

2021 Annual Drinking Water System Quality Report for King City DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O. Reg. 170/03.

Drinking Water System Number: 220002299
Drinking Water System Name: King City DWS
Drinking Water System Owner: The Regional Municipality of York
Drinking Water System Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution and Supply II
Reporting period: Jan 1, 2021 - Dec 31, 2021

The King City DWS serves approximately 7,940 people.

(Population is the most recent available estimate based on Statistics Canada census data and building permits)

List all Drinking Water Systems which receive their drinking water from the King City DWS:

King City Distribution System (260005138)

This annual report is available to the public at no charge on York Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public requests at any time

Summary report required under O. Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Environmental Services Department
17250 Yonge Street, Newmarket ON L3Y 6Z1

Description of the King City DWS

Introduction

King City is a community in south-eastern King Township. King City DWS provides water from Lake Ontario through the York DWS. Two wells are maintained as an emergency backup water source. York Region operates the water supply, and King Township maintains and distributes water to users. The Province governs York Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source

Groundwater

Profile of water in distribution system

Blended - Lake and Groundwater

Water treatment description

King City DWS includes two wells, one pumping station, and two storage facilities. If the wells are used for supply, chlorine provides disinfection, and chloramine provides a secondary residual. Sodium silicate is added to sequester naturally occurring iron and manganese. The backup wells and treatment are tested regularly to ensure safety and performance. Storage facilities hold treated water and maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor treatment and water flow. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

List of water treatment chemicals used in this system

Water in King City comes pre-treated from the York DWS. Well facilities were not run for supply, but can apply chlorine (gas) and ammonia solution for chloramination, and sodium silicate. Treatment systems and well performance are tested regularly in case they are ever needed for backup capacity.

Brief description and breakdown of monetary expenses incurred

\$302,346 for treatment facility upgrades, elevated tank repairs and upgrades, well rehabilitation and maintenance, general maintenance and repairs.

Notices submitted under Section 18(1) of the *Safe Drinking Water Act* or Section 16-4 of O. Reg. 170/03 and reported to MECP Spills Action Centre

Not Applicable

Intentionally blank. No notices were submitted for this report period.

Microbiological testing completed under Schedule 10 of O. Reg. 170/03

For additional distribution samples collected under Schedule 10, refer to the local municipality.

Test Parameter	Sample Source	Count of Samples	Count of Presence
E. Coli	Raw	102	0
Total Coliforms	Raw	102	0

Note: no treated results are available for the reporting period as the wells were not operational.

Operational testing completed under Schedule 7 of O. Reg. 170/03 during this reporting period

Test Parameter	Test Unit	No. of Samples ¹	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	1.97	0.00	3.11

¹ 8,760 is used as the number of samples for continuous analyzers.

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect (i.e. the " $<$ " is omitted) and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter ^{2 3}	Test Unit	No. of Samples ¹	Average	Minimum	Maximum
Fluoride	mg/L	7	0.576	0.47	0.66
Haloacetic Acids	ug/L	7	8.000	<8	8
Nitrate	mg/L	7	0.500	<0.50	<0.50
Nitrite	mg/L	7	0.050	<0.05	<0.05
Sodium	mg/L	1	19.900	19.90	19.90
Trihalomethanes	ug/L	9	20.079	14.80	23.60

*Lead testing under Schedule 15.1 is conducted by the local municipality - refer to local municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes.

¹ 8,760 is used as the number of samples for continuous analyzers.

² The Average for Haloacetic Acids and Trihalomethanes is calculated as the running annual average of quarterly results in accordance with O. Reg 170/03. The Minimum and Maximum values reflect individual test results.

³ Where sampling for 'N-Nitrosodimethylamine (NDMA)' is required, locations were selected to represent the farthest points in the distribution system. For York DWS and sub-systems, representative sample locations were selected from across the interconnected sub-systems, therefore not all sub-systems were chosen for NDMA sampling.

Organic and inorganic parameter(s), from Schedule 23 and 24, that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
Intentionally blank. There were no applicable test results.

Summary of inorganic parameters tested pursuant to Schedule 23 of O. Reg. 170/03

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Test Parameter	Test Unit	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	1	0.0005	<0.0005	<0.0005	0.0060
Arsenic	mg/L	1	0.0007	0.0007	0.0007	0.01
Barium	mg/L	1	0.0201	0.0201	0.0201	1
Boron	mg/L	1	0.0280	0.0280	0.0280	5
Cadmium	mg/L	1	0.0005	<0.0005	<0.0005	0.0050
Chromium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Mercury	ug/L	1	0.0500	<0.05	<0.05	1
Selenium	mg/L	1	0.0005	<0.0005	<0.0005	0.05
Uranium	mg/L	1	0.0005	<0.0005	<0.0005	0.02

**Summary of organic parameters tested pursuant to
Schedule 24 of O. Reg. 170/03**

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to three decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater.

Not Applicable

**Schedule 24 sampling is not applicable to the King City DWS
as it has no active treatment facilities.**