

Toronto STAFF REPORT

April 11, 2006

To: Works Committee

From: Lou Di Gironimo, General Manager, Toronto Water

Subject: Toronto Water - 2005 Annual Report and Summary Report
(All Wards)

Purpose:

The purpose of this report is to present copies of the 2005 Annual Report and Summary Report for Toronto's Water Treatment Plants as part of the regulatory requirements.

Financial Implications and Impact Statement:

There are no financial implications arising from this report.

Recommendations:

It is recommended that this report be received for information.

Background:

According to the regulatory requirements, every year, each drinking water system must prepare an Annual Report and a Summary Report covering the period from January 1 to December 31 of the preceding year. A copy of the Summary Report must also be given to members of the City Council.

Comments:

Toronto Water treats, transmits, stores and distributes potable water to all industrial, commercial and household water users in the City of Toronto. The division also delivers water to the southern portion of the Region of York. Staff in this area are highly trained and specialized, operating four water treatment plants, 18 pumping stations, 10 major ground level storage reservoirs and four elevated storage tanks. Staff maintains about 510 kilometres of trunk watermain that supply the water reservoirs and over 5,000 kilometres of local distribution network. The four water treatment plants operated by Toronto Water are the R.C. Harris Water Treatment Plant (WTP), R.L. Clark WTP, F.J. Horgan WTP, and Island WTP.

In accordance with subsection 11(3) of O. Reg. 170/03 under 2002 Safe Drinking Water Act, Toronto Water prepared Annual Reports for each of the four water treatment plants covering the period from January 1, 2005 to December 31, 2005. These reports were prepared using the template (Part III Form 2) available on the Ministry's website and submitted to the Ministry of the Environment on February 28, 2006. The Annual Reports contained a brief description of the water treatment plants, including a list of treatment chemicals used by each system during the period covered by the report and summarized the results of tests required under the regulation. The reports also included the description of any corrective actions taken under Schedule 17 or 18 of O. Reg. 170/03 during 2005 and the description of any major expenses incurred during the year to install, repair or replace required equipment. These reports also included a summary of analytical results for the treated water from each plant.

Toronto Water has taken the following measures to advise the customers of the availability of the Annual Report and to ensure that copies of this report are available to the public at no charge.

- Posting on the Internet at the City of Toronto's Web site:
www.toronto.ca/water/quality_report.htm
- Notices at Access Toronto counters located at all Civic Centres and City Hall
- Notification of the availability of the Annual Reports in Water Watch publications.

In accordance with Schedule 22-2 of O. Reg. 170/03 under 2002 Safe Drinking Water Act, Toronto Water also prepared 2005 Summary Reports for each of the four water treatment plants covering the period from January 1, 2005 to December 31, 2005. The Summary Reports were submitted to the Ministry of the Environment on March 31, 2006. As per the regulatory requirements, copies of these reports must be given to the members of City council. The Summary Reports contained a summary of the quantities and flow rates of the water supplied during the period covered by the report, monthly average and maximum daily flows and daily instantaneous peak flow rates including comparison of these flows to the rated capacity and flow rates approved in the system's approval.

During 2005, there were no instances of treated water flows exceeding the daily production capacities of the treatment plants. The capital projects for replacement, rehabilitation and improvement of treatment facilities were undertaken in a cost sensitive and environmentally responsible manner. The water quality at all plants met and/or exceeded the Provincial drinking water quality standards.

Copies of the 2005 Annual Report and Summary Report are on file with the City Clerk.

Conclusion:

The Annual Reports and Summary Reports demonstrate that during 2005, Toronto Water continued to provide uninterrupted supply of high quality tap water 24 hours a day, seven days a week in a cost effective and environmentally responsible manner.

Contact:

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Lou Di Gironimo
General Manager
Toronto Water

ADT/
(p:\2006\wes\www\wc06027)

List of Attachments:

- 2005 Annual Report
- 2005 Summary Report

Water Treatment and Supply

DRINKING WATER SYSTEMS

Annual Report

for January 1, 2005 to December 31, 2005



 **Toronto** Water

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	R. C. Harris WTP – 220002262
Drinking-Water System Name:	Toronto (R.C. Harris) Water Treatment Plant
Drinking-Water System Owner:	City of Toronto
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2005 to December 31, 2005

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [x] No []

Is your annual report available to the public at no charge on a web site on the Internet?
Yes [x] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Metro Hall, 18th Floor
55 John Street
Toronto, Ontario
M5V 3C6

Complete for all other Categories.
NOT APPLICABLE

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [] No []

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Region of York – receives some of their water from Toronto	260001929

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [x] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

- ☒ Public access/notice via the web
☒ Public access/notice via Government Office
☐ Public access/notice via a newspaper
☐ Public access/notice via Public Request
☐ Public access/notice via a Public Library
☒ Public access/notice via other method

Describe your Drinking-Water System

- Toronto Water Supply System consists of four water filtration plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 510 kilometers of trunk watermain and 5,015 kilometers of distribution watermain.

The R.C. Harris Water Treatment Plant is a conventional water treatment, has a capacity of 950 ML/d and is located at 2701 Queens Street East, Toronto.

The other three Toronto Water Treatment plants are as follows:

- R.L. Clark Water Treatment Plant (capacity 615 ML/d) located at 45 Twenty Third Street, Etobicoke;
- F.J. Horgan Water Treatment Plant (capacity 570 ML/d) located at 201 Copperfield Road, Toronto; and
- Island Water Treatment Plant (capacity 410 ML/d) located on Centre Island, Toronto

List all water treatment chemicals used over this reporting period

Alum, chlorine, sulphur dioxide, sodium bisulphite, hydrofluosilicic acid and aqua ammonia.

Were any significant expenses incurred to?

- ☒ Install required equipment
☒ Repair required equipment
☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Please note the following amounts relate to various projects during 2005 and does not represent the total Project cost. These numbers do not include normal operating and maintenance cost.

Residual management Facilities	\$28 Million
Intake repairs	\$100,000
Replacement indoor switchgear	\$650,000

Drinking-Water Systems Regulation O. Reg. 170/03

Building rehab	\$1.7 Million
Valve refurbishing	\$250,000

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre for the R.C. Harris Water Treatment Plant.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
23-Apr-05	TC Background	2000	CFU/100 mL	Reviewed treatment records. Resampled	25-Apr-05
23-Apr-05	HPC	18000	CFU/100 mL	Reviewed treatment records. Resampled	25-Apr-05
24-May-05	Total Chlorine	0.24	mg/L	As a result of power failure, overdosage of SO ₂ occurred. Dechlorination feed adjusted and disinfectant restored.	24-May-05
27-Jun-05	Total Coliform	1	CFU/100 mL	Reviewed treatment records. Resampled	29-Jun-05
5-Dec-05	Total Chlorine	0.24	mg/L	Low residual due to SO ₂ overdose. Dosages adjusted immediately. Chlorine residual restored.	5-Dec-05
13-Dec-05	Total Chlorine	0.24	mg/L	Low residual due to SO ₂ overdose. Dosages adjusted immediately. Chlorine residual restored.	13-Dec-05

Notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre for the Distribution System (which is included under the R.C. Harris Drinking Water System Name and Number).

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
22-Feb-05	Total Chlorine	0.0	mg/L	Flushed watermain and service. Resampled.	22-Feb-05
3-Mar-05	TC Background	480	CFU/100 mL	Flushed watermain and service. Resampled.	4-Mar-05
11-Mar-05	Total Chlorine	0.03	mg/L	Flushed watermain. Closed valves opened.	14-Mar-05
30-Mar-05	Total Chlorine	0.13	mg/L	Flushed watermain and service. Resampled.	30-Mar-05
17-May-05	TC Background	5000	CFU/100 mL	Flushed watermain and service. Resampled.	18-May-05
18-May-05	TC Background	210	CFU/100 mL	Flushed watermain and service. Resampled.	19-May-05
2-June-05	HPC	18000	CFU/100 mL	Flushed watermain and service. Resampled.	4-June-05
3-June-05	Total Coliform	2	CFU/100 mL	Flushed watermain and service. Resampled.	4-June-05
6-June-05	TC Background	240	CFU/100 mL	Flushed watermain and service. Resampled.	7-June-05
17-June-05	TC Background	360	CFU/100 mL	Flushed watermain and service. Resampled.	18-June-05
21-June-05	TC Background	500	CFU/100 mL	Flushed watermain and service. Resampled.	23-June-05
28-June-05	TC Background	230	CFU/100 mL	Flushed watermain and service. Resampled.	29-June-05
7-July-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	8-July-05
8-July-05	Total Coliform	7	CFU/100 mL	Flushed watermain and service. Resampled.	9-July-05
13-July-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	14-July-05
14-July-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	15-July-05

