



A Natural Attraction

Batawa Drinking Water System



2010 Annual and Summary Report



A Natural Attraction

**PUBLIC WORKS & ENVIRONMENTAL
SERVICES**

2010 Annual & Summary Report

Batawa Drinking Water System
Table of Contents

Table of Contents

I. Annual Report	1
II. Summary Report	7
III. Summary and Comparison of Quantities and Flow Rates	8
IV. Historical Average Treated Water Daily Flows	9



**PUBLIC WORKS & ENVIRONMENTAL
SERVICES**

**2010 Annual & Summary Report
Batawa Drinking Water System
Annual Report**

Drinking-Water System Number: **220001548**
Drinking-Water System Name: **Batawa Drinking Water System**
Drinking-Water System Owner: **The Corporation of the City of Quinte West**
Drinking-Water System Category: **Large Municipal Residential System**
Period being reported: **January 1, 2010-December 31, 2010**

Does your Drinking-Water System serve more than 10,000 people?

No

Is your annual report available to the public at no charge on a web site on the Internet?

Yes - please visit www.quintewest.ca

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

City Hall
7 Creswell Drive
Trenton, ON, K8V 5R6

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

None

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?

Not Applicable.



A Natural Attraction

**PUBLIC WORKS & ENVIRONMENTAL
SERVICES**

**2010 Annual & Summary Report
Batawa Drinking Water System
Annual Report**

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

As of December 22, 2010 the Batawa Drinking Water System has been decommissioned and is now part of the Frankford Drinking Water System as a separate pressure zone. Throughout most of 2010, the Batawa Water Treatment plant received raw water from an intake supply system extending into the Trent River which supplies water to the low lift pump station. A set of three pumps supply raw water to the Batawa Ski Hill, Invar Manufacturing Corp, and the Water Treatment plant via a transmission main consisting of a 700 m long, 250 mm diameter pipe. This conventional chemically assisted filtration plant has a rated capacity of 770 m³/day. The plant houses two Ecodyne package plants. Processes used at the filtration plant include solids recirculating reactivator type flocculator/clarifier units with tube settlers and automated sludge withdrawal system, and dual media high rate gravity filters. Sodium hypochlorite is added to each filter effluent line as a disinfectant before water enters a two-celled clearwell with a combined capacity of 350 m³. The potable water is then pumped into the distribution system via a highlift pumping system. The Batawa Drinking Water System does not have an elevated water storage tower therefore distribution pressure was maintained through the plant highlift pumping system. The Batawa Drinking Water system services approximately 300 people in the community of Batawa.

List all water treatment chemicals used over this reporting period:

- Aluminum Sulphate (alum)
- Sodium Hypochlorite (12%)

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:

- Generator system maintenance
- Drinking Water Quality Management System implementation; *this led to the City being one of the first in the area to receive Full Scope DWQMS Accreditation and receive the new Drinking Water Licensing and Drinking Water Works Permits.*



A Natural Attraction

PUBLIC WORKS & ENVIRONMENTAL SERVICES

**2010 Annual & Summary Report
Batawa Drinking Water System
Annual Report**

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 (mm/dd/yy)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (mm/dd/yy)

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	51	0-150	0-8400	0	--
Treated	51	0-0	0-0	51	0-2
Distribution	112	0-0	0-0	43	0-2

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	0.01-0.52
Chlorine *	8760	1.18-3.84
Chlorine – Distribution ***	359	0.39-3.80

* Due to the Batawa Water Treatment Plant being decommissioned on December 22, 2010 at 1100 hrs the number of grab samples have been reduced. An online analyzer is now located at the Perry Drive booster pumping station which monitors the Free Chlorine residual entering the Batawa Pressure Zone from the Frankford Drinking Water System.



A Natural Attraction

PUBLIC WORKS & ENVIRONMENTAL SERVICES

**2010 Annual & Summary Report
Batawa Drinking Water System
Annual Report**

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

**Residue Management Sampling as per C of
A # 2445-7QMR6Z & Municipal Drinking
Water Licence # 163-103**

Sample Date	Composite Result (mg/L)
March 19, 2010	107
September 9, 2010	22
December 6, 2010	3
Average 2010 Suspended Solids Concentration	44

The City did not sample according to C of A requirements due to the limited process capabilities of the backwash water storage system. To try and fulfill legislated requirements samples were collected, however not on a quarterly basis and not as per C of A requirements. Therefore the above results are not a reliable representation of the actual residue quality entering the Trent River. As the plant was scheduled to be decommissioned, funds were not spent on upgrading the system.

