS. Flows are sent to the Sutton WRRF for treatment.

PROCESS OVERVIEW

The Woodriver Bend Sewage Pumping Station is equipped with a wet well and two submersible pumps. The station discharges through one forcemain to the Sutton WRRF. Full wastewater treatment is received once the wastewater reaches the Sutton WRRF.

EMERGENCY POWER

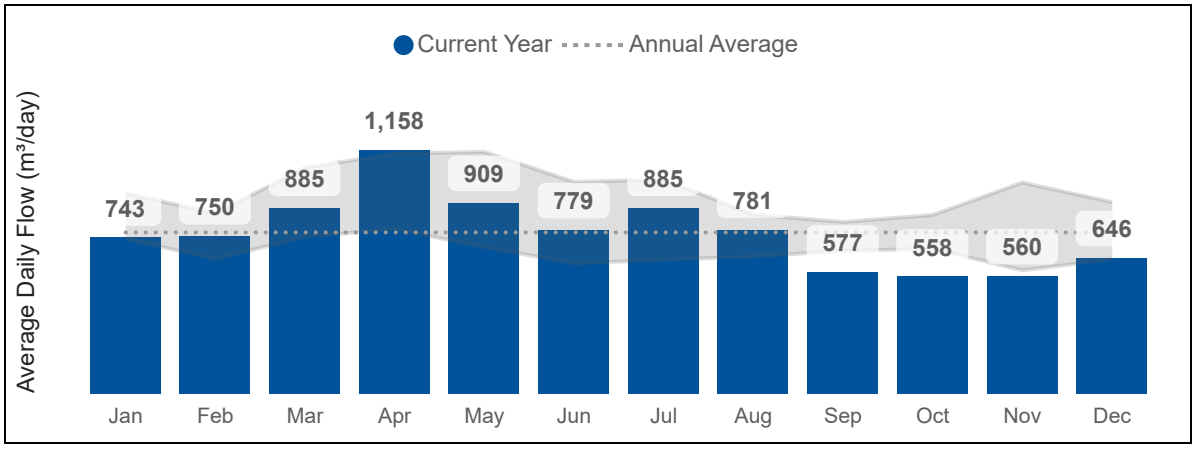
One standby natural gas generator.

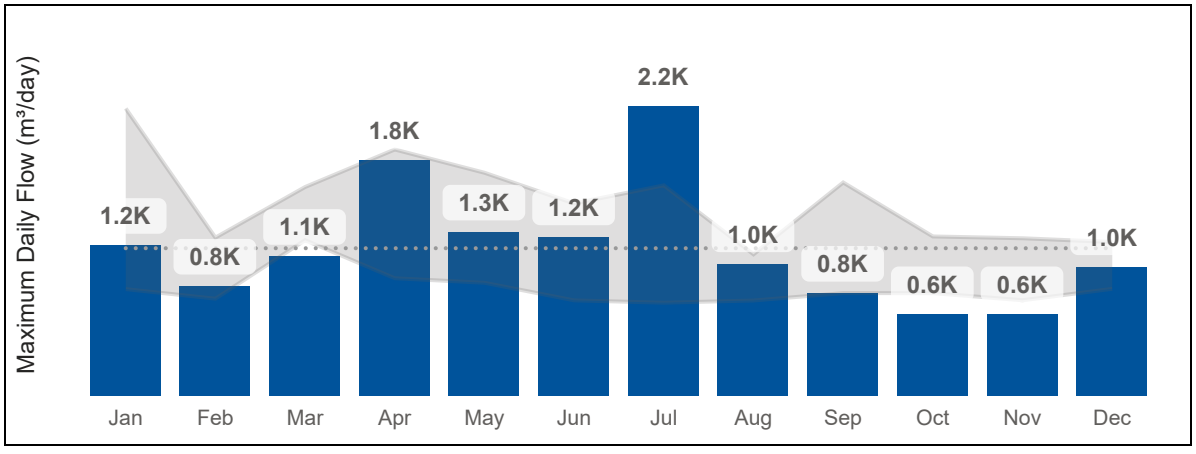
AIR MANAGEMENT

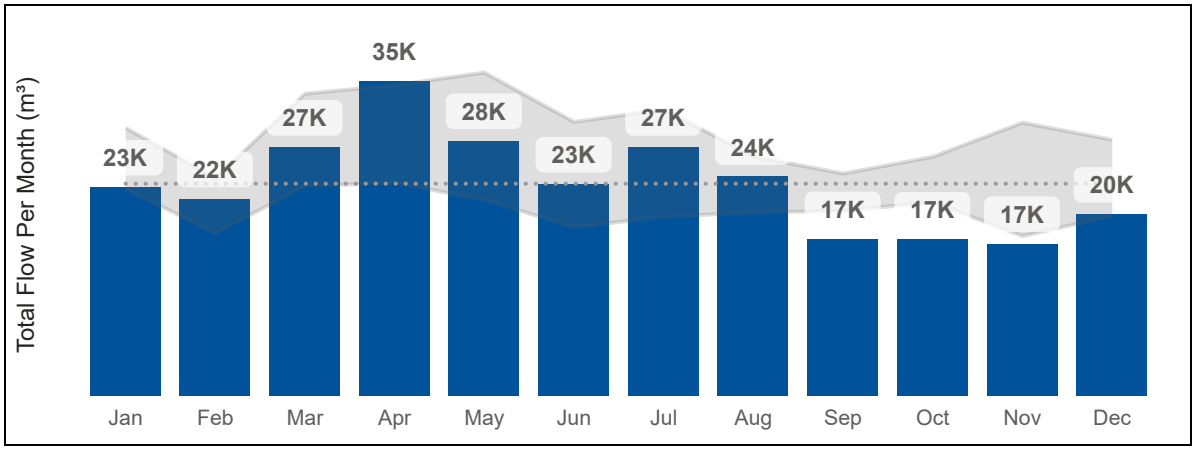
One on-site activated carbon adsorption unit (passive drum scrubber system).

2024 ANNUAL PERFORMANCE REPORT
WOODRIVER BEND SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS 2ND CONCESSION SPS

FACILITY INFORMATION

Municipality Serviced: Town of East Gwillimbury

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP (Durham Region)

FACILITY DESCRIPTION

The 2nd Concession Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). Two sewer mains enter the facility. Forcemains exit the facility to push the wastewater from the station along one of two possible paths: normal operation directs flows south to the YDSS towards the Newmarket SPS, ultimately headed for treatment at the Duffin Creek Water Pollution Control Plant, which discharges to Lake Ontario; two additional forcemains, which are not currently in use, direct flows north and are intended to accommodate future growth.

PROCESS OVERVIEW

The 2nd Concession Sewage Pumping Station is equipped with a two-celled wet well and two pumps (with two spaces for future pumps). A channel grinder reduces the solids to smaller sizes so they can pass through the system more effectively. Two inlet/grinder bypass channels are each equipped with screens to remove large solids prior to reaching the wet wells. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

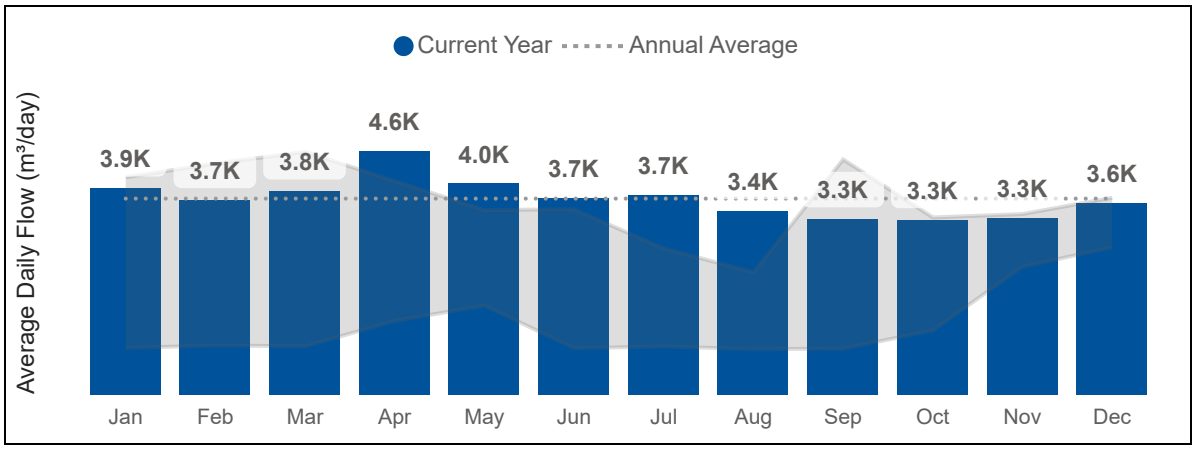
One standby diesel generator, two outdoor fuel storage tanks and one indoor fuel day tank.

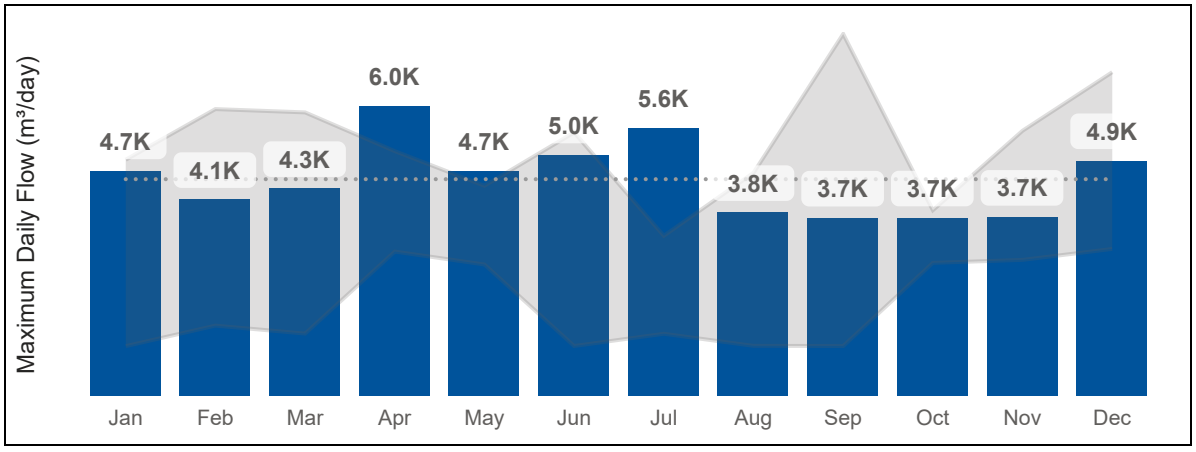
AIR MANAGEMENT

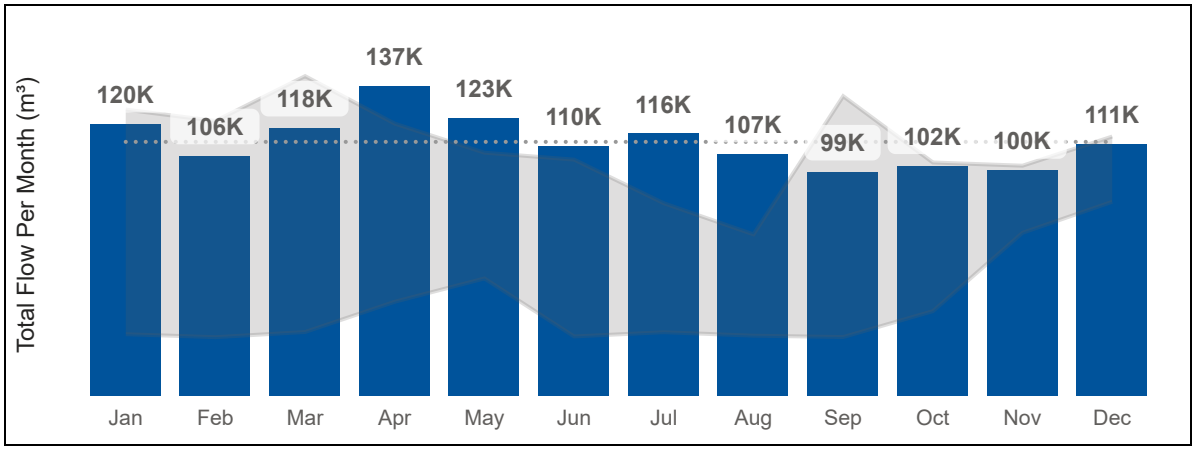
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
2ND CONCESSION SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | YDSS AURORA SPS

FACILITY INFORMATION

Municipality Serviced: Town of Aurora

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The Aurora Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). It is downstream of the Newmarket and Bogart Creek Sewage Pumping Stations. Two sewers enter the facility, one from the north (from Newmarket), and one from the west. A hauled waste receiving facility allows for monitored delivery of imported sewage from registered haulers. Two forcemains convey wastewater from the station along the YDSS.

PROCESS OVERVIEW

The Aurora Sewage Pumping Station is equipped with a wet well and six pumps. Two channels are each equipped with screens to remove large solids. An underground equalization tank provides buffering capacity for high flows. The equalization tank comprises two cells with six pumps, and it can operate as its own sewage pumping station to further mitigate high flows. This operating mode is known as the Aurora Interim Sewage Servicing Solution (ISSS). Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

The hauled waste receiving facility is designed to remove large solids from the received waste and pass the liquid fraction to the sewage stream. Sludge from the Region's Water Resource Recovery Facilities is hauled to the Aurora SPS. This action is authorized in the ECAs for the Region's facilities. Sludge quality and quantity is monitored to ensure there are no impacts to the system due to the sludge. The ultimate sludge destination point remains the Duffin Creek WPCP, where it undergoes further processing.

EMERGENCY POWER

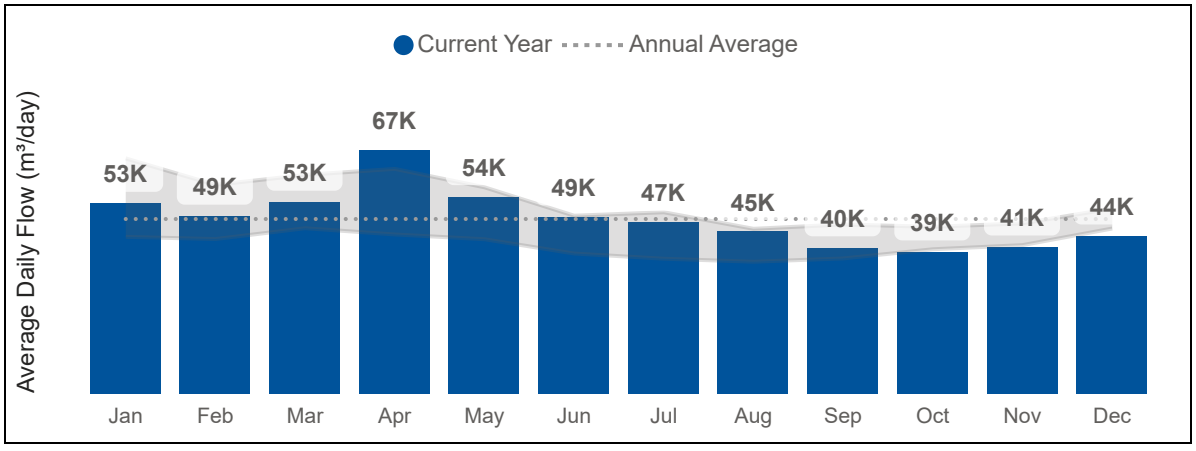
Three standby diesel generators and two outdoor fuel storage tanks.