Drinking-Water Systems Regulation O. Reg. 170/03

14-July-05	Total Coliform	7	CFU/100 mL	Flushed watermain and service. Resampled.	15-July-05
15-July-05	TC Background	630	CFU/100 mL	Flushed watermain and service. Resampled.	16-July-05
15-July-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	16-July-05
17-July-05	Total Coliform	2	CFU/100 mL	Flushed watermain and service. Resampled.	18-July-05
18-July-05	TC Background	250	CFU/100 mL	Flushed watermain and service. Resampled.	19-July-05
18-July-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	19-July-05
19-July-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	20-July-05
20-July-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	21-July-05
20-July-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	21-July-05
20-July-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	21-July-05
20-July-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	21-July-05
26-July-05	Total Chlorine	0.1	mg/L	Flushed watermain until chlorine residual of 0.8 mg/L was achieved.	27-July-05
26-July-05	Total Chlorine	0.1	mg/L	Flushed watermain until chlorine residual of 1.02 mg/L was achieved.	27-July-05
9-Aug-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	11-Aug-05
16-Aug-05	Total Chlorine	0.2	mg/L	Flushed watermain and service. Resampled.	16-Aug-05
16-Aug-05	Total Coliform	5	CFU/100 mL	Flushed watermain and service. Resampled.	18-Aug-05
18-Aug-05	Total Chlorine	0.07	mg/L	Flushed watermain and service. Resampled.	18-Aug-05
25-Aug-05	Total Coliform	2	CFU/100 mL	Flushed watermain and service. Resampled.	26-Aug-05
26-Aug-05	Total Coliform	4	CFU/100 mL	Flushed watermain and service. Resampled.	27-Aug-05
28-Aug-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	29-Aug-05
28-Aug-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	29-Aug-05
28-Aug-05	Presence/ Absence	+ ve		Flushed watermain and service. Resampled.	29-Aug-05
30-Aug-05	Total Coliform	32	CFU/100 mL	Flushed watermain and service. Resampled.	31-Aug-05
30-Aug-05	Total Coliform	4	CFU/100 mL	Flushed watermain and service. Resampled.	31-Aug-05
14-Sep-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	15-Sep-05
11-Oct-05	TC Background	360	CFU/100 mL	Flushed watermain and service. Resampled.	12-Oct-05
12-Oct-05	Total Chlorine	0.11	mg/L	Flushed watermain and resampled.	12-Oct-05
13-Oct-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	14-Oct-05
13-Oct-05	Total Coliform	3	CFU/100 mL	Flushed watermain and service. Resampled.	14-Oct-05
14-Oct-05	Total Coliform	20	CFU/100 mL	Resampled.	15-Oct-05
14-Oct-05	Total Coliform	19	CFU/100 mL	Flushed watermain and service. Resampled.	15-Oct-05
20-Oct-05	Total Coliform	3100	CFU/100 mL	Flushed watermain and service. Resampled.	21-Oct-05
20-Oct-05	Total Coliform	2300	CFU/100 mL	Flushed watermain and service. Resampled.	21-Oct-05
27-Oct-05	TC Background	>200	CFU/100 mL	Flushed watermain and service. Resampled.	31-Oct-05
8-Nov-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	9-Nov-05
9-Nov-05	TC Background	600	CFU/100 mL	Flushed watermain and service. Resampled.	10-Nov-05
25-Nov-05	Total Coliform	2	CFU/100 mL	Flushed watermain and service. Resampled.	26-Nov-05
30-Nov-05	TC Background	830	CFU/100 mL	Flushed watermain and service. Resampled.	1-Dec-05
22-Dec-05	Total Chlorine	0.21	mg/L	Flushed watermain and service. Resampled.	22-Dec-05
22-Dec-05	Total Coliform	1	CFU/100 mL	Flushed watermain and service. Resampled.	23-Dec-05

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	1104	0-15	0-790	1073	0-13000
Treated	2079	0-0	0-1	2020	0-4000
Distribution	5134	0-3100	0-3100	4727	0-18000

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8424	0.01 – 0.27 NTU
Chlorine	8424	0.10 – 1.80
Fluoride (If the DWS provides fluoridation)	8424	0.21 – 0.96
Chlorine for Distribution System	5134	0.11 – 1.98

***NOTE:** For continuous monitors use 8760 as the number of samples.*

Operational testing for Lead and THMs for End of the Line Distribution System done under Schedule 13 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Lead	3	0 – 0.0006
THMs	12	0.0102 – 0.0211

***NOTE:** Record the unit of measure if it is **not** milligrams per litre.*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2/08 – 11/29	0-0	mg/L	No
Arsenic	2/08 – 11/29	0-0	mg/L	No
Barium	2/08 – 11/29	0.023-0.021	mg/L	No
Boron	2/08 – 11/29	0.024-0.020	mg/L	No
Cadmium	2/08 – 11/29	0-0	mg/L	No
Chromium	2/08 – 11/29	0-0	mg/L	No
Lead	2/08 – 11/29	0-0	mg/L	No
Mercury	2/08 – 11/29	0-0	mg/L	No
Selenium	2/08 – 11/29	0-0	mg/L	No

Drinking-Water Systems Regulation O. Reg. 170/03

Sodium	1/11 – 12/20	15.5-12.2	mg/L	No
Uranium	2/08 – 11/29	0.0004-0.0003	mg/L	No
Fluoride	1/01 – 12/31	0.74-0.14	mg/L	No
Nitrite	2/24 – 12/06	0-0	mg/L	No
Nitrate	2/24 – 12/06	0.50-0.31	mg/L	No

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2/07-11/07	0-0	ug/L	No
Aldicarb	2/07-11/07	0-0	ug/L	No
Aldrin + Dieldrin	2/07-11/07	0-0	ug/L	No
Atrazine + N-dealkylated metabolites	2/07-11/07	0-0	ug/L	No
Azinphos-methyl	2/07-11/07	0-0	ug/L	No
Bendiocarb	2/07-11/07	0-0	ug/L	No
Benzene	1/10-12/06	0-0	ug/L	No
Benzo(a)pyrene	2/07-11/07	0-0	ug/L	No
Bromoxynil	2/07-11/07	0-0	ug/L	No
Carbaryl	2/07-11/07	0-0	ug/L	No
Carbofuran	2/07-11/07	0-0	ug/L	No
Carbon Tetrachloride	1/10-12/06	0-0	ug/L	No
Chlordane (Total)	2/07-11/07	0-0	ug/L	No
Chlorpyrifos	2/07-11/07	0-0	ug/L	No
Cyanazine	2/07-11/07	0-0	ug/L	No
Diazinon	2/07-11/07	0-0	ug/L	No
Dicamba	2/07-11/07	0-0	ug/L	No
1,2-Dichlorobenzene	1/10-12/06	0-0	ug/L	No
1,4-Dichlorobenzene	1/10-12/06	0-0	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2/07-11/07	0-0	ug/L	No
1,2-Dichloroethane	1/10-12/06	0-0	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	1/10-12/06	0-0	ug/L	No
Dichloromethane	1/10-12/06	0-0	ug/L	No
2-4 Dichlorophenol	2/07-11/07	0-0	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2/07-11/07	0-0	ug/L	No
Diclofop-methyl	2/07-11/07	0-0	ug/L	No
Dimethoate	2/07-11/07	0-0	ug/L	No
Dinoseb	2/07-11/07	0-0	ug/L	No
Diquat	2/07-11/07	0-0	ug/L	No
Diuron	2/07-11/07	0-0	ug/L	No
Glyphosate	2/07-11/07	0-0	ug/L	No
Heptachlor + Heptachlor Epoxide	2/07-11/07	0-0	ug/L	No
Lindane (Total)	2/07-11/07	0-0	ug/L	No
Malathion	2/07-11/07	0-0	ug/L	No
Methoxychlor	2/07-11/07	0-0	ug/L	No
Metolachlor	2/07-11/07	0-0	ug/L	No
Metribuzin	2/07-11/07	0-0	ug/L	No
Monochlorobenzene	1/10-12/06	0-0	ug/L	No

Drinking-Water Systems Regulation O. Reg. 170/03

Paraquat	2/07-11/07	0-0	ug/L	No
Parathion	2/07-11/07	0-0	ug/L	No
Pentachlorophenol	2/07-11/07	0-0	ug/L	No
Phorate	2/07-11/07	0-0	ug/L	No
Picloram	2/07-11/07	0-0	ug/L	No
Polychlorinated Biphenyls(PCB)	2/07-11/07	0-0	ug/L	No
Prometryne	2/07-11/07	0-0	ug/L	No
Simazine	2/07-11/07	0-0	ug/L	No
THM (NOTE: show latest annual average)	1/10-12/06	12.29	ug/L	No
Temephos	2/07-11/07	0-0	ug/L	No
Terbufos	2/07-11/07	0-0	ug/L	No
Tetrachloroethylene	1/10-12/06	0-0	ug/L	No
2,3,4,6-Tetrachlorophenol	2/07-11/07	0-0	ug/L	No
Triallate	2/07-11/07	0-0	ug/L	No
Trichloroethylene	1/10-12/06	0-0	ug/L	No
2,4,6-Trichlorophenol	2/07-11/07	0-0	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2/07-11/07	0-0	ug/L	No
Trifluralin	2/07-11/07	0-0	ug/L	No
Vinyl Chloride	2/07-11/07	0-0	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:
Drinking-Water System Name:
Drinking-Water System Owner:
Drinking-Water System Category:
Period being reported:

R.L. Clark WTP - 220002253
Toronto (R.L. Clark) Water Treatment Plant
City of Toronto
Large Municipal Residential
January 1, 2005 to December 31, 2005

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [x] No []

Is your annual report available to the public at no charge on a web site on the Internet?
 Yes [x] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Metro Hall, 18th Floor
 55 John Street
 Toronto, Ontario
 M5V 3C6

Complete for all other Categories.