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	02/09/10	<0.02	ug/L	No
Arsenic	02/09/10	0.3	ug/L	No
Barium	02/09/10	33.6	ug/L	No
Boron	02/09/10	7.8	ug/L	No
Cadmium	02/09/10	<0.003	ug/L	No
Chromium	02/09/10	0.8	ug/L	No
Mercury	02/09/10	<0.02	ug/L	No
Selenium	02/09/10	<1	ug/L	No
Sodium – Next sample due August 2014 as per O. Reg. 170/03 s.13-8	08/11/09	11.9	mg/L	No
Uranium	02/09/10	0.009	ug/L	No
Fluoride – Next sample due August 2014 as per O. Reg. 170/03 s. 13-9	08/11/09	0.06	mg/L	No
Nitrate **	02/09/10 05/11/10 08/10/10 11/08/10	0.327 0.167 0.14 0.084	mg/L	No
Nitrite **	02/09/10 05/11/10 08/10/10 11/08/10	0.005 0.005 0.005 0.005	mg/L	No



A Natural Attraction

PUBLIC WORKS & ENVIRONMENTAL SERVICES

**2010 Annual & Summary Report
Batawa Drinking Water System
Annual Report**

Summary of lead testing under Schedule 15.1 during this reporting period:

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing – Non residential	As per O. Reg, 170/03 section 15.1-5 <i>Reduced Sampling</i> , the City of Quinte West is not required to sample for lead in the Batawa area until April 2012 as part of the Frankford Drinking Water System		
Plumbing – Residential			
Distribution			

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Aalachlor	02/09/10	0.02	ug/L	No
Aldicarb	02/09/10	0.01	ug/L	No
Aldrin + Dieldrin	02/09/10	0.01	ug/L	No
Atrazine + N-dealkylated metabolites	02/09/10	0.01	ug/L	No
Azinphos-methyl	02/09/10	0.02	ug/L	No
Bendiocarb	02/09/10	0.01	ug/L	No
Benzene	02/09/10	0.32	ug/L	No
Benzo(a)pyrene	02/09/10	0.004	ug/L	No
Bromoxynil	02/09/10	0.33	ug/L	No
Carbaryl	02/09/10	0.01	ug/L	No
Carbofuran	02/09/10	0.01	ug/L	No
Carbon Tetrachloride	02/09/10	0.16	ug/L	No
Chlordane (Total)	02/09/10	0.01	ug/L	No
Chlorpyrifos	02/09/10	0.02	ug/L	No
Cyanazine	02/09/10	0.03	ug/L	No
Diazinon	02/09/10	0.02	ug/L	No
Dicamba	02/09/10	0.20	ug/L	No
1,2-Dichlorobenzene	02/09/10	0.41	ug/L	No
1,4-Dichlorobenzene	02/09/10	0.36	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	02/09/10	0.01	ug/L	No
1,2-Dichloroethane	02/09/10	0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	02/09/10	0.33	ug/L	No
Dichloromethane	02/09/10	0.35	ug/L	No
2-4 Dichlorophenol	02/09/10	0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	02/09/10	0.19	ug/L	No
Diclofop-methyl	02/09/10	0.40	ug/L	No
Dimethoate	02/09/10	0.03	ug/L	No
Dinoseb	02/09/10	0.36	ug/L	No
Diquat	02/09/10	1	ug/L	No
Diuron	02/09/10	0.03	ug/L	No

Glyphosate	02/09/10	6	ug/L	No
Heptachlor + Heptachlor Epoxide	02/09/10	0.01	ug/L	No
Lindane (Total)	02/09/10	0.01	ug/L	No
Malathion	02/09/10	0.02	ug/L	No
Methoxychlor	02/09/10	0.01	ug/L	No
Metolachlor	02/09/10	0.01	ug/L	No
Metribuzin	02/09/10	0.02	ug/L	No
Monochlorobenzene	02/09/10	0.30	ug/L	No
Paraquat	02/09/10	1	ug/L	No
Parathion	02/09/10	0.02	ug/L	No
Pentachlorophenol	02/09/10	0.15	ug/L	No
Phorate	02/09/10	0.01	ug/L	No
Picloram	02/09/10	0.25	ug/L	No
Polychlorinated Biphenyls(PCB)	02/09/10	0.04	ug/L	No
Prometryne	02/09/10	0.03	ug/L	No
Simazine	02/09/10	0.01	ug/L	No
THM ** (NOTE: show latest annual average)	11/08/10	63.25	ug/L	No
Temephos	02/09/10	0.01	ug/L	No
Terbufos	02/09/10	0.01	ug/L	No
Tetrachloroethylene	02/09/10	0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	02/09/10	0.14	ug/L	No
Triallate	02/09/10	0.01	ug/L	No
Trichloroethylene	02/09/10	0.43	ug/L	No
2,4,6-Trichlorophenol	02/09/10	0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	02/09/10	0.22	ug/L	No
Trifluralin	02/09/10	0.02	ug/L	No
Vinyl Chloride	02/09/10	0.17	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 last Sample
THM	63.25	ug/L	11/08/10