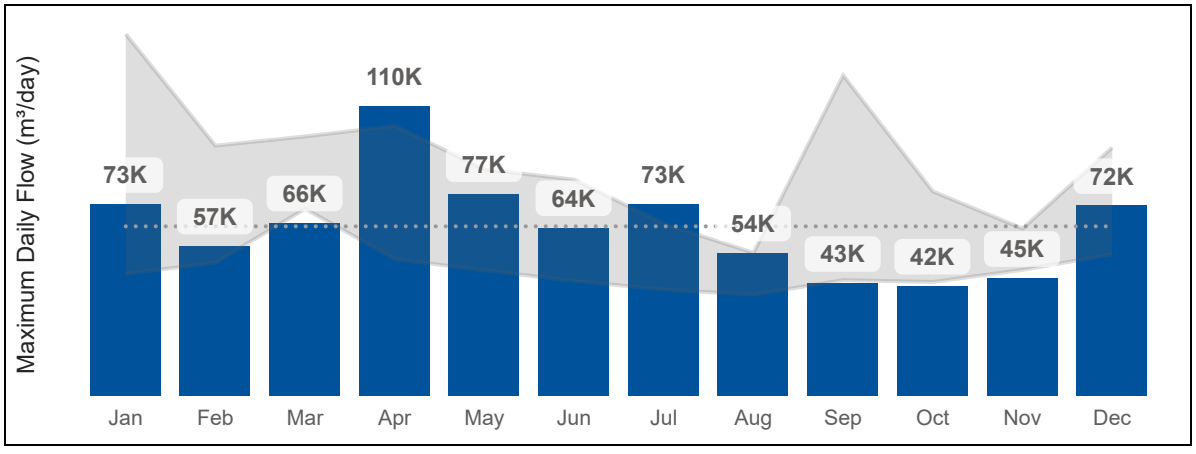
AIR MANAGEMENT & CONDITIONING CHEMICALS

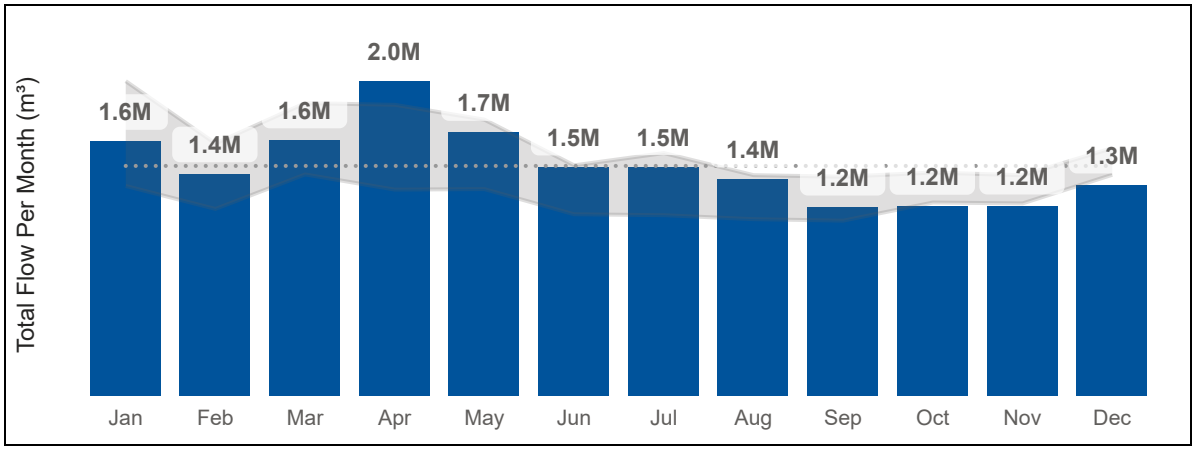
One on-site activated carbon adsorption unit control odours from the equalization tank. Other odour control is currently offline due to planned facility upgrades. Hydrogen peroxide is added to the wet well to reduce hydrogen sulfide and odours, in conjunction with iron salts added at the upstream Newmarket SPS.

2024 ANNUAL PERFORMANCE REPORT
AURORA SPS

PUMPING STATION FLOW







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2024 ANNUAL PERFORMANCE REPORT | YDSS AURORA HENDERSON SPS

FACILITY INFORMATION

Municipality Serviced: Town of Aurora

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System III

Receiving Water Bodies: Lake Ontario

FACILITY DESCRIPTION

The Aurora Henderson Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). It was commissioned in 2023. The station receives flow from the local collection system and discharges through twinned forcemains. Flows are sent to the Duffin Creek WPCP for treatment.

PROCESS OVERVIEW

The Aurora Henderson Sewage Pumping Station is equipped with a two-celled wet well and 4 submersible pumps. The inlet flows into the wet well. An “inlet bypass” structure is equipped with a screen to remove solids before reaching the wet well. Flows are discharged through twinned forcemains. Full wastewater treatment is received once the wastewater reaches the Duffin Creek WPCP.

EMERGENCY POWER

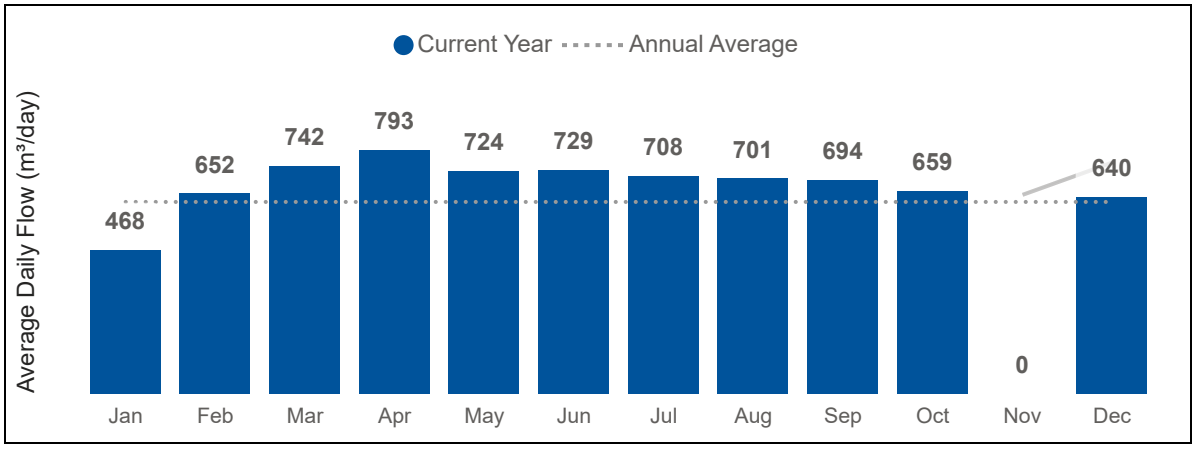
One standby natural gas generator.

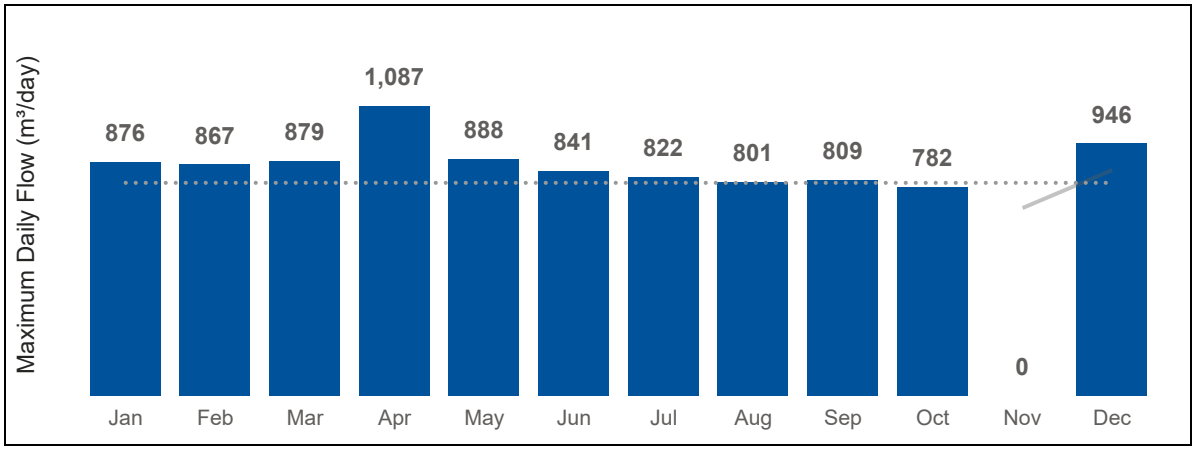
AIR MANAGEMENT

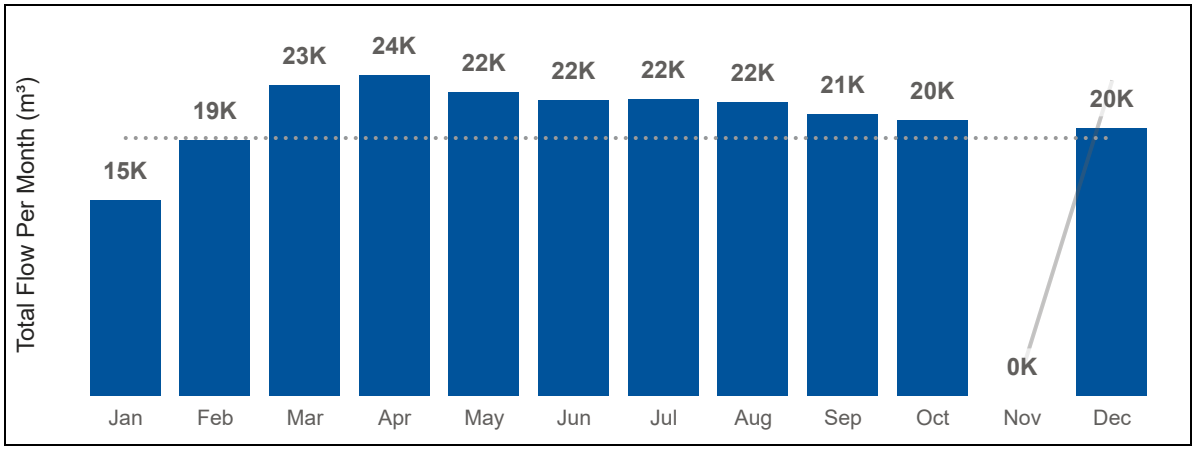
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
AURORA HENDERSON SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

Note: in November 2024, Aurora Henderson SPS was offline with no flow through the facility. Refer to report condition 4.6.5 for more information.

2024 ANNUAL PERFORMANCE REPORT | YDSS BOGART CREEK SPS

FACILITY INFORMATION

Municipality Serviced: Town of Newmarket

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The Bogart Creek SPS receives wastewater from the Town of Newmarket, via influent sewers. It is part of the York-Durham Sewage System (YDSS).

PROCESS OVERVIEW

The Bogart Creek SPS is equipped with a two-celled wet well and four pumps. One inlet splits into two channels and directs flows to the wet well. One channel is equipped with a channel grinder to reduce solids to smaller sizes so they can pass through the system more effectively and the other equipped with a screen to remove solids. Flows are conveyed south through twinned forcemains to the Aurora SPS. Twinned forcemains provide redundancy in sewage systems, which improves the reliability of the sewage system and allows for maintenance and repairs on one forcemain while the other operates. Only one forcemain is used at a time. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

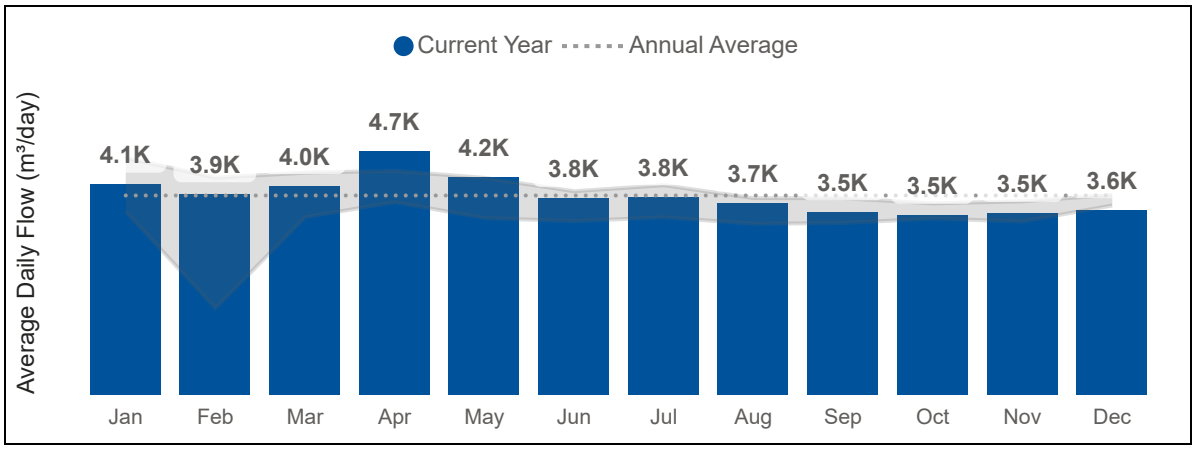
One standby diesel generator and one fuel tank.