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?
 Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
 Yes [] No []

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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Drinking Water System Name	Drinking Water System Number
Region of York – receives some of their water from Toronto	260001929

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
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Indicate how you notified system users that your annual report is available, and is free of charge.

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☐ Public access/notice via a Public Library
☒ Public access/notice via other method

Describe your Drinking-Water System

Toronto Water Supply System consists of four water treatment plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 510 kilometers of trunk watermain and 5,015 kilometers of distribution watermain.

The R.L. Clark Water Treatment Plant is a conventional water treatment plant, has a rated capacity of 615 ML/d and is located at 45 Twenty-Third Street, Etobicoke.

The other three Toronto water treatment plants are as follows:

- R.C. Harris Water Treatment Plant (capacity 950 ML/d) located at 2701 Queen Street East, Toronto;
- F.J. Horgan Water Treatment Plant (capacity 570 ML/d) located at 201 Copperfield Road, West Hill; and
- Island Water Treatment Plant (capacity 410 ML/d) located on Centre Island, Toronto

List all water treatment chemicals used over this reporting period

Alum, chlorine, sulphur dioxide, hydrofluosilicic acid, aqua ammonia were used at the R.L. Clark Water Treatment Plant.

Were any significant expenses incurred to?

- ☒ Install required equipment
☒ Repair required equipment
☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Please note that the following amounts related to various projects outline expenditures during 2005 and do not represent the total project costs at the R.L. Clark Water Treatment Plant.

- | | |
|---------------------------------|----------|
| - Residue Management Facilities | \$ 6.2 M |
| - Roof Rehabilitation | \$ 0.4 M |
| - Raw Water Pump | \$ 0.6 M |

Drinking-Water Systems Regulation O. Reg. 170/03

- Equipment Replacement/Repair/Rehab

\$ 1.3 M

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
7-Feb-05	NDMA	0.012	ug/L	Resample	10-Mar-05
29-Mar-05	Total Coliform	2	CFU/100mL	Reviewed treatment records. Resampled	30-Mar-05
22-May-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	24-May-05
2-Jun-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	4-Jun-05
30-Sep-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	1-Oct-05
19-Nov-05	Total Coliform	2	CFU/100mL	Reviewed Treatment records. Resampled	22-Nov-05
21-Nov-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	23-Nov-05
24-Nov-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	26-Nov-05
2-Dec-05	Total Coliform	1	CFU/100mL	Reviewed Treatment records. Resampled	3-Dec-05

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	649	0-98	0-6,100	643	0-9,500
Treated	2103	0 – 0	0 – 2	2049	0 – 56
Distribution	n/a	n/a	n/a	n/a	n/a

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0.02 – 0.26
Chlorine	8760	0.75 – 2.0
Fluoride (If the DWS provides fluoridation) (Plant output spot samples)	2135	0.16 – 0.78

NOTE: For continuous monitors use 8760 as the number of samples.

NOTE: Record the unit of measure if it is **not** milligrams per litre.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2/08 – 11/29	0-0	mg/L	No
Arsenic	2/08 – 11/29	0-0	mg/L	No
Barium	2/08 – 11/29	0.022-0.021	mg/L	No
Boron	2/08 – 11/29	0.030-0.021	mg/L	No
Cadmium	2/08 – 11/29	0-0	mg/L	No
Chromium	2/08 – 11/29	0-0	mg/L	No
Lead	2/08 – 11/29	0-0	mg/L	No
Mercury	2/08 – 11/29	0-0	mg/L	No
Selenium	2/08 – 11/29	0-0	mg/L	No
Sodium	1/11 – 12/20	28.8-12.2	mg/L	Jan. 11, Jan. 17, & Feb. 22 *
Uranium	2/08 – 11/29	0.0003-0.0003	mg/L	No
Fluoride	1/01 – 12/31	0.78-0.16	mg/L	No
Nitrite	2/24 – 12/06	0-0	mg/L	No
Nitrate	2/24 – 12/06	0.53-0.31	mg/L	No

*Note: Exceedance attributed to the use of road salt. No sodium notification as previously reported within 5 yrs.

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2/07-11/07	0-0	ug/L	No
Aldicarb	2/07-11/07	0-0	ug/L	No
Aldrin + Dieldrin	2/07-11/07	0-0	ug/L	No
Atrazine + N-dealkylated metabolites	2/07-11/07	0-0	ug/L	No
Azinphos-methyl	2/07-11/07	0-0	ug/L	No
Bendiocarb	2/07-11/07	0-0	ug/L	No
Benzene	1/10-12/05	0-0	ug/L	No
Benzo(a)pyrene	2/07-11/07	0-0	ug/L	No
Bromoxynil	2/07-11/07	0-0	ug/L	No
Carbaryl	2/07-11/07	0-0	ug/L	No
Carbofuran	2/07-11/07	0-0	ug/L	No
Carbon Tetrachloride	1/10-12/05	0-0	ug/L	No
Chlordane (Total)	2/07-11/07	0-0	ug/L	No
Chlorpyrifos	2/07-11/07	0-0	ug/L	No
Cyanazine	2/07-11/07	0-0	ug/L	No
Diazinon	2/07-11/07	0-0	ug/L	No
Dicamba	2/07-11/07	0-0	ug/L	No
1,2-Dichlorobenzene	1/10-12/05	0-0	ug/L	No
1,4-Dichlorobenzene	1/10-12/05	0-0	ug/L	No

Dichlorodiphenyltrichloroethane (DDT) + metabolites	2/07-11/07	0-0	ug/L	No
1,2-Dichloroethane	1/10-12/05	0-0	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	1/10-12/05	0-0	ug/L	No
Dichloromethane	1/10-12/05	0-0	ug/L	No
2-4 Dichlorophenol	2/07-11/07	0-0	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2/07-11/07	0-0	ug/L	No
Diclofop-methyl	2/07-11/07	0-0	ug/L	No
Dimethoate	2/07-11/07	0-0	ug/L	No
Dinoseb	2/07-11/07	0-0	ug/L	No
Diquat	2/07-11/07	0-0	ug/L	No
Diuron	2/07-11/07	0-0	ug/L	No
Glyphosate	2/07-11/07	0-0	ug/L	No
Heptachlor + Heptachlor Epoxide	2/07-11/07	0-0	ug/L	No
Lindane (Total)	2/07-11/07	0-0	ug/L	No
Malathion	2/07-11/07	0-0	ug/L	No
Methoxychlor	2/07-11/07	0-0	ug/L	No
Metolachlor	2/07-11/07	0-0	ug/L	No
Metribuzin	2/07-11/07	0-0	ug/L	No
Monochlorobenzene	1/10-12/05	0-0	ug/L	No
Paraquat	2/07-11/07	0-0	ug/L	No
Parathion	2/07-11/07	0-0	ug/L	No
Pentachlorophenol	2/07-11/07	0-0	ug/L	No
Phorate	2/07-11/07	0-0	ug/L	No
Picloram	2/07-11/07	0-0	ug/L	No
Polychlorinated Biphenyls(PCB)	2/07-11/07	0-0	ug/L	No
Prometryne	2/07-11/07	0-0	ug/L	No
Simazine	2/07-11/07	0-0	ug/L	No
THM (NOTE: show latest annual average)	1/10-12/05	12.7	ug/L	No
Temephos	2/07-11/07	0-0	ug/L	No
Terbufos	2/07-11/07	0-0	ug/L	No
Tetrachloroethylene	1/10-12/05	0-0	ug/L	No
2,3,4,6-Tetrachlorophenol	2/07-11/07	0-0	ug/L	No
Triallate	2/07-11/07	0-0	ug/L	No
Trichloroethylene	1/10-12/05	0-0	ug/L	No
2,4,6-Trichlorophenol	2/07-11/07	0-0	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2/07-11/07	0-0	ug/L	No
Trifluralin	2/07-11/07	0-0	ug/L	No
Vinyl Chloride	2/07-11/07	0-0	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
NDMA	0.012, 0.006	ug/L	Feb 7, Mar 9