A Natural Attraction

PUBLIC WORKS & ENVIRONMENTAL SERVICES

**2010 Annual & Summary Report
Batawa Drinking Water System
Summary Report**

Summary Report – O. Reg. 170/03 Schedule 22 Requirement

Under Schedule 22 of O. Reg. 170/03, the Ministry of Environment requires that a copy of the Safe Drinking Water Act, regulations, the system’s approvals, and any order that the system failed to meet at any time during the reporting period be provided to the members of the municipal council.

The following is a list of the Acts and Regulations which have been provided to municipal council electronically:

- ✚ The Safe Drinking Water Act, 2002
- ✚ O. Reg. 128/04 – Certification of Drinking Water Operators
- ✚ O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- ✚ O. Reg. 170/03 – Drinking Water Systems (Please see ‘*Application of Schedules*’ table below for applicable schedules pertinent to Large Municipal Residential Systems)
- ✚ O. Reg. 188/07 – Licensing of Municipal Drinking Water Systems
- ✚ O. Reg. 242/05 – Compliance and Enforcement
- ✚ O. Reg. 248/03 – Drinking Water Testing Services
- ✚ Procedure for Disinfection of Drinking Water in Ontario
- ✚ The systems Certificate of Approval # 2445-7QMR6Z
- ✚ Municipal Drinking Water Licence # 163-103; *Issue Date: December 6, 2010*
- ✚ Drinking Water Works Permit # 163-203; *Issue Date: December 6, 2010*
- ✚ Permit to Take Water (PTTW) # 7508-69GLDK

TABLE
Application of schedules
O. Reg. 170/03

Item	Drinking Water Systems	Applicable Schedules				
		Treatment	Operational Checks, Sampling and Testing	Adverse Test Results and Other Problems	Reports	Chemical Testing Parameters
1.	Large municipal residential systems	1, 4	6, 7, 10, 13, 15.1	16, 17	22	23, 24

O. Reg. 170/03, s. 4; O. Reg. 247/06, s. 2; O. Reg. 399/07, s. 1.

* Please note that the Act and Regulations provided have potentially been amended since these documents were saved electronically. For current and up to date consolidated laws, please visit www.e-laws.gov.on.ca.

There were no 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 during this reporting period other than a report being made February 26, 2010 for the lack of secondary disinfection residual checks for 2009. This Adverse incident was referenced in the 2009 Annual Report.



Public Works and Environmental Services
2010 Annual and Summary Reports
Batawa Drinking Water System
 Summary Report - Comparison Quantities & Flows

Summary of Quantities and Flow Rates

Raw Water - PTTW Limit of 8183.8 m³/d			
Month	Monthly Average Flow (m³)	Max Daily Flow (m³)	Total Monthly Flow (m³)
January	153	201	4,735
February	143	184	4,008
March	146	189	4,517
April	165	195	4,936
May	210	344	6,501
June	154	255	4,634
July	200	265	6,199
August	184	236	5,698
September	157	218	4,718
October	147	202	4,549
November	165	211	4,945
December	155	247	4,813

Total Raw Water Flow 2010 (m³) - 60,253

Treated Water - Rated Capacity of 770 m³/d			
Month	Monthly Average Flow (m³)	Max Daily Flow (m³)	Total Monthly Flow (m³)
January	81	89	2,498
February	76	90	2,139
March	81	96	2,510
April	89	111	2,684
May	139	265	4,299
June	105	161	3,141
July	130	202	4,037
August	118	159	3,669
September	103	134	3,088
October	90	130	2,792
November	92	115	2,772
December	95	172	2,930

Total Treated Water Flow (m³) 2010 - 36,560

Comparison of Flow Rates for Treated Water	
Annual Average Daily Flow (m ³ /d) = 100	13 % of Rated Capacity
Max Daily flow for year (m ³) = 265	34 % of Rated Capacity



A Natural Attraction

Public Works and Environmental Services
2010 Annual and Summary Reports
Batawa Drinking Water System
Summary Report - Comparison Quantities & Flows

Batawa Historical Treated Water Flows

Year	Average Daily Flow (m ³ /d)	Max Daily Flow (m ³ /d)	Month of Max Daily Flow
2005	452	710	August
2006	306	506	January
2007	229	494	November
2008	158	1,490	July
2009	140	305	December
2010	100	265	May

Batawa Historical Average Treated Water Daily Flows

