



**CORPORATION OF THE TOWN OF HAWKESBURY**

**2003**  
**WATERWORKS**  
**SUMMARY REPORT**  
(January 1, 2003 to December 31, 2003)

**PREPARED BY:**

**TOWN OF HAWKESBURY**  
**Technical Services Department**  
**600 Higginson Street**  
**Hawkesbury, Ontario**  
**K6A 1H1**  
**Tel. (613) 632-0106, ext. 2237**  
**Fax (613) 636-2094**

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**1. REQUIREMENTS OF THE SAFE DRINKING WATER ACT, 2002**

The Ontario government has enacted a new Drinking Water Regulation under the Safe Drinking Water Act, 2002 to replace the drinking Water Protection Regulation for Larger Waterworks (O.Reg. 459/00).

Tough standards for the protection of drinking water continue to apply, with regular sampling and testing of water, bacteria and chemical testing to be done by accredited laboratories, minimum standards for treatment, the same clear requirements for the immediate notification of any adverse water quality, public reporting and tough penalties for non-compliance.

The Drinking Water Systems Regulation (O.Reg. 170/03), enacted on June 1, 2003, has been developed by adhering to Commissioner Dennis O'Connor's recommendations contained in *Part Two: Report of the Walkerton Inquiry*, after more than a year of government consultations, and after two years of monitoring, testing and analyses under the former water regulations.

Under the new Drinking Water Systems Regulation 170/03, the Town of Hawkesbury's water system has been classified as a *Municipal Large Residential System*. This category is based on the fact that the Hawkesbury's water system serves a major residential development and serves more than 100 private residences.

Based on the 2004 Municipal Directory, there are 4,644 household units in the Town of Hawkesbury. Furthermore, the Town of Hawkesbury's water system serves two wards in the Township of Champlain, being the Town of Vankleek Hill with 895 household units and the Village of L'Original with 806 household units, for a total of 1,701 household units.

**2. REQUIREMENTS OF THE DRINKING WATER SYSTEMS REGULATION (ONTARIO REGULATION 170/03)**

The new Drinking Water Systems Regulation 170/03, made under the Safe Drinking Water Act, 2002, provides more detailed regulatory requirements in conjunction with the Safe Drinking Water Act, 2002.

### 3. **REQUIREMENTS OF THE SYSTEM'S APPROVAL**

The Town of Hawkesbury's drinking water system operates under an amended Certificate of Approval no. 1145-5UCLCJ, issued by the Ministry of the Environment on January 6, 2004, and under the Permit to Take Water no. 94-P-4011, issued on March 11, 1994 in accordance with Section 34 of the Ontario Water Resources Act. This permit was valid until March 30, 2004. Since then, the Town of Hawkesbury has received a new Permit to Take Water that will expire on February 15, 2014.

In 2003, the Town of Hawkesbury was not issued any order by the Ministry of the Environment and no failure was ever reported on the system in 2003.

Furthermore, the Town of Hawkesbury carried out system upgrades at the Water Filtration Plant in the following two phases:

#### **Waterworks Upgrades – Phase I:**

The Town of Hawkesbury proceeded with Phase I of the upgrades at the Water Filtration Plant. Work began in 2002 and was completed in June 2003. The contract was awarded to Base Controls Ltd. for a total amount of \$169,711.70.

The contract objectives were the following:

1. Upgrade the DCS (Distributed Control System) to allow for some spare capacity.
2. Provide a reliable system for remote alarming.
3. Meet the requirements of the Certificate of Authorization and Engineer's Report.

The Scope of Work of the contract was as follows:

#### **1. Water Treatment Plant**

- .1 Supply and install components for Bristol Babcock DCS (Distributed Control System). Programming for DCS by Dakins Engineering under this contract.
- .2 Supply and install turbidity meters.
- .3 Supply and install chemical pump tachometers.
- .4 Supply and install alarm dialer.
- .5 Supply and install new SCADA (Supervisory Control and Data Acquisition) server, SCADA upgrade and modify SCADA interface.

#### **2. Water Booster Station**

- .1 Install Owner-supplied chlorine analysis and chemical delivery systems.
- .2 Supply and install components for Bristol Babcock DCS (Distributed Control System).
- .3 Supply and install chlorine gas monitor.
- .4 Supply and install room ventilation.