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:	F. J. Horgan WTP – 220004536
Drinking-Water System Name:	Toronto (F.J. Horgan) Water Treatment Plant
Drinking-Water System Owner:	City of Toronto
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2005 to December 31, 2005

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [x] No []

Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Metro Hall, 18th Floor
55 John Street
Toronto, Ontario
M5V 3C6

Complete for all other Categories.
NOT APPLICABLE

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Region of York – receives some of their water from Toronto	260001929

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [x] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

- ☒ Public access/notice via the web
☒ Public access/notice via Government Office
☐ Public access/notice via a newspaper
☐ Public access/notice via Public Request
☐ Public access/notice via a Public Library
☒ Public access/notice via other method

Describe your Drinking-Water System

Toronto Water Supply System consists of four water filtration plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 510 kilometers of trunk watermain and 5,015 kilometers of distribution watermain.

The F.J. Horgan Water Treatment Plant is a direct water treatment plant, has a rated capacity of 570 ML/d and is located at 201 Copperfield Road, Toronto.

The other three Toronto water treatment plants are as follows:

- R.C. Harris Water Treatment Plant (capacity 950 ML/d) located at 2701 Queens Street East, Toronto;
- R.L. Clark Water Treatment Plant (capacity 615 ML/d) located at 45 Twenty Third Street, Etobicoke; and
- Island Water Treatment Plant (capacity 410 ML/d) located on Centre Island, Toronto

List all water treatment chemicals used over this reporting period

Alum, poly aluminum chloride, magnafloc LT7996, chlorine, sulphur dioxide, hydrofluosilicic acid and aqua ammonia. Anionic polymer used for wastewater treatment. Powdered Activated Carbon (PAC) not used in 2005 for taste & odour control.

Were any significant expenses incurred to?

- ☒ Install required equipment
☒ Repair required equipment
☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Please note that the following amounts related to various projects outline expenditures during 2005 and do not represent the total project costs at the F.J. Horgan Water Treatment Plant.

Facility security upgrades	- \$103,500.00
Facility roof repairs & replacement	- \$ 35,000.00
Facility interior enhancements	- \$ 72,000.00

PCS project

- \$ 22,750.00

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
Jan 3/05	Total Coliform	1	CFU/100 ml	Resampled and increased Post chlorine residual to 2.0 mg/L	Jan 4/05
Feb 14/05	Total Coliform	1	CFU/100 ml	Resampled and increased Post chlorine dosage to 2.0 mg/L	Feb 15/05
Jul 27/05	Total Coliform	1	CFU/100 ml	Resampled and increased Post chlorine residual to 2.0 mg/L	Jul 29/05
Nov 24/05	Total Coliform	1	CFU/100 ml	Resampled and increased Post chlorine residual to 2.0 mg/L	Nov 25/05
Dec 22/05	Total Coliform	1	CFU/100 ml	Resampled and increased Post chlorine residual to 2.0 mg/L	Dec 24/05

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	649	0 - 98	0 – 6,100	643	0 – 9,500
Treated	2,145	0	0 – 1	2,086	0 - 31
Distribution	n/a	n/a	n/a	n/a	n/a

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0.01 – 0.20 NTU
Chlorine	8760	1.14 – 1.33
Fluoride (If the DWS provides fluoridation) (Plant output spot samples)	2183	0.75 – 0.11

NOTE: For continuous monitors use 8760 as the number of samples.

NOTE: Record the unit of measure if it is **not** milligrams per litre.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Date of order or C of A	Parameter	Date Sampled	Result (Average)	Unit of Measure
F.J. Horgan Water Treatment Plant – C of A #6854-5ALGWQ dated February 19, 2002				
Clarifier Effluent	Suspended Solids	1/1 – 12/28	6.47	mg/L
	Aluminum	1/1 – 12/28	0.98	mg/L
	Turbidity	1/1 – 12/28	1.24	NTU
	pH	1/1 – 12/28	7.76	
	Temperature	1/1 – 12/28	8.60	°C

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2/08 – 11/29	0	mg/L	No
Arsenic	2/08 – 11/29	0	mg/L	No
Barium	2/08 – 11/29	0.023	mg/L	No
Boron	2/08 – 11/29	0.024	mg/L	No
Cadmium	2/08 – 11/29	0	mg/L	No
Chromium	2/08 – 11/29	0	mg/L	No
Lead	2/08 – 11/29	0	mg/L	No
Mercury	2/08 – 11/29	0	mg/L	No
Selenium	2/08 – 11/29	0	mg/L	No
Sodium	2/08 – 11/29	13.1	mg/L	No
Uranium	2/08 – 11/29	0.004	mg/L	No
Fluoride	1/01 – 12/31	0.47	mg/L	No
Nitrite	2/08 – 11/29	0	mg/L	No
Nitrate	2/08 – 11/29	0.43	mg/L	No

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2/07 - 11/07	0 - 0	µg/L	No
Aldicarb	2/07 - 11/07	0 - 0	µg/L	No
Aldrin + Dieldrin	2/07 - 11/07	0 - 0	µg/L	No
Atrazine + N-dealkylated metabolites	2/07 - 11/07	0 - 0	µg/L	No
Azinphos-methyl	2/07 - 11/07	0 - 0	µg/L	No
Bendiocarb	2/07 - 11/07	0 - 0	µg/L	No
Benzene	1/10 - 12/05	0 - 0	µg/L	No
Benzo(a)pyrene	2/07 - 11/07	0 - 0	µg/L	No
Bromoxynil	2/07 - 11/07	0 - 0	µg/L	No
Carbaryl	2/07 - 11/07	0 - 0	µg/L	No
Carbofuran	2/07 - 11/07	0 - 0	µg/L	No
Carbon Tetrachloride	1/10 - 12/05	0 - 0	µg/L	No
Chlordane (Total)	2/07 - 11/07	0 - 0	µg/L	No

Drinking-Water Systems Regulation O. Reg. 170/03

Chlorpyrifos	2/07 - 11/07	0 - 0	µg/L	No
Cyanazine	2/07 - 11/07	0 - 0	µg/L	No
Diazinon	2/07 - 11/07	0 - 0	µg/L	No
Dicamba	2/07 - 11/07	0 - 0	µg/L	No
1,2-Dichlorobenzene	1/10 - 12/05	0 - 0	µg/L	No
1,4-Dichlorobenzene	1/10 - 12/05	0 - 0	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2/07 - 11/07	0 - 0	µg/L	No
1,2-Dichloroethane	1/10 - 12/05	0 - 0	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	1/10 - 12/05	0 - 0	µg/L	No
Dichloromethane	1/10 - 12/05	0 - 0	µg/L	No
2,4 Dichlorophenol	2/07 - 11/07	0 - 0	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2/07 - 11/07	0 - 0	µg/L	No
Diclofop-methyl	2/07 - 11/07	0 - 0	µg/L	No
Dimethoate	2/07 - 11/07	0 - 0	µg/L	No
Dinoseb	2/07 - 11/07	0 - 0	µg/L	No
Diquat	2/07 - 11/07	0 - 0	µg/L	No
Diuron	2/07 - 11/07	0 - 0	µg/L	No
Glyphosate	2/07 - 11/07	0 - 0	µg/L	No
Heptachlor + Heptachlor Epoxide	2/07 - 11/07	0 - 0	µg/L	No
Lindane (Total)	2/07 - 11/07	0 - 0	µg/L	No
Malathion	2/07 - 11/07	0 - 0	µg/L	No
Methoxychlor	2/07 - 11/07	0 - 0	µg/L	No
Metolachlor	2/07 - 11/07	0 - 0	µg/L	No
Metribuzin	2/07 - 11/07	0 - 0	µg/L	No
Monochlorobenzene (chlorobenzene)	1/10 - 12/05	0 - 0	µg/L	No
Paraquat	2/07 - 11/07	0 - 0	µg/L	No
Parathion	2/07 - 11/07	0 - 0	µg/L	No
Pentachlorophenol	2/07 - 11/07	0 - 0	µg/L	No
Phorate	2/07 - 11/07	0 - 0	µg/L	No
Picloram	2/07 - 11/07	0 - 0	µg/L	No
Polychlorinated Biphenyls(PCB)	2/07 - 11/07	0 - 0	µg/L	No
Prometryne	2/07 - 11/07	0 - 0	µg/L	No
Simazine	2/07 - 11/07	0 - 0	µg/L	No
THM (NOTE: show latest annual average)	1/10 - 12/05	10.4	µg/L	No
Temephos	2/07 - 11/07	0 - 0	µg/L	No
Terbufos	2/07 - 11/07	0 - 0	µg/L	No
Tetrachloroethylene	1/10 - 12/05	0 - 0	µg/L	No
2,3,4,6-Tetrachlorophenol	2/07 - 11/07	0 - 0	µg/L	No
Triallate	2/07 - 11/07	0 - 0	µg/L	No
Trichloroethylene	1/10 - 12/05	0 - 0	µg/L	No
2,4,6-Trichlorophenol	2/07 - 11/07	0 - 0	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2/07 - 11/07	0 - 0	µg/L	No
Trifluralin	2/07 - 11/07	0 - 0	µg/L	No
Vinyl Chloride	2/07 - 11/07	0 - 0	µg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
None			