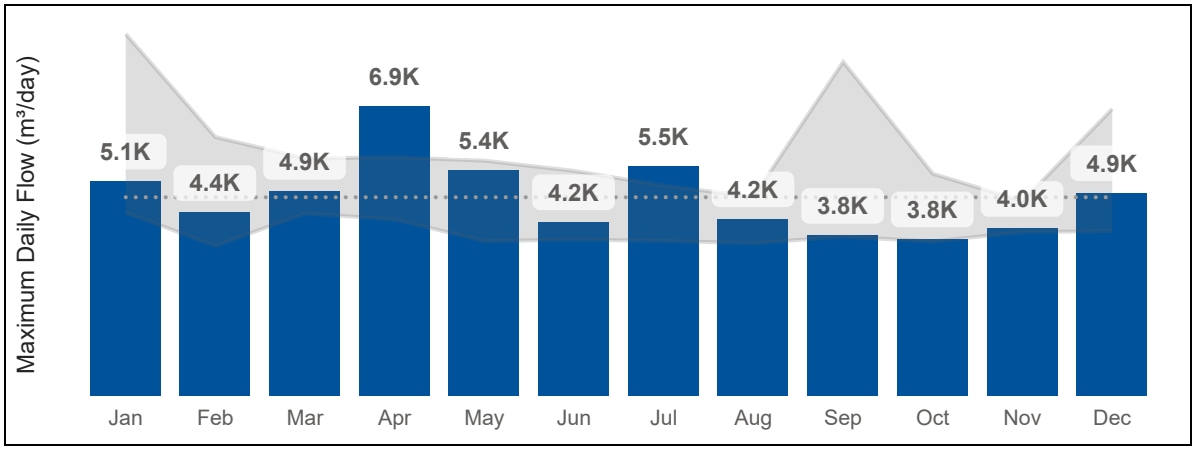
AIR MANAGEMENT

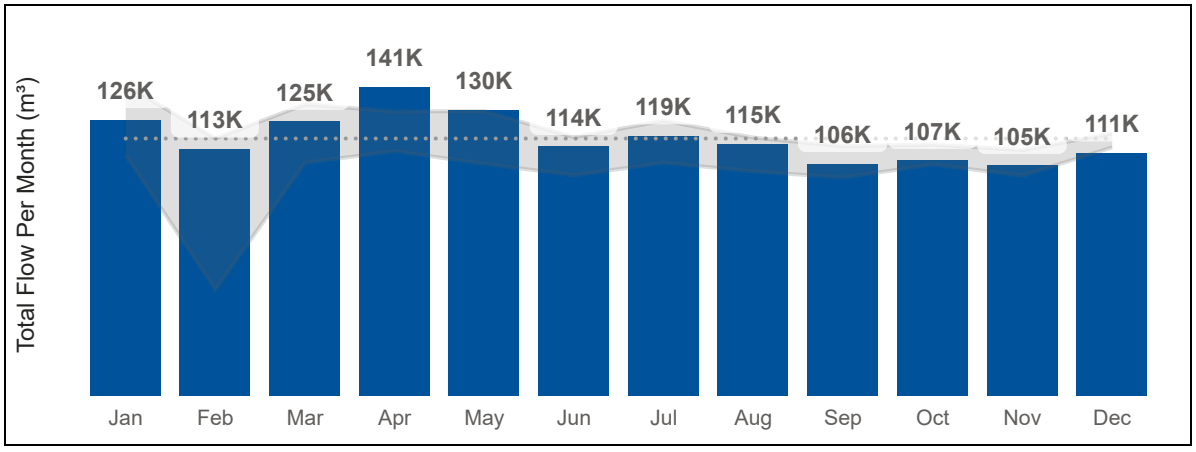
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
BOGART CREEK SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS HOLLAND LANDING SPS

FACILITY INFORMATION

Municipality Serviced: Town of East Gwillimbury

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP (Durham Region) (continuous) and Lake Simcoe via Holland Landing Lagoons (intermittent)

FACILITY DESCRIPTION

The Holland Landing Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). One sewer enters the facility. Two forcemains exit the facility, “North” and “South”. Normal operation uses the South forcemain to direct flows to the YDSS. The North forcemain can direct flows to the Holland Landing Lagoons in an emergency to buffer high flows in the system. Wastewater is eventually treated at the Duffin Creek Water Pollution Control Plant via the YDSS.

PROCESS OVERVIEW

The Holland Landing Sewage Pumping Station is equipped with a two-celled wet well and three pumps (with one space for a future pump). A channel grinder reduces the solids to smaller sizes so they can pass through the system more effectively. Two inlet/grinder bypass channels are each equipped with screens to remove large solids prior to reaching the wet wells. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

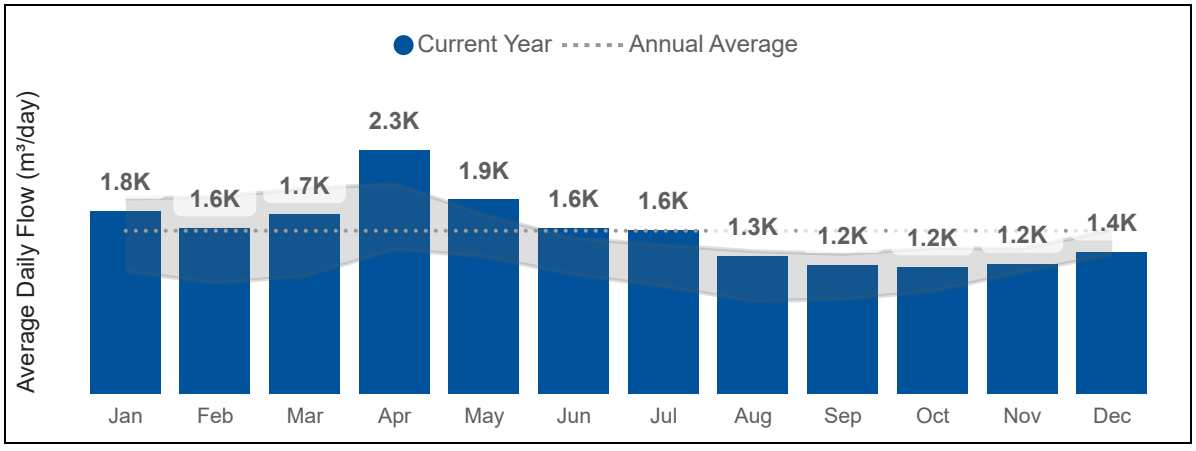
One standby diesel generator, two outdoor fuel storage tanks and one indoor fuel day tank.

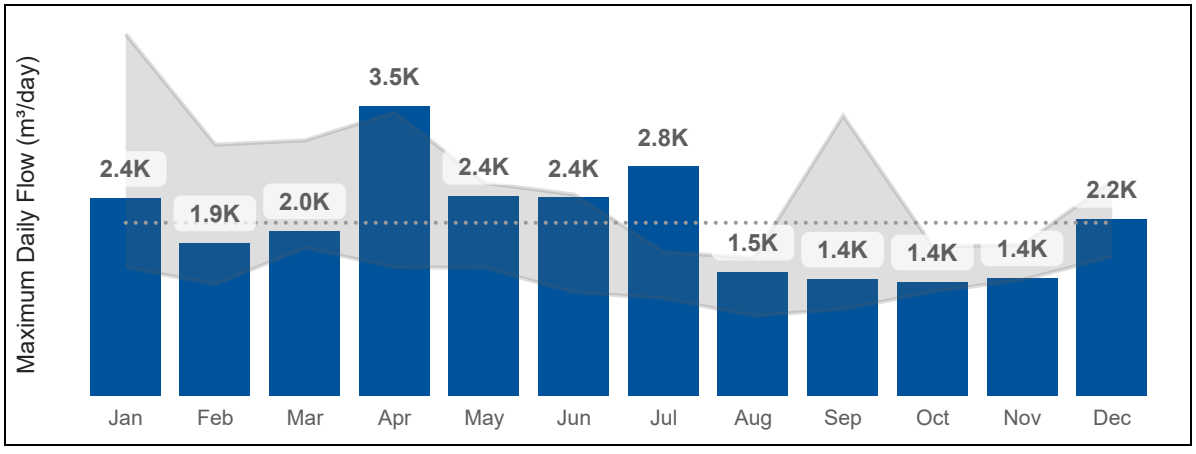
AIR MANAGEMENT

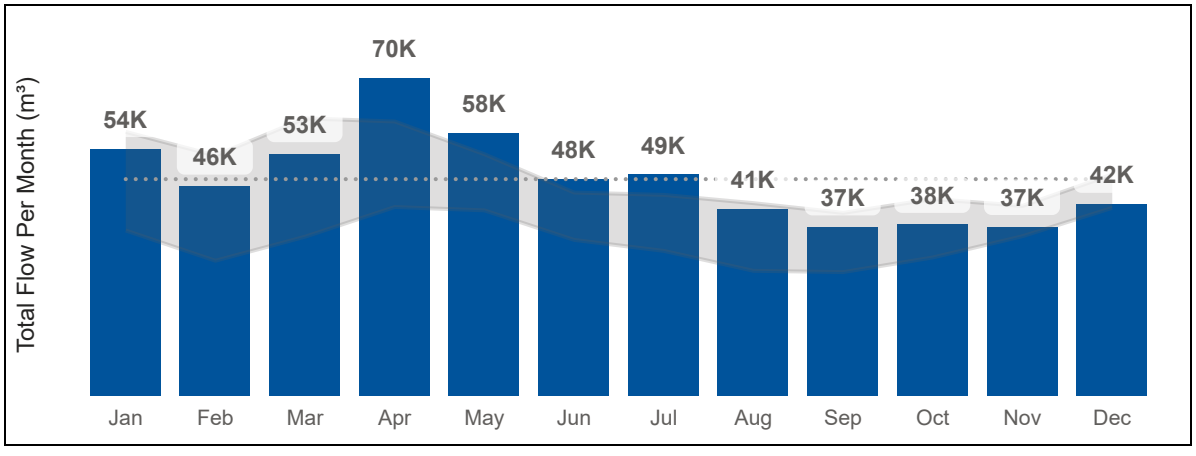
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
HOLLAND LANDING SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS HUMBER SPS

FACILITY INFORMATION

Municipality Serviced: City of Vaughan

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP (Durham Region) and G.E. Booth Wastewater Treatment Facility (Peel Region)

FACILITY DESCRIPTION

The Humber Sewage Pumping Station is part of the York-Durham Sewage System (YDSS) and has four discharge forcemains. It receives flows from the local collection system and Pine Valley SPS. Flows can be directed to either the G.E. Booth Wastewater Treatment Facility or through the Black Creek SPS to Duffin Creek Water Pollution Control Plant for treatment. The proportion of flow directed to either treatment facility is determined based on operational needs in the system.

PROCESS OVERVIEW

The Humber Sewage Pumping Station is equipped with a two-celled wet well, a dry well, and five pumps. Screens on the influent channel remove large solids. Four surge relief valves protect the system from flow surges. Two forcemains convey wastewater westward from the station towards Peel Region, to be received for treatment at the G.E. Booth Wastewater Treatment Facility. Two forcemains convey wastewater northward from the station towards the YDSS, ultimately received for treatment at the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

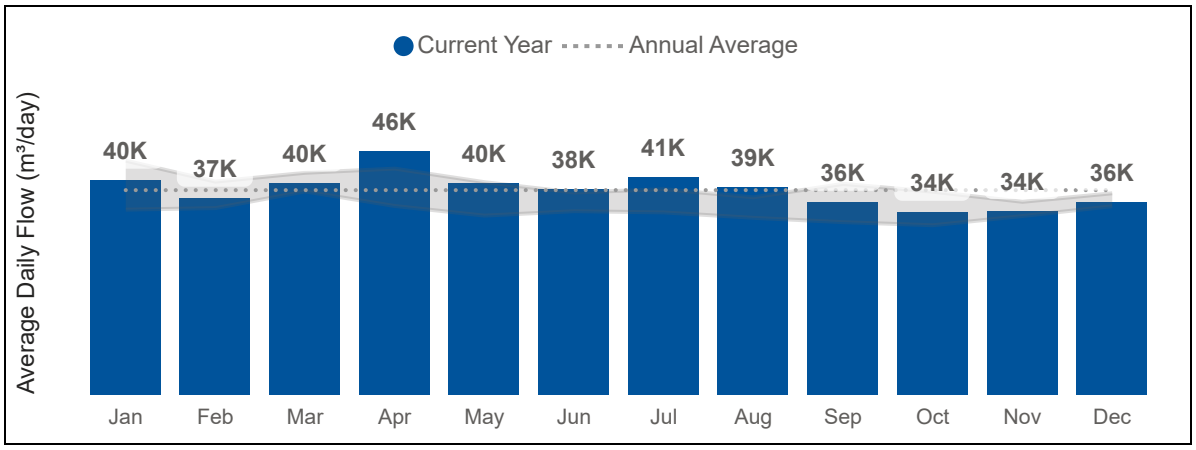
One standby diesel generator, one outdoor fuel storage tank.

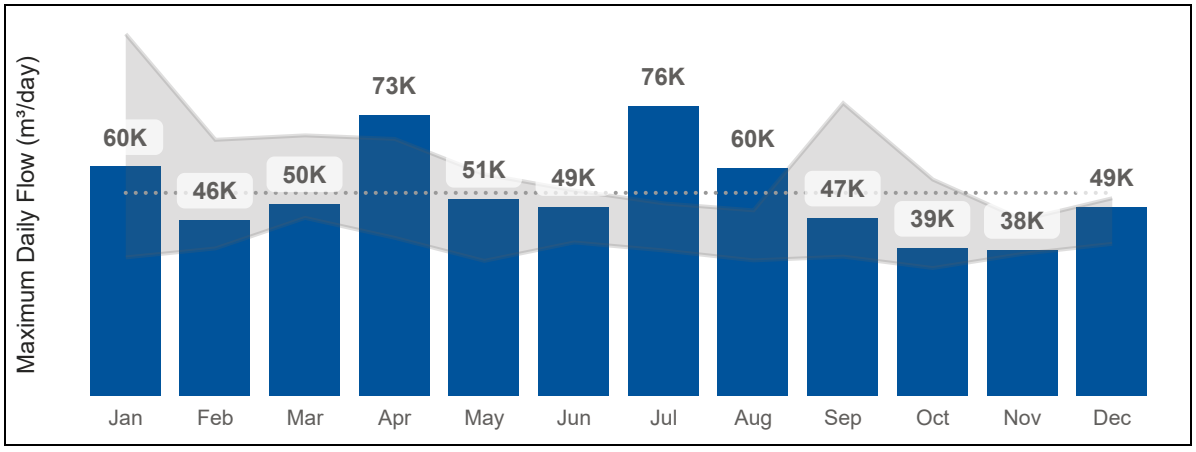
AIR MANAGEMENT

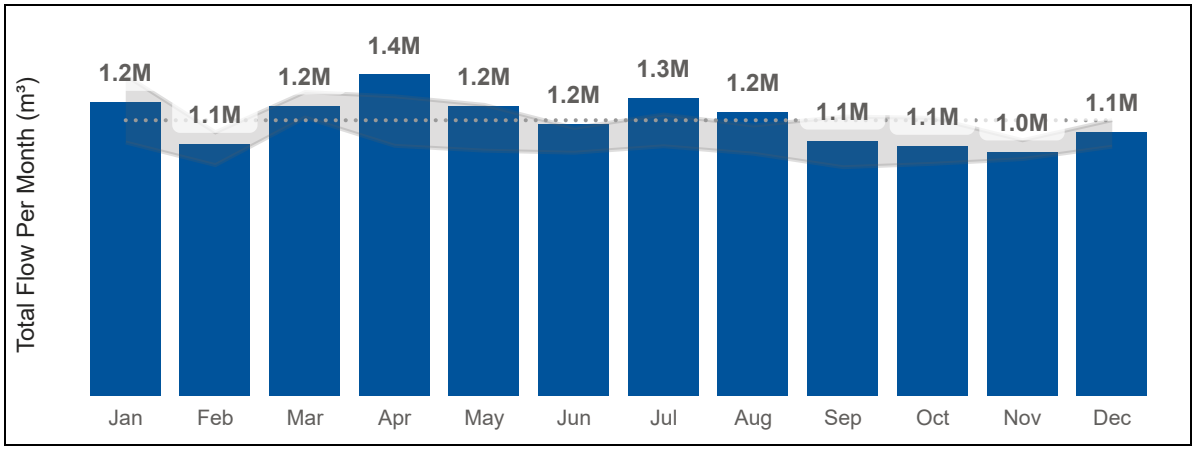
Under construction at Humber SPS.