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	Island. WTP – 220002244
Drinking-Water System Name:	Toronto (Island) Water Treatment Plant
Drinking-Water System Owner:	City of Toronto
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2005 to December 31, 2005

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [x] No []

Is your annual report available to the public at no charge on a web site on the Internet?
Yes [x] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Metro Hall, 18th Floor
55 John Street
Toronto, Ontario
M5V 3C6

Complete for all other Categories.
NOT APPLICABLE

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [] No []

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Region of York – receives some of their water from Toronto	260001929

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [x] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

- ☒ Public access/notice via the web
- ☒ Public access/notice via Government Office
- ☐ Public access/notice via a newspaper
- ☐ Public access/notice via Public Request
- ☐ Public access/notice via a Public Library
- ☒ Public access/notice via other method

Describe your Drinking-Water System

- Toronto Water Supply System consists of four water filtration plants, 18 pumping stations, 10 major underground storage reservoirs, four elevated storage tanks and approximately 510 kilometers of trunk watermain and 5,015 kilometers of distribution watermain.

The Island Water Treatment Plant is a direct water treatment plant, has a capacity 410 ML/d and is located on Centre Island, Toronto.

The other three Toronto water treatment plants are as follows:

- R.C. Harris Water Treatment Plant (capacity 950 ML/d) located at 2701 Queens Street East, Toronto;
- R.L. Clark Water Treatment Plant (capacity 615 ML/d) located at 45 Twenty Third Street, Etobicoke; and
- F.J. Horgan Water Treatment Plant (capacity 570 ML/d) located at 201 Copperfield Road, Toronto.

List all water treatment chemicals used over this reporting period

Alum, chlorine, sulphur dioxide, hydrofluosilicic acid and aqua ammonia.

Were any significant expenses incurred to?

- ☒ Install required equipment
- ☒ Repair required equipment
- ☒ Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Please note the following amounts relate to various projects during 2005 and does not represent the total project cost. These numbers do not include normal operating and maintenance cost.

Winterization of facility \$800,000

Residue Management \$130,000

Drinking-Water Systems Regulation O. Reg. 170/03

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
21-Apr-05	Total Chlorine	0.00	mg/L	Apparent failure of SO2 injector resulting in over dechlorination. Treated water fully disinfected with adequate contact time.	21-Apr-05
21-Apr-05	Total Chlorine	0.18	mg/L	Apparent failure of SO2 injector resulting in over dechlorination. Treated water fully disinfected with adequate contact time.	21-Apr-05
27-May-05	Coagulation interruption			Upon detection, coagulant feed was restored immediately.	27-May-05
5-Aug-05	HPC	11000	CFU/100 mL	Resampled. Output chlorine residual at 1.20 mg/L total at all times	8-Aug-05
6-Dec-05	Total Chlorine	0.24	mg/L	Flushing carried out until chlorine residual of 0.75 mg/L was achieved.	7-Dec-05

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	1062	0-23	0-690	1034	0-1700
Treated	2014	0	0	1961	0-11,000
Distribution	n/a	n/a	n/a	n/a	n/a

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8519	0.03-0.11 NTU
Chlorine	8519	0.0-1.81
Fluoride (If the DWS provides fluoridation)	5081	0.02-0.71

NOTE: For continuous monitors use 8760 as the number of samples.

NOTE: Record the unit of measure if it is **not** milligrams per litre.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Drinking-Water Systems Regulation O. Reg. 170/03

Date of legal instrument issued	Parameter	Date Sampled	Result Avg	Unit of Measure
Island Water Treatment Plant C of A #2646-5PPKLV dated August 14, 2003				
	Suspended solids	1/4/05 to 12/27/05	20.02	mg/L
	Chlorine Residual	1/4/05 to 12/27/05	0.125	mg/L
	Aluminum	1/4/05 to 12/27/05	2.59	mg/L

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2/08 – 11/29	0-0	mg/L	No
Arsenic	2/08 – 11/29	0-0	mg/L	No
Barium	2/08 – 11/29	0.023-0.021	mg/L	No
Boron	2/08 – 11/29	0.024-0.020	mg/L	No
Cadmium	2/08 – 11/29	0-0	mg/L	No
Chromium	2/08 – 11/29	0-0	mg/L	No
Lead	2/08 – 11/29	0-0	mg/L	No
Mercury	2/08 – 11/29	0-0	mg/L	No
Selenium	2/08 – 11/29	0-0	mg/L	No
Sodium	1/11 – 12/20	15.6-12.0	mg/L	No
Uranium	2/08 – 11/29	0.0004-0.0003	mg/L	No
Fluoride	1/01 – 12/31	0.73-0.10	mg/L	No
Nitrite	2/24 – 12/06	0-0	mg/L	No
Nitrate	2/24 – 12/06	0.49-0.44	mg/L	No

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2/07-11/07	0-0	ug/L	No
Aldicarb	2/07-11/07	0-0	ug/L	No
Aldrin + Dieldrin	2/07-11/07	0-0	ug/L	No
Atrazine + N-dealkylated metabolites	2/07-11/07	0-0	ug/L	No
Azinphos-methyl	2/07-11/07	0-0	ug/L	No
Bendiocarb	2/07-11/07	0-0	ug/L	No
Benzene	1/10-12/03	0-0	ug/L	No
Benzo(a)pyrene	2/07-11/07	0-0	ug/L	No
Bromoxynil	2/07-11/07	0-0	ug/L	No
Carbaryl	2/07-11/07	0-0	ug/L	No
Carbofuran	2/07-11/07	0-0	ug/L	No
Carbon Tetrachloride	1/10-12/03	0-0	ug/L	No
Chlordane (Total)	2/07-11/07	0-0	ug/L	No
Chlorpyrifos	2/07-11/07	0-0	ug/L	No
Cyanazine	2/07-11/07	0-0	ug/L	No
Diazinon	2/07-11/07	0-0	ug/L	No
Dicamba	2/07-11/07	0-0	ug/L	No
1,2-Dichlorobenzene	1/10-12/03	0-0	ug/L	No
1,4-Dichlorobenzene	1/10-12/03	0-0	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2/07-11/07	0-0	ug/L	No

1,2-Dichloroethane	1/10-12/03	0-0	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	1/10-12/03	0-0	ug/L	No
Dichloromethane	1/10-12/03	0-0	ug/L	No
2,4 Dichlorophenol	2/07-11/07	0-0	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2/07-11/07	0-0	ug/L	No
Diclofop-methyl	2/07-11/07	0-0	ug/L	No
Dimethoate	2/07-11/07	0-0	ug/L	No
Dinoseb	2/07-11/07	0-0	ug/L	No
Diquat	2/07-11/07	0-0	ug/L	No
Diuron	2/07-11/07	0-0	ug/L	No
Glyphosate	2/07-11/07	0-0	ug/L	No
Heptachlor + Heptachlor Epoxide	2/07-11/07	0-0	ug/L	No
Lindane (Total)	2/07-11/07	0-0	ug/L	No
Malathion	2/07-11/07	0-0	ug/L	No
Methoxychlor	2/07-11/07	0-0	ug/L	No
Metolachlor	2/07-11/07	0-0	ug/L	No
Metribuzin	2/07-11/07	0-0	ug/L	No
Monochlorobenzene	1/10-12/03	0-0	ug/L	No
Paraquat	2/07-11/07	0-0	ug/L	No
Parathion	2/07-11/07	0-0	ug/L	No
Pentachlorophenol	2/07-11/07	0-0	ug/L	No
Phorate	2/07-11/07	0-0	ug/L	No
Picloram	2/07-11/07	0-0	ug/L	No
Polychlorinated Biphenyls(PCB)	2/07-11/07	0-0	ug/L	No
Prometryne	2/07-11/07	0-0	ug/L	No
Simazine	2/07-11/07	0-0	ug/L	No
THM (NOTE: show latest annual average)	1/10-12/03	9.63	ug/L	No
Temephos	2/07-11/07	0-0	ug/L	No
Terbufos	2/07-11/07	0-0	ug/L	No
Tetrachloroethylene	1/10-12/03	0-0	ug/L	No
2,3,4,6-Tetrachlorophenol	2/07-11/07	0-0	ug/L	No
Triallate	2/07-11/07	0-0	ug/L	No
Trichloroethylene	1/10-12/03	0-0	ug/L	No
2,4,6-Trichlorophenol	2/07-11/07	0-0	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2/07-11/07	0-0	ug/L	No
Trifluralin	2/07-11/07	0-0	ug/L	No
Vinyl Chloride	2/07-11/07	0-0	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

Water Treatment and Supply

DRINKING WATER SYSTEMS

Summary Report

for January 1, 2005 to December 31, 2005



2005 Summary Report

Toronto (R. C. Harris) Water Treatment Plant

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March 31, 2006

1.0 General Overview

Toronto Water treats, transmits, stores and distributes potable (drinkable) water to all industrial, commercial and household water users in the City of Toronto. The division also delivers water to the southern portion of the Region of York.

Staff in this area are highly trained and specialized, operating four water treatment plants, two laboratories, 18 pumping stations, 10 major ground level storage reservoirs and 4 elevated storage tanks. Staff maintains about 510 kilometres of trunk watermain that supply the water reservoirs and over 5,000 kilometres of local distribution mains. Policies and practices adopted by the section help the unit to manage significant issues and challenges, including meeting water demands throughout the year, complying with provincial regulations and working responsibly to protect the environment and local water bodies.

This Summary Report is issued by Toronto Water under Schedule 22-2, O. Reg. 170/03 for the R.C. Harris Water Treatment Plant. The report covers the period from January 1, 2005 to December 31, 2005 except where stated otherwise.

2.0 System Approval

A Consolidated Certificate of Approval (CC of A) was provided for the R.C. Harris Water Treatment Plant by the Ministry of the Environment (MOE) on August 24, 2004 (correspondence by MOE Reference No. 4301-63TMDT) and designated as “Amended Certificate of Approval Municipal Drinking Water Systems Number 8318-63TN47”.

The R.C. Harris Water Treatment Plant is designated a Class 4 Water Treatment Facility (Certificate No. 445) and is referenced as Drinking Water System Number 220002262 (MOE).

The current Permit to Take Water is designated by MOE Reference Number 91-P-3040.

3.0 Site Inspections

The Ministry of the Environment (MOE) has implemented a rigorous and comprehensive Province-wide approach for the inspection of water systems that focuses on the source, treatment and distribution components as well as water system management practices.

The primary focus of such inspections has been to confirm compliance with the Provincial legislation and control documents, as well as conformance with MOE drinking water-related policies for the inspection period.

During 2005, the MOE conducted an announced site inspection of the plant on March 22, 2005.

Specifically, such inspection included a review and assessment of operating practices in relation to the following documents:

- Safe Drinking Water Act, 2002
- Drinking Water Systems Regulation (O. Reg. 170/03)
- Ontario Drinking Water Quality Standards (O. Reg. 169/03)
- Operator Certification Regulation (O. Reg. 128/04)
- Certificates of Approval
- Permit to Take Water
- Director's Orders and/or Provincial Officer's Orders (if any)
- A Review of previous Ministry Inspection Reports
- Engineer's Reports dated May 30, 2001

In all cases, there were no exceedances of health-related parameters for the MOE audit samples of the treated water. The MOE further acknowledged City's communication efforts with the consumers by maintaining a very extensive public website providing comprehensive information about the City's water services.

4.0 Compliance with Terms and Conditions of the Consolidated Certificates of Approval and Any Other Orders

Plant production was fully compliant with the Permit to Take Water and at no time during the year 2005 did Raw Water flows exceed the maximum values stipulated in the Permit to Take Water.

Water production rates at the R.C. Harris Water Treatment Plant were fully compliant with the Consolidated Certificate of Approval.

All plant production fully conformed to the "Procedure for Disinfection of Drinking Water in Ontario" as adopted by reference by O. Reg. 170/03. Routine operation and maintenance on all critical process equipment was carried out and flow meter calibrations were completed in a satisfactory manner.

All recommendations contained in the 2001 Engineer's Report for the R.C. Harris Plant have been addressed and there are no outstanding issues.

5.0 Non-Compliance with Terms and Conditions of the Consolidated Certificates of Approval

There were no incidences of non-compliance with the Terms and Conditions of the Consolidated Certificates of Approval for the plant.

6.0 Summary – Water Production

Monthly Average Filtered Water Flows for 2005

Month	Average Flow ML/d*
January	440
February	451
March	318
April	468
May	522
June	614
July	601
August	539
September	524
October	463
November	502
December	587

* ML/d – Million Litres per day

Maximum Daily Flow, Daily Instantaneous Peak Flows and Capacity Assessment

Parameter	Value
Average Daily Flow (ML/day)	503
Rated Production Capacity (ML/day)	950
Maximum Day Flow (ML/day)	806
Daily Instantaneous Peak Flow (m ³ /sec)	11.59
Rated Capacity (m ³ /sec)	11.00
% Maximum Daily Flow/Rated Production Capacity	84.8%

7.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements

There were 2 instances of 6 minutes or less where the instantaneous flows were marginally higher than 11 m³/sec. However, these values were within the acceptable range of $\pm 5\%$ accuracy for differential pressure type flow measuring devices as stated in the Ministry's Technical Bulletin #PIBS 5160e dated October 2005. These instances did not have any adverse impact on the quality of treated water. Also, there were no instances of treated water flows exceeding the daily production capacity based on the instantaneous flow rate stated in the Consolidated Certificate of Approval for the Harris Water Treatment Plant in 2005.

8.0 City of Toronto Endorsement of Summary Report

This Summary Report has been signed off by Lou Di Gironimo, General Manager, Toronto Water on behalf of the City of Toronto Council.

A copy of this report has been forwarded to the members of the City Council as per regulatory requirements. Tabling of the Summary Report to City Council has been scheduled for the next available council meeting in 2006 as per regulatory requirements.

9.0 Facility Contacts

While all efforts have been made to provide the required information in the proper format and degree of detail, it is acknowledged that additional information and/or detail may be required.

Should you require any additional information, you may contact Ron Brilliant, Plant Manager at (416) 392-8272 or by e-mail (rbrillia@toronto.ca) for any further assistance.

Additional inquiries on a Water Treatment & Supply sectional basis (all treatment facilities) can be referred to Patrick Newland, Director – Water Treatment & Supply at (416) 392-8222.

2005 Summary Report

Toronto (R. L. Clark) Water Treatment Plant

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- 6.0 Summary – Water Production**
- 7.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements**
- 9.0 City of Toronto Endorsement of Summary Report**
- 9.0 Facility Contacts**

March 31, 2006

1.0 General Overview

Toronto Water treats, transmits, stores and distributes potable (drinkable) water to all industrial, commercial and household water users in the City of Toronto. The division also delivers water to the southern portion of the Region of York.

Staff in this area are highly trained and specialized, operating four water treatment plants, two laboratories, 18 pumping stations, 10 major ground level storage reservoirs and 4 elevated storage tanks. Staff maintains about 510 kilometres of trunk watermains that supply the water reservoirs and over 5,000 kilometres of local distribution mains. Policies and practices adopted by the section help the unit to manage significant issues and challenges, including meeting water demands throughout the year, complying with provincial regulations and working responsibly to protect the environment and local water bodies.

This Summary Report is issued by Toronto Water under Schedule 22-2, O. Reg. 170/03 for the R.L. Clark Water Treatment Plant. The report covers the period from January 1, 2005 to December 31, 2005 except where stated otherwise.

2.0 System Approval

A Consolidated Certificate of Approval (CC of A) was provided for the R.L. Clark Water Treatment Plant by the Ministry of the Environment (MOE) on January 31, 2005 (correspondence by MOE Reference No. 2801-639RBF) and designated as “Amended Certificate of Approval Municipal Drinking Water Systems Number 1195-65SLDH”.

The R.L. Clark Water Treatment Plant is designated a Class 4 Water Treatment Facility (Certificate No. 444) and is referenced as Drinking Water System Number 220002253 (MOE).

The current Permit to Take Water is designated by MOE Reference Number 91-P-3042.