2024 ANNUAL PERFORMANCE REPORT
HUMBER SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS KING CITY SPS

FACILITY INFORMATION

Municipality Serviced: Township of King

Facility Classification: Wastewater Collection II

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The King City Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). It receives flows from the local collection system. Flows are sent to the Duffin Creek WPCP for treatment.

PROCESS OVERVIEW

The King City Sewage Pumping Station is equipped with a two-celled wet well, a dry well and three pumps. It discharges through one forcemain to the YDSS. Full wastewater treatment is received once the wastewater reaches the Duffin Creek WPCP.

EMERGENCY POWER

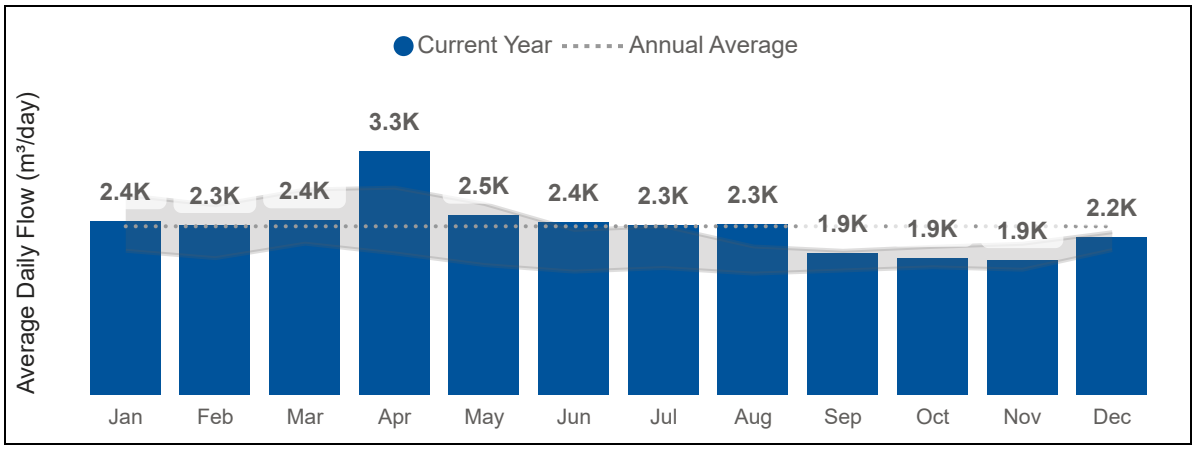
One standby diesel generator, one fuel storage tank.

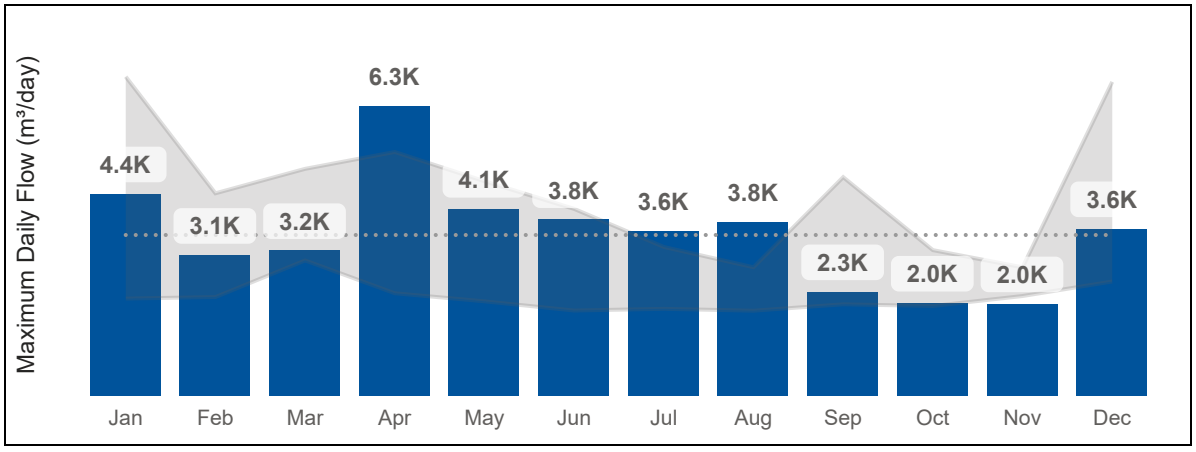
AIR MANAGEMENT

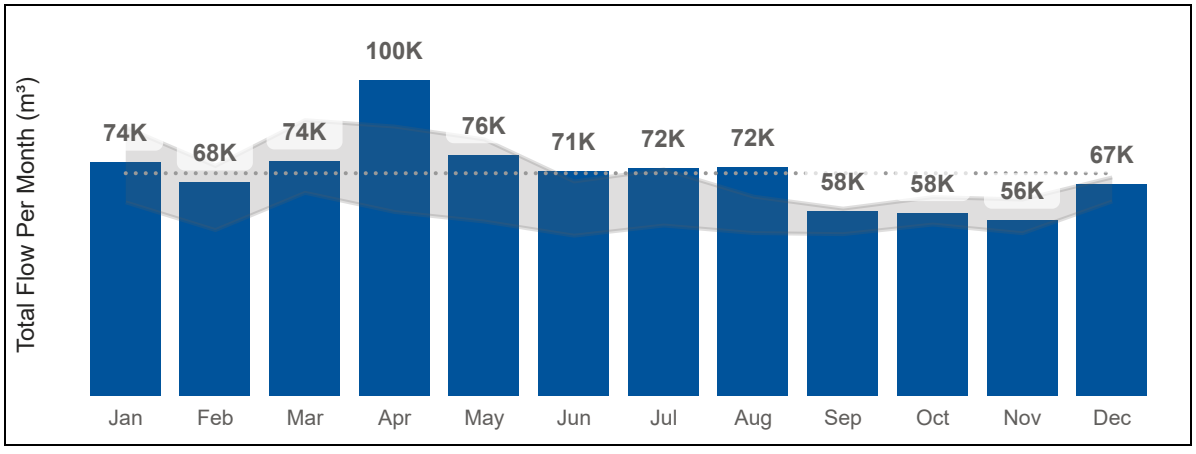
Not applicable at King City SPS.

2024 ANNUAL PERFORMANCE REPORT
KING CITY SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | MARKHAM LESLIE SPS

FACILITY INFORMATION

Municipality Serviced: City of Markham

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The Leslie Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). Two forcemains convey wastewater from the station along the Southeast Collector portion of the YDSS, ultimately received for treatment at the Duffin Creek Water Pollution Control Plant which discharges to Lake Ontario. A small wastewater unloading facility is also found at this station, however it is not currently in use.

PROCESS OVERVIEW

The Leslie Sewage Pumping Station is equipped with a two-celled wet well and six pumps. Two inlet channels, each equipped with a screen, remove large solids. Surge arrestor tanks and valves on the station discharge headers protect the system from flow surges affecting the facility. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

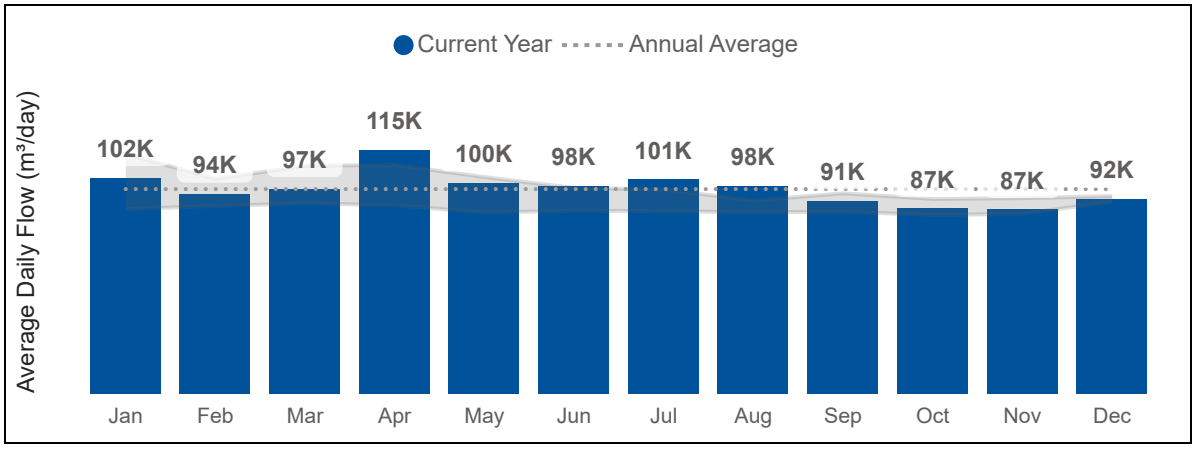
Three standby diesel generators and one outdoor fuel storage tank. An additional underground diesel storage tank is not currently in use because it is not required.

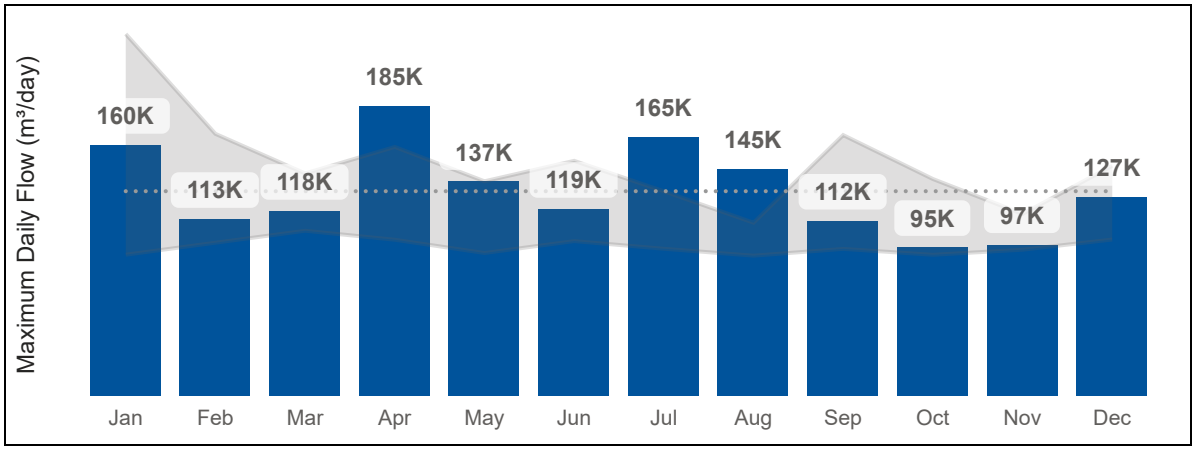
AIR MANAGEMENT

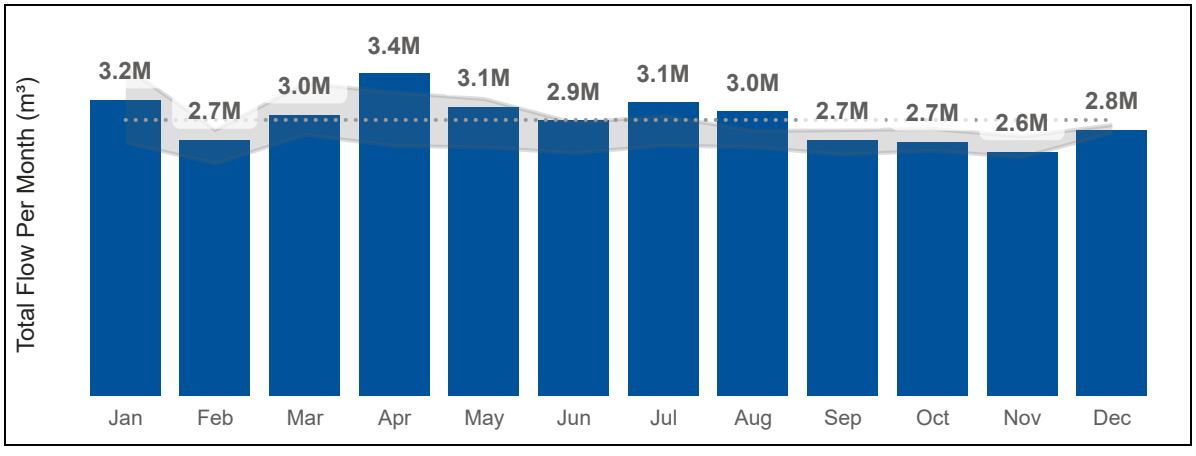
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
LESLIE SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS NEWMARKET & GREEN LANE SPS

FACILITY INFORMATION

Municipality Serviced: Town of Newmarket

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The Newmarket and Green Lane Sewage Pumping Stations are part of the York-Durham Sewage System (YDSS). The Green Lane SPS is managed operationally as a sub-station of the Newmarket SPS. The Green Lane Pumping Station discharges to the adjacent Newmarket SPS through one forcemain. The Newmarket SPS receives and transfers wastewater from the Town of East Gwillimbury and the Town of Newmarket. An underground equalization tank at the Newmarket SPS helps to control flows.

PROCESS OVERVIEW

The Green Lane SPS comprises one wet well and two pumps. It flows directly to Newmarket SPS.

The Newmarket Sewage Pumping Station is equipped with a two-celled wet well, four pumps, and an equalization tank. Two screened inlet channels remove large solids and then flow to the wet wells. The wet wells can discharge via two paths: to the underground equalization tank or back into the system towards the downstream Aurora SPS. The equalization tank returns flows to the inlet of the SPS in a controlled manner. In normal operation, the Newmarket SPS discharges from the wet wells through one of the two forcemains towards the Aurora SPS. Only one forcemain is used at a time. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

Green Lane SPS: An Uninterruptable Power Supply provides some backup power for essential equipment and the facility will also flow by gravity to the Newmarket SPS without power.

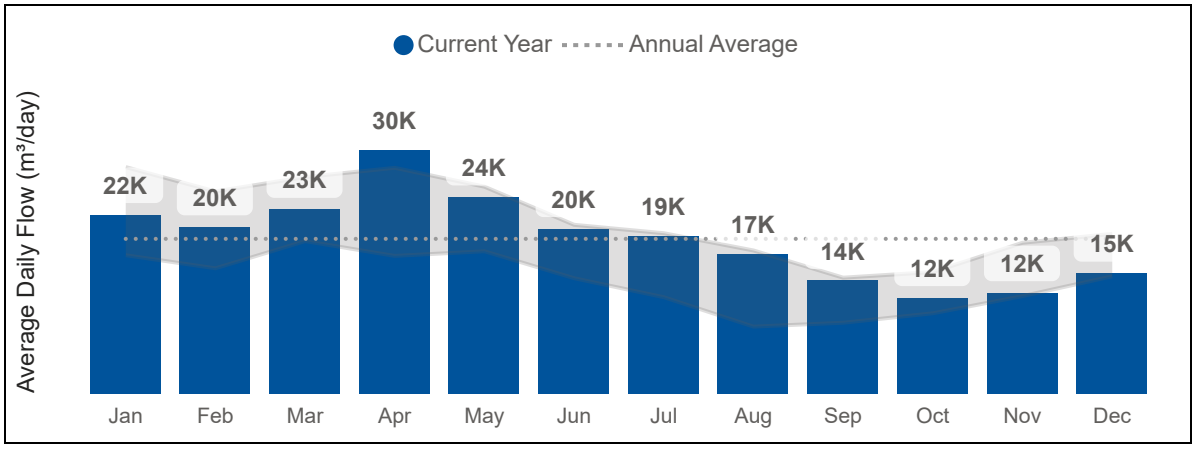
Newmarket SPS: One standby diesel generator and one outdoor fuel storage tank.

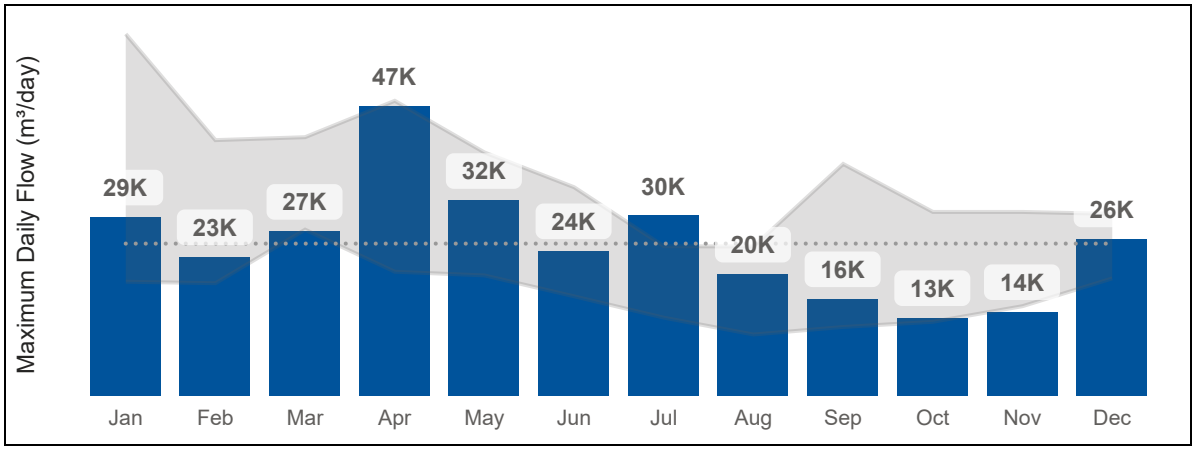
AIR MANAGEMENT & CONDITIONING CHEMICALS

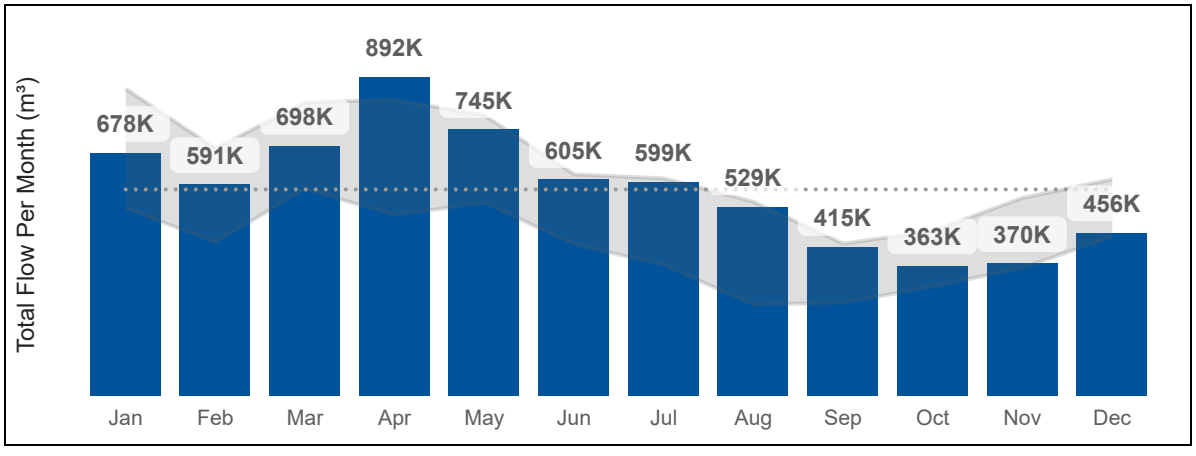
One on-site activated carbon adsorption unit controls emissions from the equalization tank. In addition, iron salts (ferrous chloride) minimize hydrogen sulfide in the downstream sewer to mitigate odour and corrosion. This conditioning is paired with secondary conditioning at the downstream Aurora SPS to continue controlling corrosion and odour.

2024 ANNUAL PERFORMANCE REPORT
NEWMARKET SPS

PUMPING STATION FLOW



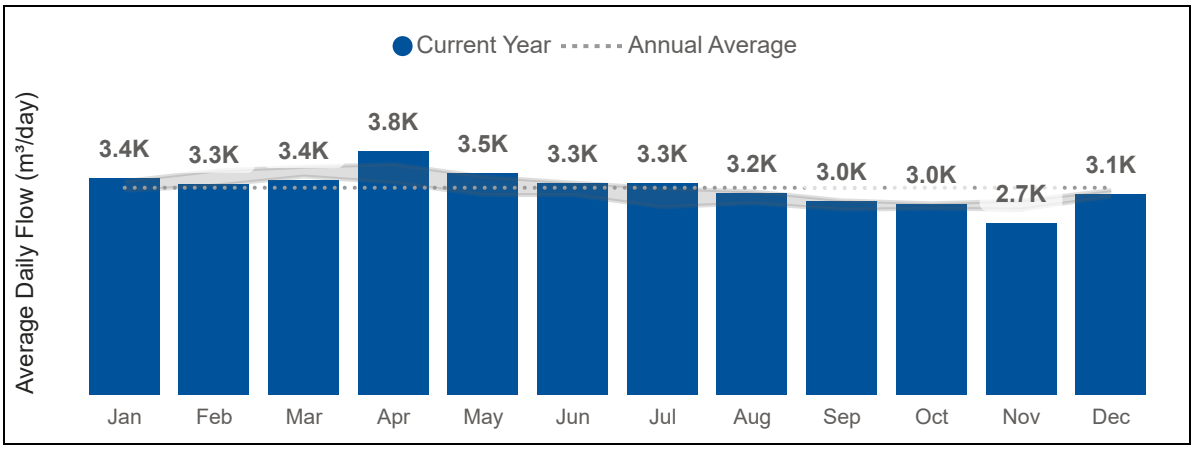


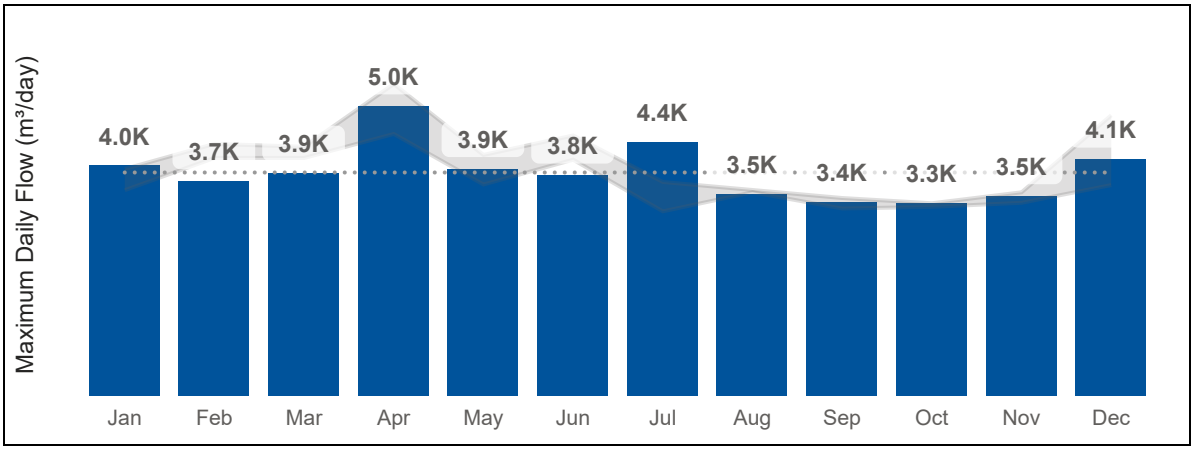


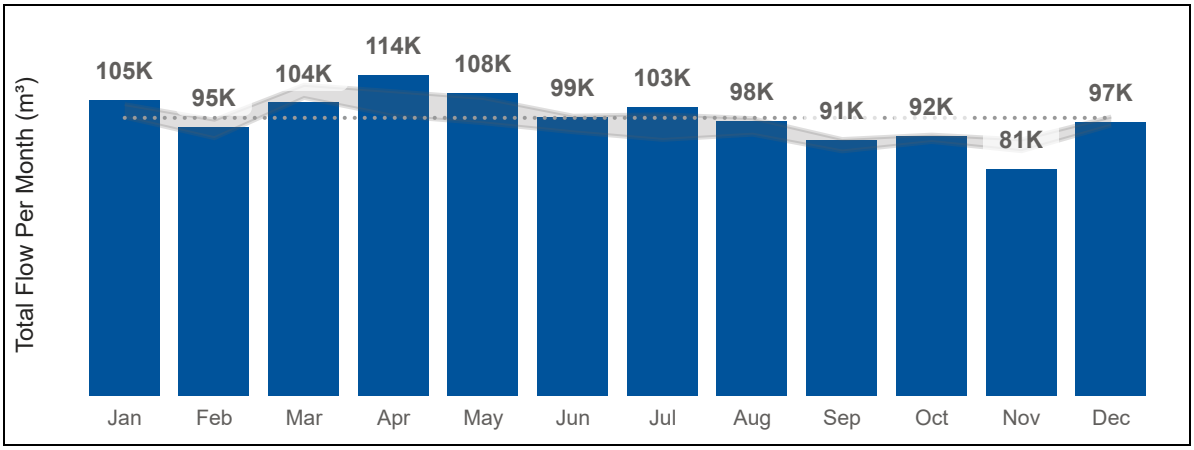
*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT
GREEN LANE SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS QUEENSVILLE WEST SPS

FACILITY INFORMATION

Municipality Serviced: Town of East Gwillimbury

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP (Durham Region)

FACILITY DESCRIPTION

The Queensville West Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). One sewer enters the facility. Two forcemains exit the facility. In normal operation, one of the forcemains pushes the wastewater south from the station to the YDSS. The second forcemain, not currently in use, directs flows north and is intended to support future growth.

PROCESS OVERVIEW

The Queensville West Sewage Pumping Station is equipped with a two-celled wet well and two pumps (with two spaces for future pumps). A channel grinder reduces the solids to smaller sizes so they can pass through the system more effectively. Two inlet/grinder bypass channels are each equipped with screens to remove large solids prior to reaching the wet wells. Full wastewater treatment is received once the wastewater reaches the Duffin Creek Water Pollution Control Plant.

EMERGENCY POWER

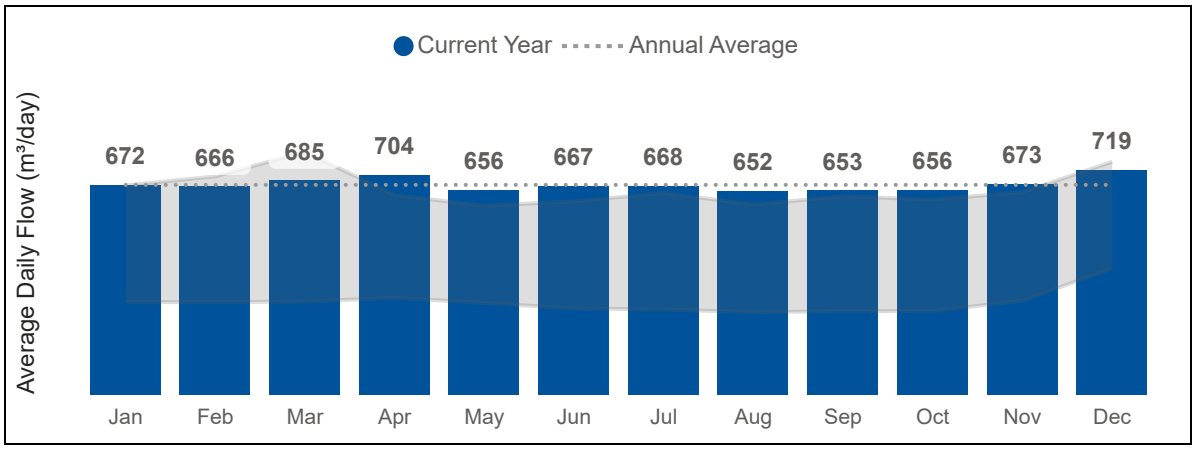
One standby diesel generator, two outdoor fuel storage tanks and one indoor fuel day tank.