3.0 Site Inspections

The Ministry of the Environment (MOE) has implemented a rigorous and comprehensive Province-wide approach for the inspection of water systems that focuses on the source, treatment and distribution components as well as water system management practices.

The primary focus of such inspections has been to confirm compliance with the provincial legislation and control documents, as well as conformance with MOE drinking water-related policies for the inspection period.

During 2005, the MOE conducted an announced site inspection of the plant on March 2, 2005.

Specifically, such inspection included a review and assessment of operating practices in relation to the following documents:

- Safe Drinking Water Act, 2002
- Drinking Water Systems Regulation (O. Reg. 170/03)
- Ontario Drinking Water Quality Standards (O. Reg. 169/03)
- Operator Certification Regulation (O. Reg. 128/04)
- Certificates of Approval
- Permit to Take Water
- Director's Orders and/or Provincial Officer's Orders (if any)
- A Review of previous Ministry Inspection Reports
- Engineer's Reports dated May 30, 2001

In all cases, there were no exceedances of health-related parameters for the MOE audit samples of the treated water. The MOE further acknowledged City's communication efforts with the consumers by maintaining a very extensive public website providing comprehensive information about the City's water services.

4.0 Compliance with Terms and Conditions of the Consolidated Certificates of Approval and Any Other Orders

Plant production was fully compliant with the Permit to Take Water and at no time during the year 2005 did Raw Water flows exceed the maximum values stipulated in the Permit to Take Water.

Water production at the R.L. Clark Water Treatment Plant was fully compliant with the Consolidated Certificate of Approval.

All plant production fully conformed to the "Procedure for Disinfection of Drinking Water in Ontario" as adopted by reference by O. Reg. 170/03. Routine operation and maintenance on all critical process equipment was carried out and flow meter calibrations were completed in a satisfactory manner.

5.0 Non-Compliance with Terms and Conditions of the Consolidated Certificates of Approval

As a result of the on-going maintenance, rehabilitation and replacement of process equipment, along with process control system improvements, minor discrepancies were observed between the description of some plant equipment as they appear in the Certificate of Approval versus the actual installed plant equipment. This is being addressed and resolved through an amendment process with the MOE.

6.0 Summary – Water Production

Monthly Average Filtered Water Flows for 2005

Month	Average Flow ML/d*
January	366
February	372
March	407
April	382
May	407
June	512
July	507
August	462
September	449
October	315
November	358
December	335

* ML/d – Million Litres per day

Maximum Daily Flow and Daily Instantaneous Peak Flows

Parameter	Value
Average Daily Flow (ML/day)	406
Rated Production Capacity (ML/day)	615
Maximum Day Flow (ML/day)	576
Daily Instantaneous Peak Flow (m ³ /sec)	7.57
Rated Capacity (m ³ /sec)	7.12
% Maximum Daily Flow/Rated Production Capacity	93.7%

8.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements

There were several instances of short duration where the indicated instantaneous flows were marginally higher than 7.12 m³/sec. However, these values were within the acceptable range of $\pm 5\%$ accuracy for differential pressure type flow measuring devices as stated in the Ministry's Technical Bulletin #PIBS 5160e dated October 2005. There was one instance where the indicated instantaneous flow was 7.57 m³/sec for a duration of 3 minutes. These instances did not have any adverse impact on the quality of treated water. Also, there were no instances of treated water flows exceeding the daily production capacity based on the instantaneous flow rate stated in the Consolidated Certificate of Approval for the Clark Water Treatment Plant in 2005.

8.0 City of Toronto Endorsement of Summary Report

This Summary Report has been signed off by Lou Di Gironimo, General Manager, Toronto Water on behalf of the City of Toronto Council.

A copy of this report has been forwarded to the members of the City Council as per regulatory requirements. Tabling of the Summary Report to City Council has been scheduled for the next available council meeting in 2006.

10.0 Facility Contacts

While all efforts have been made to provide the required information in the proper format and degree of detail, it is acknowledged that additional information and/or detail may be required.

Should you require any additional information, you may contact Mauro Fabbro, Plant Manager at (416) 392-8837 or by e-mail (mfabbro@toronto.ca) for any further assistance.

Additional inquiries on a Water Treatment & Supply sectional basis (all treatment facilities) can be referred to Patrick Newland, Director – Water Treatment & Supply at (416) 392-8222.

2005 Summary Report Toronto (F.J. Horgan) Water Treatment Plant

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- 2.0 System Approval**
- 3.0 Site Inspections**
- 6.0 Compliance with Terms and Conditions of the Consolidated Certificates of Approval and Any Other Orders**
- 5.0 Non-Compliance with Terms and Conditions of the Consolidated Certificates of Approval**
- 6.0 Summary – Water Production**
- 7.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements**
- 10.0 City of Toronto Endorsement of Summary Report**
- 9.0 Facility Contacts**

March 31, 2006

1.0 General Overview

Toronto Water treats, transmits, stores and distributes potable (drinkable) water to all industrial, commercial and household water users in the City of Toronto. The division also delivers water to the southern portion of the Region of York.

Staff in this area are highly trained and specialized, operating four water treatment plants, two laboratories, 18 pumping stations, 10 major ground level storage reservoirs and 4 elevated storage tanks. Staff maintains about 510 kilometres of trunk watermains that supply the water reservoirs and over 5,000 kilometres of local distribution mains. Policies and practices adopted by the section help the unit to manage significant issues and challenges, including meeting water demands throughout the year, complying with provincial regulations and working responsibly to protect the environment and local water bodies.

This Summary Report is issued by Toronto Water under Schedule 22-2, O. Reg. 170/03 for the F.J. Horgan Water Treatment Plant. The report covers the period from January 1, 2005 to December 31, 2005 except where stated otherwise.

2.0 System Approval

A Consolidated Certificate of Approval (CC of A) was provided for the F.J. Horgan Water Treatment Plant by the Ministry of the Environment (MOE) on July 18, 2002 (correspondence by MOE Reference No. 6811-59NQTMM) and designated as “Amended Certificate of Approval Municipal and Private Water Works Number 6854-5ALGWQ”.

The F.J. Horgan Water Treatment Plant is designated a Class 4 Water Treatment Facility (Certificate No. 446) and is referenced as Drinking Water System Number 220004536 (MOE).

The current Permit to Take Water is designated by MOE Reference Number 91-P-3039.

3.0 Site Inspections

The Ministry of the Environment (MOE) has implemented a rigorous and comprehensive Province-wide approach for the inspection of water systems that focuses on the source, treatment and distribution components as well as water system management practices.

The primary focus of such inspections has been to confirm compliance with the Provincial legislation and control documents, as well as conformance with MOE drinking water-related policies for the inspection period.

The MOE conducted plant two (2) plant inspections of the Horgan Water Treatment Plant during 2005. The unannounced site inspection was carried out on February 8th and 9th, 2005 and announced site inspection on November 22, 2005.

Specifically, such inspection included a review and assessment of operating practices in relation to the following documents:

- Safe Drinking Water Act, 2002
- Drinking Water Systems Regulation (O. Reg. 170/03)
- Ontario Drinking Water Quality Standards (O. Reg. 169/03)
- Operator Certification Regulation (O. Reg. 128/04)
- Certificates of Approval
- Permit to Take Water
- Director's Orders and/or Provincial Officer's Orders (if any)
- A Review of previous Ministry Inspection Reports
- Engineer's Reports dated May 30, 2001

In all cases, there were no exceedances of health-related parameters for the MOE audit samples of the treated water. The MOE further acknowledged City's communication efforts with the consumers by maintaining a very extensive public website providing comprehensive information about the City's water services.

4.0 Compliance with Terms and Conditions of the Consolidated Certificates of Approval and Any Other Orders

Plant production was fully compliant with the Permit to Take Water and at no time during the year 2005 did Raw Water flows exceed the maximum values stipulated in the Permit to Take Water.

Plant production rates were fully compliant with the Consolidated Certificate of Approval and at no time during the year 2005 did Treated Water production flows out of the facility exceed the maximum values stipulated in the Consolidated Certificate of Approval. Treated Water flow interpretation has been defined by the MOE as "gross production" by verbal notification on January 30, 2004.

Wastewater treatment facilities were operated on a continuous basis. The average annual wastewater quality was in compliance with requirements cited in the Consolidated Certificate of Approval. Annual average Total Suspended Solids of the clarified wastewater was 6.47 mg/L.

All plant production fully conformed to the "Procedure for Disinfection of Drinking Water in Ontario" as adopted by reference by O. Reg. 170/03. Routine operation and maintenance on all critical process equipment was carried out and flow meter calibrations were completed in a satisfactory manner.