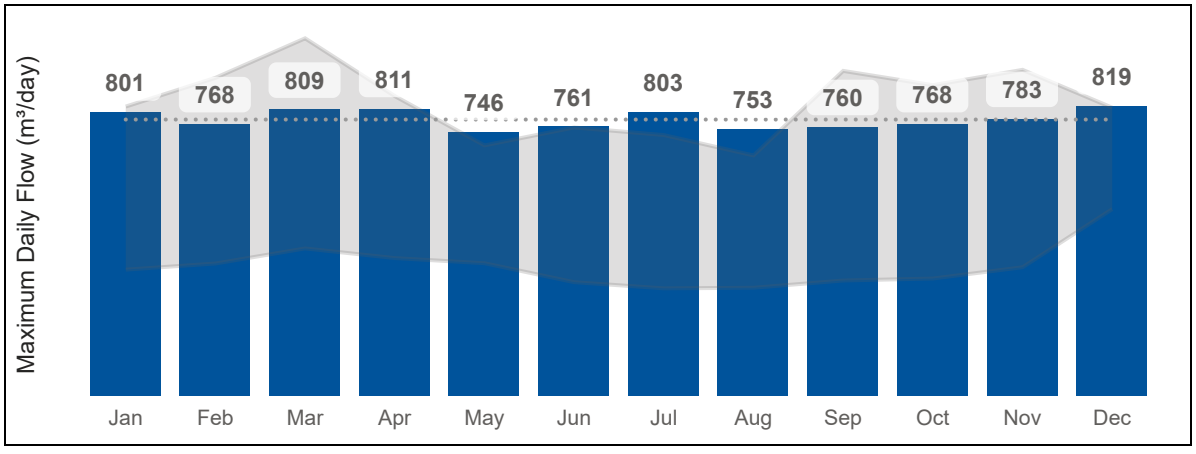
AIR MANAGEMENT

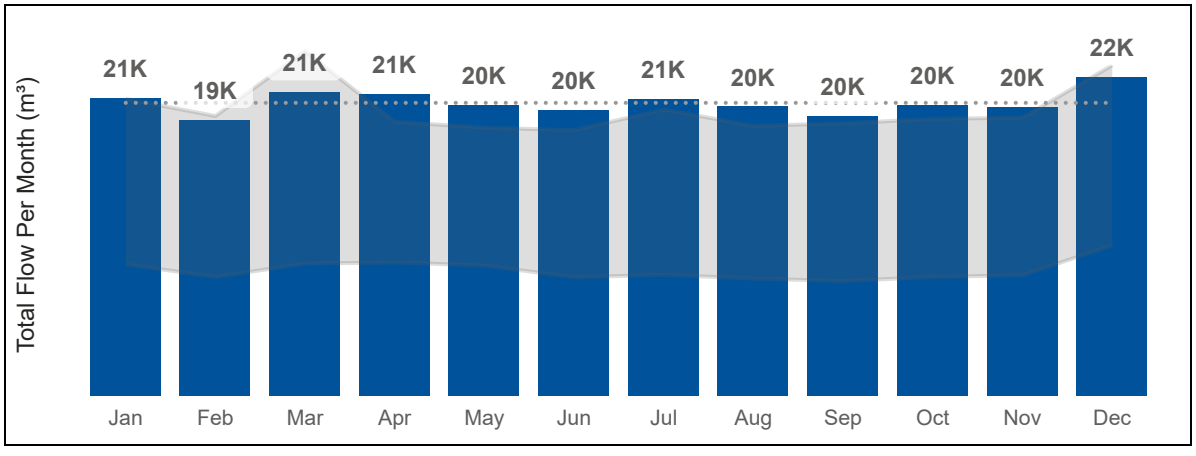
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
QUEENSVILLE WEST SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS VAUGHAN BLACK CREEK SPS

FACILITY INFORMATION

Municipality Serviced: Vaughan

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP

FACILITY DESCRIPTION

The Vaughan Black Creek Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). It receives flows from the local collection system and the Humber SPS. Flows are sent to the Duffin Creek WPCP for treatment.

PROCESS OVERVIEW

The Vaughan Black Creek Sewage Pumping Station is equipped with a two-celled wet well, a dry well, and five pumps. Screens on the inlet and the “inlet bypass” channels remove solids before flows reach the wet well. It discharges to the YDSS through one forcemain. Full wastewater treatment is received once the wastewater reaches the Duffin Creek WPCP.

EMERGENCY POWER

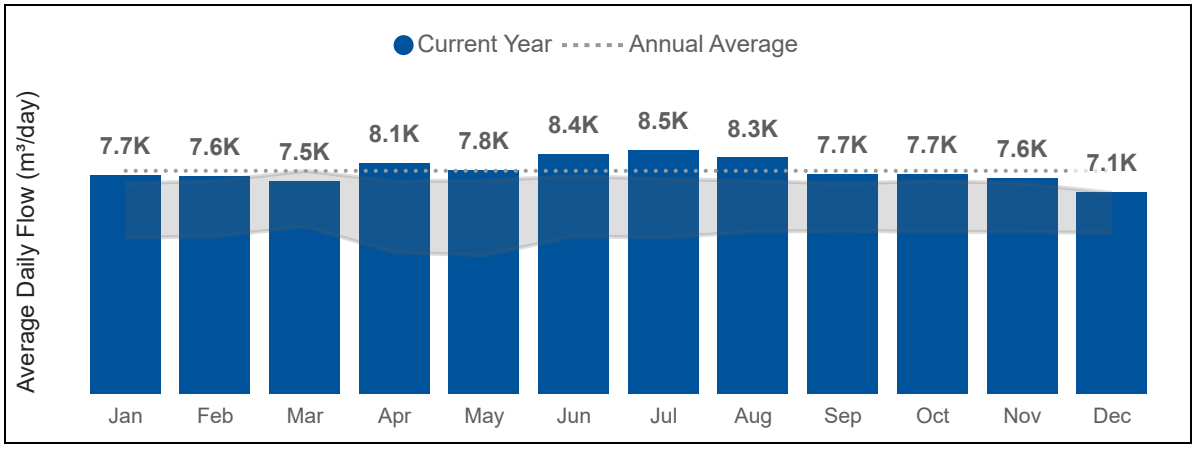
Two standby diesel generators, one outdoor fuel storage tank.

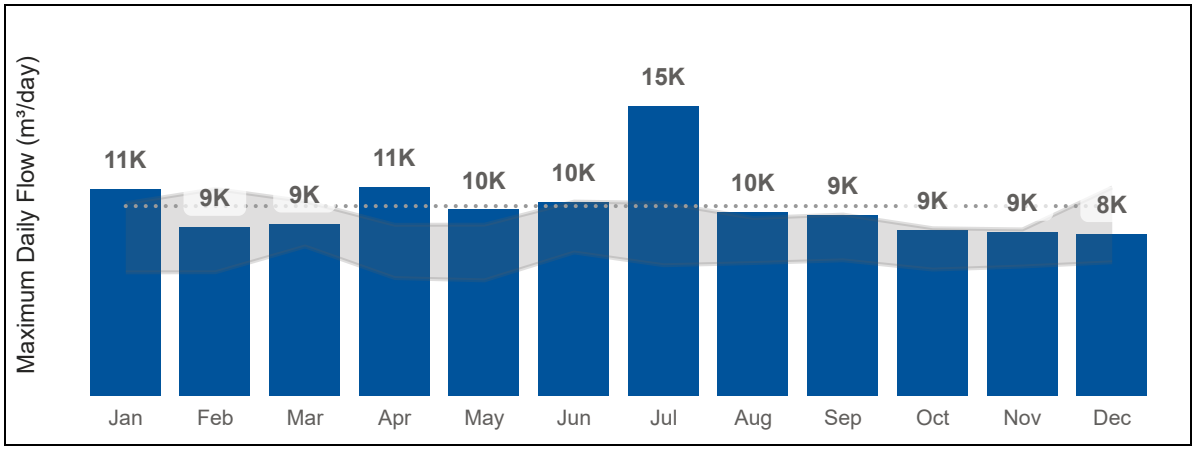
AIR MANAGEMENT

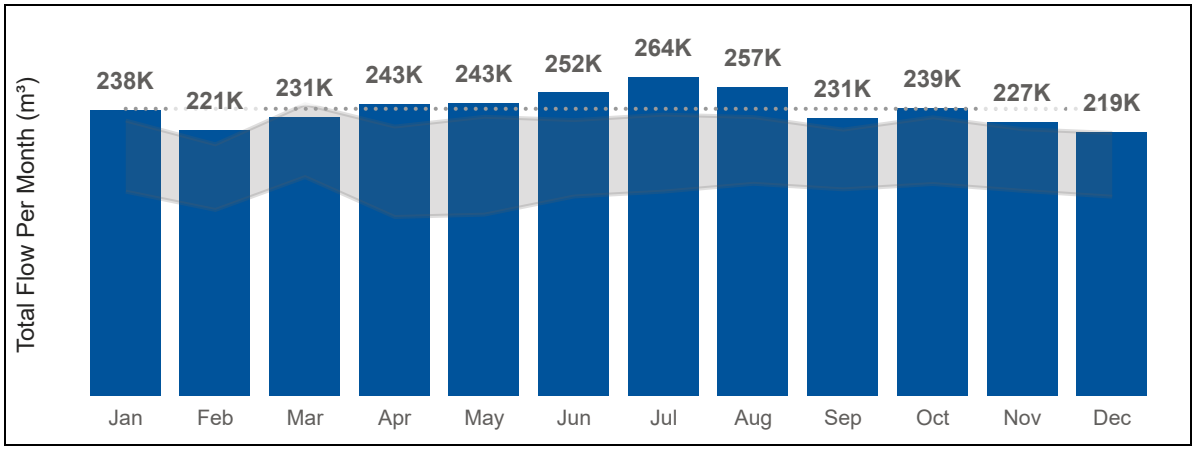
One on-site activated carbon adsorption unit.

2024 ANNUAL PERFORMANCE REPORT
BLACK CREEK SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

2024 ANNUAL PERFORMANCE REPORT | YDSS VAUGHAN PINE VALLEY SPS

FACILITY INFORMATION

Municipality Serviced: Vaughan

Facility Classification: Wastewater Collection III

System Classification: Separate Sewer System

Receiving Water Bodies: Lake Ontario via Duffin Creek WPCP (Durham Region) and G.E. Booth Wastewater Treatment Facility (Peel Region)

FACILITY DESCRIPTION

The Vaughan Pine Valley Sewage Pumping Station is part of the York-Durham Sewage System (YDSS). It receives flow from the local collection system and directs it to Humber SPS. The ultimate destination can be either Duffin Creek WPCP or GE Booth Wastewater Treatment Facility.

PROCESS OVERVIEW

The Vaughan Pine Valley Sewage Pumping Station is equipped with a two-celled wet well and three pumps. The inlet is equipped with a grinder to reduce solids to smaller sizes so they can pass through the system more effectively. An “inlet bypass” structure flows around the grinder and is equipped with a screen to remove solids before reaching the wet well. It discharges through one forcemain to the Humber SPS. Full wastewater treatment is received once the wastewater reaches Duffin Creek WPCP or GE Booth Wastewater Treatment Facility.

EMERGENCY POWER

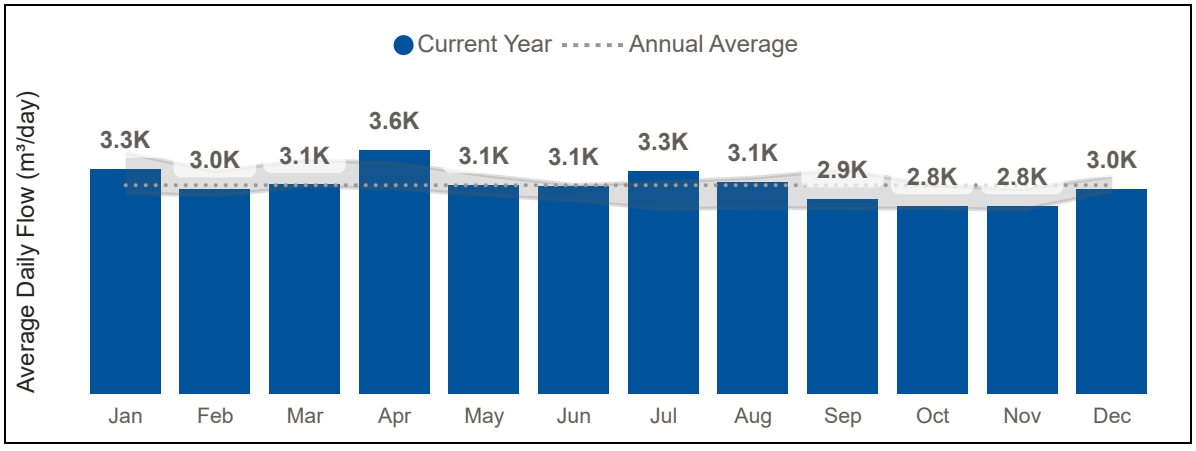
One standby diesel generator, two fuel storage tanks.

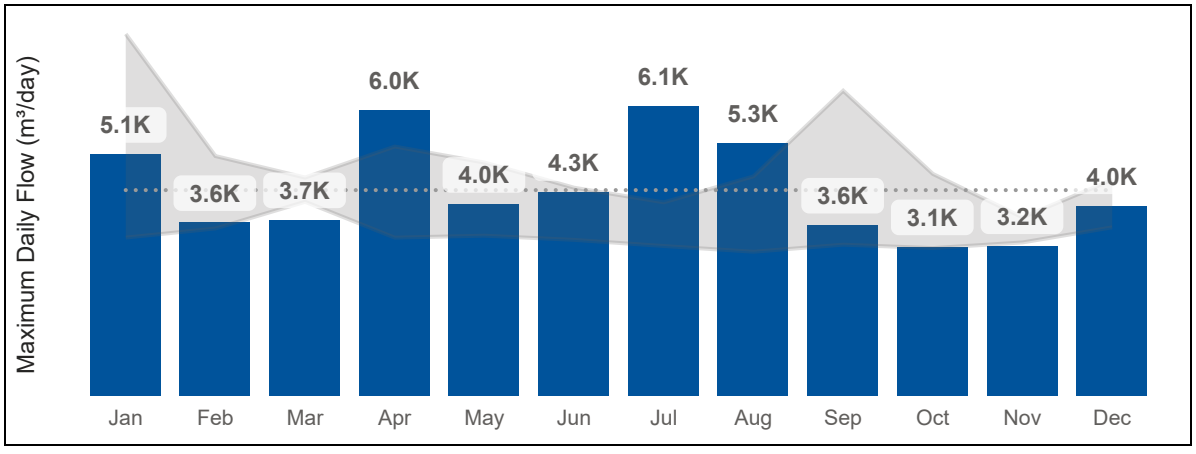
AIR MANAGEMENT

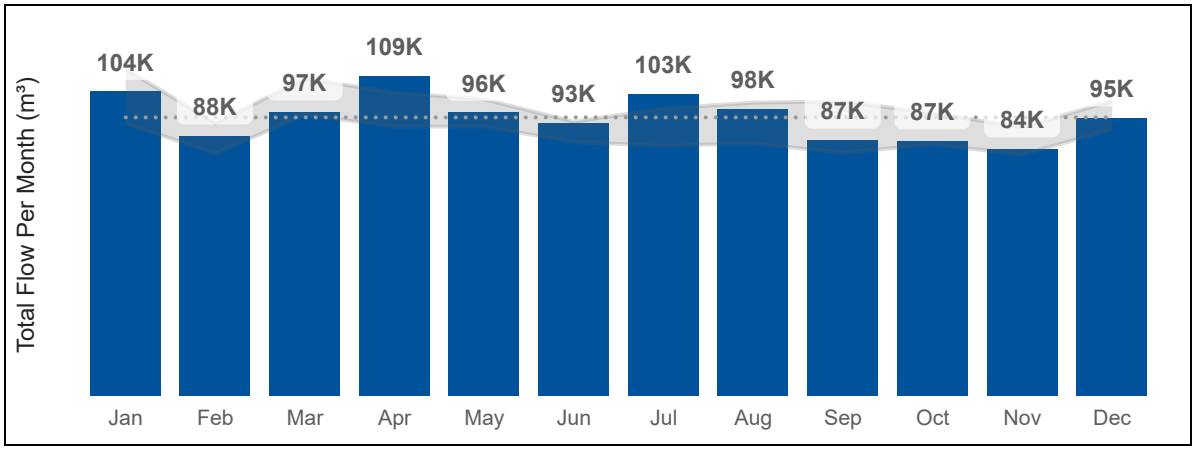
One on-site activated carbon absorption unit.

2024 ANNUAL PERFORMANCE REPORT
PINE VALLEY SPS

PUMPING STATION FLOW







*Historical value (gray shaded area) based on previous 5 years of data, where available.