All recommendations contained in the 2001 Engineer's Report for the F.J. Horgan Plant have been addressed and there are no outstanding issues.

5.0 Non-Compliance with Terms and Conditions of the Consolidated Certificates of Approval

As a result of the on-going maintenance, rehabilitation and replacement of process equipment, along with process control system improvements, minor discrepancies were observed between the description of some plant equipment as they appear in the Certificate of Approval versus the actual installed plant equipment. This is being addressed and resolved through an amendment process with the MOE.

6.0 Summary – Water Production

Monthly Average Filtered Water Flows for 2005

Month	Average Flow ML/d*
January	388.50
February	385.47
March	418.77
April	392.61
May	402.30
June	485.69
July	487.78
August	453.47
September	414.53
October	415.39
November	334.23
December	284.66

* ML/d – Million Litres per day

Maximum Daily Flow and Capacity Assessment

Parameter	Value
Average Daily Flow (ML/day)	399.03
Maximum Day Flow (ML/day)	518.38
Rated Capacity (ML/day)	570.00
% Maximum Day/Rated Capacity	90.94%

9.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements

There were no instances of treated water flows exceeding the rated capacity as stated in the Consolidated Certificates of Approval for the Horgan Water Treatment Plant in 2005.

8.0 City of Toronto Endorsement of Summary Report

This Summary Report has been signed off by Lou Di Gironimo, General Manager, Toronto Water on behalf of the City of Toronto Council.

A copy of this report has been forwarded to the members of the City Council as per regulatory requirements. Tabling of the Summary Report to City Council has been scheduled for the next available council meeting in 2006 as per regulatory requirements.

11.0 Facility Contacts

While all efforts have been made to provide the required information in the proper format and degree of detail, it is acknowledged that additional information and/or detail may be required.

Should you require any additional information please do not hesitate to contact Ian Chin, Plant Manager (acting) at 416 392-2572 or by e-mail (ichin@toronto.ca) for any further assistance.

Additional inquiries on a Water Treatment & Supply sectional basis (all treatment facilities) can be referred to Patrick Newland, Director - Water Treatment & Supply at (416) 392-8220.

2005 Summary Report

Toronto (Island) Water Treatment Plant

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- 6.0 Summary – Water Production**
- 7.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements**
- 8.0 City of Toronto Endorsement of Summary Report**
- 9.0 Facility Contacts**

March 31, 2006

1.0 General Overview

Toronto Water treats, transmits, stores and distributes potable (drinkable) water to all industrial, commercial and household water users in the City of Toronto. The division also delivers water to the southern portion of the Region of York.

Staff in this area are highly trained and specialized, operating four water treatment plants, two laboratories, 18 pumping stations, 10 major ground level storage reservoirs and 4 elevated storage tanks. Staff maintains about 510 kilometres of trunk watermains that supply the water reservoirs and over 5,000 kilometres of local distribution mains. Policies and practices adopted by the section help the unit to manage significant issues and challenges, including meeting water demands throughout the year, complying with provincial regulations and working responsibly to protect the environment and local water bodies.

This Summary Report is issued by Toronto Water under Schedule 22-2, O. Reg. 170/03 for the Island Water Treatment Plant. The report covers the period from January 1, 2005 to December 31, 2005 except where stated otherwise.

2.0 System Approval

A Consolidated Certificate of Approval (CC of A) was provided for the Island Water Treatment Plant by the Ministry of the Environment (MOE) on August 14, 2004 (correspondence by MOE Reference No. 1123-5LVHHZ) and designated as “Certificate of Approval Municipal Drinking Water Systems Number 2646-5PPKLV”.

The Island Water Treatment Plant is designated a Class 4 Water Treatment Facility (Certificate No. 443) and is referenced as Drinking Water System Number 220002244 (MOE).

The current Permit to Take Water is designated by MOE Reference Number 91-P-3041.

3.0 Site Inspections

The Ministry of the Environment (MOE) has implemented a rigorous and comprehensive Province-wide approach for the inspection of water systems that focuses on the source, treatment and distribution components as well as water system management practices.

The primary focus of such inspections has been to confirm compliance with the Provincial legislation and control documents, as well as conformance with MOE drinking water-related policies for the inspection period.

The MOE conducted two (2) plant inspections of the Island Water Treatment Plant during 2005. The announced site inspection was carried out on January 11, 2005 and unannounced site inspection on September 20, 2005.

Specifically, such inspection included a review and assessment of operating practices in relation to the following documents:

- Safe Drinking Water Act, 2002
- Drinking Water Systems Regulation (O. Reg. 170/03)
- Ontario Drinking Water Quality Standards (O. Reg. 169/03)
- Operator Certification Regulation (O. Reg. 128/04)
- Certificates of Approval
- Permit to Take Water
- Director's Orders and/or Provincial Officer's Orders (if any)
- A Review of previous Ministry Inspection Reports
- Engineer's Reports dated May 30, 2001

In all cases, there were no exceedances of health-related parameters for the MOE audit samples of the treated water. The MOE further acknowledged City's communication efforts with the consumers by maintaining a very extensive public website providing comprehensive information about the City's water services.

4.0 Compliance with Terms and Conditions of the Consolidated Certificates of Approval and Any Other Orders

Plant production was fully compliant with the Permit to Take Water and at no time during the year 2005 did Raw Water flows exceed the maximum values stipulated in the Permit to Take Water.

Water production rates at the Island Water Treatment Plant were fully compliant with the Consolidated Certificate of Approval.

All plant production fully conformed to the "Procedure for Disinfection of Drinking Water in Ontario" as adopted by reference by O. Reg. 170/03. Routine operation and maintenance on all critical process equipment was carried out and flow meter calibrations were completed in a satisfactory manner.

5.0 Non-Compliance with Terms and Conditions of the Consolidated Certificates of Approval

On May 27, 2005, the plant experienced malfunction of the coagulant dosing system. Upon detection, the coagulant feed was restored immediately. There was no adverse impact on the treated water quality.

With respect to the upgrading requirements outlined in the Certificate of Approval for the Island Plant, all recommendations contained in the 2001 Engineer's Report have been completed with the following exceptions:

“Upgrading firm low lift capacity to meet the combined rate of plant rating plus process wasting”

The terms and conditions of the Energy Transfer Agreement with Enwave District Energy Limited for the Deep Lake Water Cooling Project clearly identify this item as Enwave’s responsibility. The City of Toronto and Enwave are currently in discussions with respect to this issue.

Another outstanding item in the Engineer’s Report, 2001 pertains to the installation of backflow preventers on screen wash lines. Toronto Water has reviewed this issue and we are of the opinion that backflow preventers are not required in this case. Following on-going dialogue with the Ministry, we have submitted a formal letter signed by a Professional Engineer corroborating our position to the MOE Approvals Branch.

As a result of the on-going maintenance, rehabilitation and replacement of process equipment, along with process control system improvements, some discrepancies were observed between the description of some plant equipment as they appear in the Certificate of Approval versus the actual installed plant equipment. This is being addressed and resolved through an amendment process with the MOE.

6.0 Summary – Water Production

Monthly Average Filtered Water Flows for 2005

Month	Average Flow[*] ML/d[*]
January	162.03
February	101.61
March	198.38
April	109.3
May	131.75
June	218.7
July	228.32
August	222.42
September	221.71
October	200.97
November	165.73
December	111.88

* ML/d – Million Litres per day

Maximum Daily Flow and Capacity Assessment

Parameter	Value
Average Daily Flow (ML/day)	161.7
Maximum Day Flow (ML/day)	377 (March 11/2005)
Rated Capacity	410 ML/day
% Maximum Day/Rated Capacity	91.6%

7.0 Summary of Flows Exceeding Consolidated Certificates of Approval Requirements

There were no instances of treated water flows exceeding the rated capacity as stated in the Consolidated Certificates of Approval for the Island Water Treatment Plant in 2005.

8.0 City of Toronto Endorsement of Summary Report

This Summary Report has been signed off by Lou Di Gironimo, General Manager, Toronto Water on behalf of the City of Toronto Council.

A copy of this report has been forwarded to the members of the City Council as per regulatory requirements. Tabling of the Summary Report to City Council has been scheduled for the next available council meeting in 2006 as per regulatory requirements.

12.0 Facility Contacts

While all efforts have been made to provide the required information in the proper format and degree of detail, it is acknowledged that additional information and/or detail may be required.

Should you require any additional information, you may contact Ron Brilliant, Plant Manager at (416) 392-8272 or by e-mail (rbrillia@toronto.ca) for any further assistance.

Additional inquiries on a Water Treatment & Supply sectional basis (all treatment facilities) can be referred to Patrick Newland, Director – Water Treatment & Supply at (416) 392-8222.