BACKGROUND

Wastewater systems can be considered in two parts: collection and treatment. Treatment facilities range in complexity and remove or recover nutrients and other compounds from the wastewater before returning clean water to the environment. Collection systems, sometimes called “linear systems”, convey wastewater from homes and other buildings to a treatment facility. Collection systems include:

- **Pipes:** gravity sewers and forcemains. Wastewater flows by gravity in sewers, and it flows under pressure in forcemains. Some municipalities have “combined” or “partially separated” gravity sewers which combine flows from both stormwater and wastewater. York Region does not have these and only has “separated” sewers. The Region’s sewers are less influenced by wet weather events because they are not designed to convey wastewater and stormwater in the same pipe. Some water can still enter the sewers from maintenance hole covers and leaking infrastructure – this is referred to as “Inflow and Infiltration”, or I&I. More information about how the Region manages I&I is described in condition 4.6.9 of this report.
- **Sewage Pumping Stations (SPS):** most SPS remove some solids from wastewater to prevent blocked or damaged pumps and sewers and to minimize the potential for corrosion and odour. Removing solids also reduces the amount of treatment needed at the treatment facilities. SPS send flows back to the system under pressure through forcemains. Some SPS condition the wastewater to improve downstream performance, such as adding iron salts to prevent corrosion and reduce odour. SPS also have emergency backup power (or a connection for a portable generator) so that the wastewater continues to flow during power outages.
- **Air Management Facilities:** air management facilities (AMF) range in complexity, from passive air vents on a sewer with carbon media, to equipment located at SPS, to dedicated standalone facilities with fans that pull air out of the sewers for treatment. AMF help to reduce odours and infrastructure corrosion caused by gases that can be generated in wastewater.

On January 2, 2023, the Ontario Ministry of the Environment, Conservation and Parks (MECP, or the “Ministry”) issued York Region a Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA, or simply “ECA”) to govern all of the Region’s wastewater collection system works. Before this, these works were approved through individual ECAs with different definitions and requirements and many without permissions to alter the system unless the Ministry reviewed the proposal. The CLI ECA assigns one set of definitions and rules for all collection system works and expands the scope of low-risk upgrades that municipalities can authorize internally without Ministry review, as long as specific rules are met. Two major benefits of the CLI ECA are improved efficiency and compliance through consistent expectations, and reduced timelines for implementing some projects which helps to expedite the expansion and repair of the wastewater collection infrastructure. The CLI ECA also requires the annual performance report to be published on the Region’s website. The reporting conditions in this

report meet or exceed any reporting conditions found in some of the original ECAs, ensuring all reporting obligations are met.

The Region's Collection system comprises multiple standalone sub-systems, some of which are completely isolated from the others and are serviced by a Regional Water Resource Recovery Facility (WRRF). The Region's sub-systems are as follows:

- Sutton sub-system (isolated)
- Keswick sub-system (isolated)
- Mount Albert sub-system (isolated)
- Schomberg sub-system (isolated)
- Nobleton sub-system (isolated)
- York-Durham Sewage System sub-system (includes the Southeast Collector, connected to Peel Region and Durham Region)

The York-Durham Sewage System (YDSS) services much of the Region's population, and discharges to either the Holland Landing Lagoons (located in East Gwillimbury and operated by York Region), the G.E. Booth Wastewater Treatment Facility (located in and operated by Peel Region) or the Duffin Creek Water Pollution Control Plant (located in and operated by Durham Region). York Region does not have any collection system infrastructure connected to the Kleinburg WRRF (located in Vaughan and operated by York Region), so Kleinburg wastewater is out of scope for this report.

The Regional Municipalities of York and Durham are working together to carry out the York Region Sewage Works Project, a long-term wastewater infrastructure project across the Towns of East Gwillimbury, Newmarket, Aurora, Ajax and the Cities of Richmond Hill, Markham and Pickering. As required by the *Supporting Growth and Housing in York and Durham Regions Act, 2022*, the York Region Sewage Works Project will increase the existing York Durham Sewage System, including new or expanded wastewater sewers, pumping stations and enhancements to the Duffin Creek Water Pollution Control Plant on the shore of Lake Ontario in the City of Pickering. Durham Region supports proposed work in the City of Pickering as part of the project.

Report condition 4.6.3 If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations

York Region is not required to conduct routine collection system monitoring. Sampling wastewater Spills and Overflows is required “where practicable” (if possible). When applicable, results of samples collected for wastewater Spills and Overflows are described in Condition 4.6.8 of this report.

Wastewater flow monitoring in the collection system is not required, however the Region does monitor collection system flow. Basic data about each SPS’ flow is provided in the graph pages next to each SPS description. Flow monitoring helps staff to:

- Target I&I reduction efforts
- Provide information when evaluating energy efficiency
- Plan maintenance on equipment after operating for a set period of time

Report condition 4.6.4 Summary of any operating problems encountered and corrective actions taken

Operating issues encountered in the York Region Collection System mostly consisted of general mechanical equipment disruptions, which were repaired and did not interfere with the facility processes, nor compromise any downstream processes. Examples of common operating issues for sewage pumping stations include faulting or malfunctioning of pumps and variable frequency drives, standby power generators, or the screening/grit removal systems. As needed, staff repair the atmospheric monitoring and ventilation systems. Operating issues are usually corrected by replacing broken or expendable components of assets, recalibrating monitoring equipment, and other similar minor repairs.

Notable operating issues and corrective actions in 2024 include:

- **Mount Albert SPS:** A generator fault in April resulted in the use of a temporary generator. After repairs were made, the permanent generator returned to service in early July and upgrades to the permanent generator are expected to be completed in 2025.
- **YDSS Markham Leslie SPS**: The facility was supported by temporary generators until April 2024 when the permanent generators were returned to service following repairs.
- **YDSS Newmarket Bogart Creek SPS:** A generator failure in September during routine testing was addressed by setting up a backup generator until the original unit was returned to service in early December.
- **System-Wide:** Some significant storm events occurred in 2024, resulting in high flows in some areas of the systems. Based on weather and precipitation data from Environment Canada, 2024 was a warm and wet year compared to some recent years. Average temperatures later in the year were commonly above zero, so precipitation often fell as rain instead of as snow. Careful control of the flows, quick response by

Operators, a rigorous preventative and corrective maintenance program and I&I reduction efforts mitigated potential challenges resulting from high flows and storm events.

Report condition 4.6.5 Summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.

Routine preventive maintenance was scheduled and completed as required, including inspecting, cleaning, and maintaining the wet wells, pumps, and screens, exercising valves, testing alarms, ensuring proper operation of the electrical and HVAC equipment, as well as keeping the odour and corrosion management systems and standby power generators in good working order. Where equalization tanks are installed, they also received preventive maintenance, such as cleaning. The YDSS Aurora Henderson SPS was taken offline between October 30 and December 6 to facilitate wet well cleaning. The first wet well cell was cleaned on October 31, but the second wet well cell was not able to be cleaned until December 5 due to site and contractor limitations. Staff continue to monitor site performance and will adapt maintenance schedules for this new facility as needed. All flows were temporarily directed around the facility towards the downstream Aurora SPS during this maintenance and staff continued to complete station checks during this time.

There were also unplanned maintenance work orders issued in 2024 for the collection system, which included responding to, troubleshooting, and resolving alarms or issues related to remote monitoring and control systems, ventilation systems, screens and grinders, pumps, Variable Frequency Drives, and/or responding to occasional power outages. Significant unplanned maintenance events are detailed below:

Standby generators at Bogart Creek SPS and Mount Albert SPS experienced faults or failures, as detailed above in Report Condition 4.6.4. The faults in both station generators were remedied in 2024 including equipment maintenance and starting upgrades, as required. The units are fully operational. Operations staff and Maintenance staff worked together to successfully resolve these issues without reducing the performance of the facilities.

Continuous monitoring equipment is calibrated and maintained by Regional instrumentation technicians and by contracted authorized equipment technicians. Calibrations ensure the equipment is accurate within the required tolerance range and allows for visual confirmation of satisfactory equipment condition. A summary of 2024 scheduled calibrations of the major facility monitoring equipment is shown in Appendix 1.

Report condition 4.6.6 Summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints

York Region has a proactive maintenance program to inspect the air management facilities and devices regularly and replaces carbon media in applicable locations before it is fully exhausted. A Region-wide study was conducted in 2023 to evaluate the effectiveness of Regional equipment and processes to counter hydrogen sulfide (H2S) generated from wastewater. The study concluded that the Region is using suitable equipment to combat H2S across the Region. Through the tools of the Integrated Management System, York Region is refining

its Air Management Framework. This framework aims to systematically address odour complaints, enhance data collection for informed and proactive decision-making, and ensure effective communication.

Complaints are recorded and tracked through the Integrated Management System. Complaints from 2024 for infrastructure in this report are summarized below:

- **Keswick SPS:** one odour and two vibration or noise complaints received:
  - **May 6 and 31, 2024:** A resident reported a vibration or low frequency noise complaint. Capital delivery and operations staff performed a site investigation and follow-up and found all equipment to be operating normally with no abnormal vibration or noise observed. Staff followed up with the resident.
  - **August 29, 2024:** Staff responded to an odour complaint on August 29, did not observe any odours at the time of response and found all equipment to be operating normally. Staff followed up with the resident.
- **Sutton Wood River Bend SPS:** one odour complaint received:
  - **November 15, 2024:** Staff responded to site on November 15 and did not observe any odours at the time of response. Staff followed up with the resident.
- **YDSS Boxgrove CCF:** one odour complaint received:
  - **August 2, 2024:** Staff responded on August 6 regarding an odour complaint near the facility. Staff investigated and no odour was detected. Staff followed up with the resident.
- **YDSS King City SPS** six odour complaints received:
  - **May 21, 2024:** King Township notified the Region about recent odour complaints they had received. Staff responded to site on May 21, did not observe any odours at the time and found all equipment at the SPS to be operating normally. Contractors were reminded to keep all doors closed, when possible, in case it may have contributed to odours in the area. A follow up was not requested.
  - **October 10, 2024:** Staff responded to site on October 10, did not observe any odours at the time of response and found all equipment at the SPS to be operating normally. Staff followed up with the resident.
  - **October 28, 2024:** A resident contacted the Area Supervisor to report a sewage odour believed to be coming from a manhole located slightly east of their property. Staff investigated on October 28 and determined that the odour appeared to originate from the sewer system managed by King Township, rather than from York Region infrastructure. All equipment at the SPS was operating normally. Staff followed up with the resident and King Township.
  - **November 9, 2024:** A resident contacted the Area Supervisor to report a sewage odour near their property. Staff investigated on November 9 and did not observe any odours at the time of

the response. All equipment at the SPS was operating normally. Staff followed up with the resident.

- **November 12, 2024:** A resident contacted the Area Supervisor to report an intermittent odour near their property. Staff investigated on November 12, found no odour outside the facility and only faintly near the resident's home. All equipment at the SPS was operating normally. The resident did not request a follow up response.
- **December 2, 2024:** A resident contacted the Area Supervisor to report an odour. Staff investigated on December 2 and found no detectable odour from the SPS, and that all equipment at the SPS was operating normally. Staff followed up with the resident and King Township.

- **YDSS Oak Ridges AMF (AMF being constructed):** one odour complaint received:
  - **July 13, 2024:** staff responded to the intersection of Yonge Street and Northlake Road on July 13. There was no unusual odour noticed in the general area and a very slight sewage odour when standing next to the vent stack at Yonge Street and Northlake Road. Fresh odour control media was applied to the vent stack and at the downstream passive scrubber unit at Yonge Street and King Road. Staff followed up with the resident.

Report condition 4.6.7 Summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat

In 2024, there were no Alterations sought or completed through an amendment to the CLI ECA and there were no Alterations approved through revoked ECAs which were completed. In 2024, the following Alterations to the system were competed or authorized through the "Form SS2" process through the permissions in Schedule D of the ECA:

- **Aurora SPS:** A Form SS2 was issued for installation of additional pipe supports and flexible couplings to improve pump and system vibration levels. Work was completed in January 2025.
- **Bogart Creek SPS:** A Form SS2 was issued for installation of a pressure monitor on the force main discharge header in the dry well to provide additional data for design of the upcoming station upgrade project. Work was completed in 2024.
- **Keswick SPS:** A Form SS2 was issued to install two sewage grinders. Work was completed in 2024.
- **Joe Dales SPS and Mount Albert:** A Form SS2 was issued in 2023 for installing new level sensors in the wet wells. The level sensor at Joe Dales was installed in May 2023 and at Mount Albert in 2024.
- **Pine Valley SPS:** A Form SS2 was issued in 2023 to replace two diesel fuel storage tanks with one new fuel tank. The replacement fuel tank was placed in service in 2024.

One alteration to the system was authorized through the "Form SS1" process through the permissions in Schedule D of the ECA:

- **Northeast Vaughan Wastewater Servicing – Keele and Langstaff Trunk Sewer**: A Form SS1 was issued to install a new trunk sewer. This work is anticipated to be completed in 2025.

Five alterations to the system were authorized through the "Form A1" process through the permissions in Schedule D of the ECA. These were issued for fuel system upgrades and maintenance, including exhaust and piping replacements, ventilation system modernization, and fuel tank monitoring enhancements, with no impact on generator performance or emissions.

- **Keswick Georgina No.4 SPS:** work was completed in 2024.
- **Mount Albert SPS:** work is anticipated to be completed in 2025.
- **Sutton High St SPS:** work was completed in 2024.
- **YDSS King City SPS:** work is anticipated to be completed in 2025.
- **YDSS Vaughan Black Creek SPS:** work anticipated to be completed in 2025.

None of the Alterations to the system were identified as a Significant Drinking Water Threat.

Report condition 4.6.8 Summary of all Collection System Overflow(s) and Spill(s) of Sewage, including: dates, volumes and durations. If applicable, also including loading for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E.coli, disinfection, any adverse impact(s) and corrective actions, if applicable

Environmental Incidents are recorded and tracked through the Integrated Management System. Since York Region operates a Separate Sewer system, unplanned discharges through overflow points are legally defined as Spills. The Region has never planned a discharge of sewage to the environment – if a possible overflow situation was forecasted, the Region would hire vacuum trucks, install temporary piping or take other measures to prevent possible overflows. In 2024, there were no Collection System Overflows and one Spill of Sewage:

- On July 15, between 6:20 am and 10:25 am, a sewage spill of 870 m³ occurred from two manholes at the intersection of 16th Avenue and Yorkton Boulevard. Some material entered the storm sewer and subsequently discharged to Bruce Creek. The cause of the surcharge was determined to be the closing of the valves at the bulkhead in the sewer at an active construction site located near Mingay and 16th Avenue. An after-hours power shutoff by the local power utility triggered a fail-safe mechanism to close the valves, ultimately resulting in a sewer back up. Various efforts mitigated the incident, including vacuum removal of the spilled sewage, cleanout of catch basins along the flow path after the surcharge stopped, road repairs, and use of a temporary standby generator to provide emergency power to the affected valves. There was a sustained significant rainfall event shortly after the flow stoppage. The Spill was reported to SAC, York Region Public Health, the City of Markham and the Toronto and Region Conservation Authority, with a written notice provided to the Ministry's District Office. Samples of the discharged sewage were collected and sent to the York Durham laboratory for the analysis. A York Region Environmental Specialist reviewed the site and determined that sewage entered the storm sewer and

discharged into the Bruce Creek. The Environmental Specialist concluded that potential impacts were mitigated by the size and flow of the Bruce Creek. The Environmental Specialist did not observe any impact to fish or aquatic life and concluded there was no anticipated long-term impact to the watercourse, fish, or aquatic habitat. Sample results are listed below:

Parameter	Concentration	Estimated Loading (if applicable)
BOD5 (Five-Day Biochemical Oxygen Demand	203 mg/L	176.6 kg
E. coli	34000000 CFU/100 mL	N/A
Total Kjeldahl Nitrogen	52.0 mg/L	45.2 kg
Total Phosphorus	4.41 mg/L	3.8 kg
Total Suspended Solids	58.8 mg/L	51.1 kg

Report condition 4.6.9 Summary of efforts made to reduce Collection System Overflows, Spills, treatment facility Overflows, and/or treatment facility Bypasses and the effectiveness of these efforts, including: projects and proposed projects to reduce or eliminate overflows (including expenditures and estimated budget forecast for the following year), a summary of conformance to Procedure F-5-1, and the public reporting approach including proactive efforts

Procedure F-5-1 speaks to proper design of sewage works, and details examples of actions that can reduce the frequency and severity of bypass and overflow events through provision of adequate sewer and pumping station capacity, stand-by equipment, stand-by power, reserve storage capacity in sewers, and/or at treatment facilities and adequate capacity in sewage treatment works. The Region's proactive efforts include capital upgrades, timely repair and maintenance, data analytics, and commitment to continual improvement through certification with ISO 9001 and 14001 to demonstrate successful conformance to procedure F-5-1. Dedicated remote operators monitor the system 24/7 and can operate equipment remotely and/or dispatch field operators to respond to site to minimize the potential risk of Overflows, Spills, and treatment facility Bypasses. Emergency response procedures developed with York Region Public Health and the Region's emergency preparedness staff include protocols for notifying municipal council and the public about incidents that impact service delivery or which pose a risk to public health.

York Region and its local municipality partners also collaborate on inflow and infiltration (I&I) reduction programs. Finding and reducing I&I is a top priority, as it helps maintain the integrity of the collection system, reduces costs associated with pumping and treating stormwater, and mitigates the potential risk of sewer backups and Overflows. Through monitoring rainfall and sanitary sewer flow, the Region identifies areas with a high response to rain events. York Region and its local municipalities then conduct further investigations and implement programs in priority areas to pinpoint and remediate I&I sources. By reducing the volume of extraneous flows in the sanitary sewer system, York Region maximizes the existing capacity of sanitary infrastructure. York Region

also applies I&I reduction considerations into the design and construction of new developments to proactively reduce the potential of I&I, extending the lifespan of new sanitary systems. To learn more about how I&I is cooperatively managed in York Region, visit www.york.ca/iandi

In 2024, approximately $156.9 million was invested on Region-wide Capital projects, including I&I reduction programs and linear rehabilitation projects, and excluding work at the Duffin Creek WPCP. This total includes a new remote operations center, commissioned in 2024, to ensure resilient and secure technology is available to remote operators for monitoring and controlling all Regional water and wastewater facilities. For 2025, approximately $143.8 million is budgeted as part of the 10-year Capital plan for all wastewater portfolio programs, excluding work at the Duffin Creek WPCP.

For repair and maintenance of the Region's wastewater works, that includes activities such as equipment repairs, planned maintenance and program related inspections, approximately $2.0 million was spent in 2024, and for 2025 an estimated $3.5 million is planned in the Region's annual budget. These expenditures support conformance with Procedure F-5-1.

For 2024, key projects included the following (all figures are approximate):

- $106.8 million for various work relating to sewers and forcemains, including:
  - $55.1 million for design and construction of rehabilitation of gravity sewers, forcemains and appurtenances (accessory parts of sewers and forcemains, such as maintenance access holes) to extend the life of the infrastructure
  - $42.3 million for constructing a gravity sewer from Rutherford Road to Vaughan Humber SPS
  - $8.1 million for design and construction of wastewater servicing in Northeast Vaughan
  - $1.2 million for emergency repairs to sewers in the YDSS
  - $129,000 for construction work related to twinning the forcemain between Newmarket and Aurora
- $20.2 million for Vaughan Humber SPS for construction of the replacement facility
- $7 million for Oak Ridges Air Management Facility construction in the Oak Ridges area of the YDSS
- $4.7 million for Keswick SPS to upgrade mechanical, electrical, piping and ventilation systems and install a new channel grinder
- $3.2 million for Aurora SPS to design facility upgrades, construct pump vibration reduction measures and construct upgrades to the septage haulage station
- $1.3 million for Markham Leslie SPS to upgrade the electrical system and replace the standby power generators
- $983,000 for Nobleton SPS to design upgrades to the facility to support population growth
- $930,000 for Aurora Henderson SPS to complete commissioning of upgrades
- $760,000 for Pine Valley SPS and King City SPS to construct rehabilitation work, including replacement of fuel tanks

- $331,000 for Morton Ave Air Management Facility to construct concrete structural rehabilitation and corrosion resistance lining
- $321,000 for Bogart Creek SPS to design facility upgrades including structural, mechanical, and process instrumentation devices
- $192,000 for Mount Albert SPS to design facility upgrades
- $190,000 for design and $795,000 for construction of fuel oil appliance upgrades at various wastewater collection system facilities
- $138,000 for the Southeast Collector Corrosion Control Facility to design upgrades to the chemical dosing system

For 2025, projects are planned, including the following (all figures are approximate):

- $72.7 million for various work relating to sewers and forcemains, including:
    - $49.9 million for constructing a gravity sewer from Rutherford Road to Vaughan Humber SPS
    - $13.3 million for design and construction of wastewater servicing in Northeast Vaughan
    - $8.5 million for design and construction of rehabilitation of gravity sewers and forcemains to extend the life of the infrastructure
    - $1.0 million for design of twinning the primary trunk sewer between SEC and Duffin Creek
- $32.6 million for Vaughan Humber SPS for construction of the replacement facility
- $16.5 million for projects in support of the North York Durham Sewage System (YDSS) expansion, including:
    - $14.3 million for designing upgrades and expansions to the sewers in North YDSS,
    - $1.5 million for the overall North YDSS expansion program management, and
    - $676,000 for designing upgrades to the 2nd Concession SPS and the Newmarket SPS
- $3.9 million for Markham Leslie SPS to construct upgrades to the electrical system
- $2.7 million for construction of fuel oil appliance upgrades at various wastewater collection system facilities
- $1.8 million for Aurora SPS, including:
    - $925,000 for design and construction of equalization diversion tank
    - $724,000 for design and construction of facility upgrades
    - $103,000 for construction of upgrades to the septage haulage station
- $1.6 million for the Southeast Collector Corrosion Control Facility to construct upgrades to the chemical dosing system
- $895,000 for Bogart Creek SPS to design and construct facility rehabilitation
- $740,000 for Aurora Henderson SPS for warranty work, as needed
- $458,000 for Morton Air Management Facility to construct concrete structural rehabilitation and corrosion resistant lining
- $412,000 for King City SPS to construct rehabilitation on valves

- $300,000 for Sutton South River Road SPS upgrades to some components to facilitate transfer of station to the Town of Georgina
- $139,000 for Nobleton SPS to design upgrades to the facility to support population growth

APPENDIX 1: 2024 SCHEDULED CALIBRATIONS OF THE MAJOR FACILITY MONITORING EQUIPMENT

Note: Sutton High Street SPS, Sutton Wood River Bend SPS, and Schomberg Dr Kay SPS do not have onsite flow monitoring. Their flows are monitored as Influent at the downstream treatment facilities.

2024 Calibration Date	Equipment Description
06-Feb-2024	Aurora SPS EQ Tank Overflow Flowmeter
18-Sep-2024	Aurora SPS Pump 1 Flowmeter
18-Sep-2024	Aurora SPS Pump 2 Flowmeter
18-Sep-2024	Aurora SPS Pump 3 Flowmeter
18-Sep-2024	Aurora SPS Pump 4 Flowmeter
18-Sep-2024	Aurora SPS Pump 5 Flowmeter
18-Sep-2024	Aurora SPS Pump 6 Flowmeter
06-Feb-2024	Aurora SPS EQ Tank Discharge to YDSS Flowmeter
19-Sep-2024	Aurora SPS Hauled Waste Receiving Facility Flowmeter 1
19-Sep-2024	Aurora SPS Hauled Waste Receiving Facility Flowmeter 2
19-Sep-2024	Aurora SPS Hauled Waste Receiving Facility Flowmeter 3
14-May-2024	Black Creek SPS Forcemain Flowmeter 1
14-May-2024	Black Creek SPS Forcemain Flowmeter 2
19-Nov-2024	Bogart Creek SPS Discharge Flowmeter to Forcemain 1
15-Nov-2024	Bogart Creek SPS Discharge Flowmeter to Forcemain 2
10-Oct-2024	East Gwillimbury 2nd Concession SPS Forcemain 3 Flowmeter
10-Oct-2024	East Gwillimbury 2nd Concession SPS Wet Well Flowmeter
11-Dec-2024	Henderson SPS Pump 1 Flowmeter
11-Dec-2024	Henderson SPS Pump 2 Flowmeter
11-Dec-2024	Henderson SPS Pump 3 Flowmeter
11-Dec-2024	Henderson SPS Pump 4 Flowmeter
10-Oct-2024	Holland Landing SPS Forcemain 1 Flowmeter
10-Oct-2024	Holland Landing SPS Forcemain 2 Flowmeter
11-Oct-2024	Holland Landing SPS Wet Well Flowmeter
03-Dec-2024	Humber SPS Station Flowmeter Forcemain 1
03-Dec-2024	Humber SPS Station Flowmeter Forcemain 2
07-Oct-2024	Keswick Georgina No. 4 SPS
13-Dec-2024	Keswick SPS Station Flowmeter Pump 1
13-Dec-2024	Keswick SPS Station Flowmeter Pump 2
13-Dec-2024	Keswick SPS Station Flowmeter Pump 3

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2024 Calibration Date	Equipment Description
13-Dec-2024	Keswick SPS Station Flowmeter Pump 4
03-Sep-2024	Keswick Joe Dales SPS Station Flowmeter
16-Apr-2024	King City SPS Flow Meter
24-Jan-2024	Mount Albert SPS Station Flowmeter
06-Sep-2024	Markham Leslie SPS Discharge Header Flowmeter – North
06-Sep-2024	Markham Leslie SPS Discharge Header Flowmeter – South
23-Jan-2024	Newmarket Greenlane Interim SPS Flowmeter
24-Jan-2024	Newmarket SPS Station Flowmeter
07-Nov-2024	Newmarket SPS EQ Tank Effluent Flowmeter Pump 1
07-Nov-2024	Newmarket SPS EQ Tank Effluent Flowmeter Pump 2
29-Nov-2024	Nobleton/Janet Ave SPS Station Discharge Flowmeter
20-Feb-2024	Queensville West SPS Forcemain 1 Flowmeter 1
20-Feb-2024	Queensville West SPS Forcemain 2 Flowmeter 1
20-Feb-2024	Queensville West SPS Wet Well Flowmeter 1
18-Jul-2024	Vaughan Pine Valley SPS Flowmeter

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Air Management Facility (AMF) – A facility or structure which help reduce odours and infrastructure corrosion caused by gases that can be generated in wastewater.

Alteration – Extend, replace, upgrade, modify, add to, enlarge, or retire part of, the wastewater system. Some Alterations do not require approval, some are preauthorized, and some require Ministry review and approval.

BOD_5 – Five-Day Biochemical Oxygen Demand –a test that measures how much oxygen is used by biological organisms that consume matter in the wastewater.

Bypass – A diversion of sewage around one or more unit processes at a treatment facility and discharging to the environment through the outfall.

CFU - Colony Forming Units, a method of counting or estimating the concentration of bacteria in a sample.

E. coli – A type of bacteria found in fecal matter. With certain exceptions, most species of E. coli do not cause disease. Coliform testing provides an indicator of the effectiveness of wastewater treatment.

Environmental Compliance Approval (ECA) – An approval to operate wastewater facilities issued by the Ministry of Environment, Conservation and Parks.

Form SS2 – Official Ministry Form for documenting preauthorized alterations in the Consolidated Linear Infrastructure ECA.

Geometric Mean Density (GMD) – A method of evaluating E. coli concentrations.

Hydrogen Sulfide (H2S) – A gas that can be released from wastewater, which can cause corrosion and odours.

Inflow and Infiltration (I&I) – Water that enters the sanitary sewage system through leaking infrastructure or overland flow into maintenance holes. The Region has a collaborative approach to managing I&I with partner municipalities and the development community.

Integrated Management Systems (IMS) – Combined quality, environmental, and safety management systems used to ensure optimal service is being delivered.

Milligram per Litre (mg/L) – Measure of the mass concentration of a parameter, sometimes referred to as parts per million (ppm).

Ministry of the Environment, Conservation, and Parks (MECP) – Provincial regulatory agency responsible for overseeing the water and wastewater industries in Ontario.

MECP Spills Action Centre (SAC) – Manages reports of spills, adverse drinking water results and environmental concerns. SAC operates 24 hours per day, 7 days per week.

Overflow – A discharge to the environment from an engineered failure point for the purpose of minimizing potential risks to the environment, and to minimize the risk of basement flooding or uncontrolled spills from elsewhere in the system. Overflows are a type of Spill.

pH – Index of hydrogen ion activity as an indicator of corrosiveness. A solution of pH from 0-7 is acidic, 7 is neutral, and 7-14 is alkaline or basic.

Spill – As defined in the Ontario Environmental Protection Act, R.S.O. 1990, c. E.19, a Spill is a direct or indirect release of a pollutant into the natural environment from infrastructure or assets, when the release is out of the course of normal events, and which causes or has the potential to cause adverse effects, such as harm to wildlife, danger to persons, and property damage.

Sewage Pumping Station (SPS) – A facility that helps to move sewage through the system by pressurizing it and sometimes removing solids from the flows.

Total Ammonia Nitrogen (TAN) – A measurement of the total amount of ionized and unionized ammonia in a sample.

Total Kjeldahl Nitrogen (TKN) – A measurement of the total amount of organic nitrogen and ammonia nitrogen in a sample.

Total Phosphorus (TP) – A measurement of the total amount of dissolved and particulate phosphorus in a sample.

Total Suspended Solids (TSS) – A measurement of the total amount of suspended particles in water.

Water Resource Recovery Facility (WRRF) – Also known as a sewage treatment plant or a wastewater treatment facility. It is where the sewage is treated before returning it to the environment.

York Durham Sewage System (YDSS) – The collection system infrastructure that services much of York Region and conveys wastewater to Peel Region and Durham Region for treatment.