#### **3. Provide start-up, commissioning and training.**

All work under Phase I was completed by July 31, 2004 as per condition no. 5.1 of the Certificate of Approval no. 4951-5K7JUD issued on February 28, 2003.

**Waterworks Upgrades – Phase II:**

J.L. Richards & Associates completed the final plans and specifications for the Waterworks Upgrades Phase II. The work includes the construction of a building addition for the expansion and relocation of the alum feed and storage system; installation of a new fluoridation system for the closing of hydrofluosilicic acid by replacing the existing solid sodium silicofluoride feed system with a liquid; and upgrading the activated silica feed system by installing new bulk storage for sodium aluminate.

On September 29, 2003, the Municipal Council of the Town of Hawkesbury adopted Resolution no. R-523-03 to authorize the Director of Technical Services to proceed with the call for tenders for the Waterworks Upgrades / Phase II.

The contract was awarded in December 2003 to ASCO Contruction Ltd. for an amount of \$473,550.00. The work started in January 2004.

Work is currently underway for Phase II. Said work has to be completed by July 1, 2004, as required under Part 8 of the Certificate of Approval no. 1145-5UCLCJ - “Studies and Upgrades Required”.

**4. RATED CAPACITY AND FLOW RATES**

Under Part 4 of the amended Certificate of Approval no. 1145-5UCLCJ, the rated capacity at the Hawkesbury Water Filtration Plant is as follows:

- Maximum Flow Rate (L/sec) = 316
- Maximum Daily Volume (m<sup>3</sup>/day) = 27,275

Based on the water production data, the maximum daily water production was in June 2003 at 15,027 m<sup>3</sup>/day or 174 L/sec, well under the maximum flow rate allowed.

Under the Permit to Take Water no. 94-P-4011, the rate of taking for the Town of Hawkesbury is as follows:

- Maximum Rate of Taking (IG/min) = 5,500
- Maximum Rate of Taking (IG/day) = 8,000,000

Based on the raw water consumption data, the maximum rate of taking was in August 2003 at 7,090 IG/min or 10,208,200 IG/day, over the maximum allowed. However, this peak was due to the accidental start-up of the second pump at the raw water pumping

station for approximately five minutes. The highest peak, notwithstanding the above value, was in July 2003. The maximum rate was 3,460 IG/min or 4,984,550 IG/day, under the maximum allowed.

See Appendix "A" for Waterworks Data 2003.

## 5. **AVAILABILITY OF REPORT**

The Town of Hawkesbury will be advising the users of water from the system, through local newspapers, that the Summary Report will be available for review and inspection, free of charge, from March 31, 2004, at the following locations:

1. ***Technical Services Department***  
Town of Hawkesbury  
600 Higginson Street  
Hawkesbury, Ontario  
K6A 1H1  
Tel. (613) 632-0106, ext. 2237
2. ***Hawkesbury Public Library***  
550 Higginson Street  
Hawkesbury, Ontario  
K6A 1H1
3. ***Town's website*** [www.ville.hawkesbury.on.ca](http://www.ville.hawkesbury.on.ca)

Furthermore, a copy of the Summary Report will also be forwarded to the Township of Champlain.

This 2003 Summary Report has been prepared on March 31, 2004 and will be submitted to the Municipal Council of the Corporation of the Town of Hawkesbury within the next three months.

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Martin Bonhomme, P.Eng.,CMA  
Chief Administrative Officer/  
Director of Technical Services  
Town of Hawkesbury  
600 Higginson Street  
Hawkesbury, Ontario K6A 1H1  
Tel. (613) 632-0106, ext. 2236  
Fax (613) 636-2094

**APPENDIX “A”**

**WATERWORKS DATA 2003**

**SOMMAIRE / SUMMARY**

	2002	2003	2002	2003
	<b>Production d'eau (Gallons)</b>		<b>Water production (m3)</b>	
Total de l'année Total for year	771,476,200	811,019,559	3,506,710	3,686,453
Moy. par jour Daily ave.	2,113,540	2,221,971	9,607	10,100
Moy. par min. Ave. per min.	1,468	1,543	6.67	7.01
Consommation max. Max. consumption	3,199,680	3,306,023	14,544	15,027
Consommation min. Min. consumption	1,270,940	1,616,904	5,777	7,350
	<b>Produits chimiques (lbs)</b>		<b>Chemical products (kg)</b>	
Alun/Alum	563,917	709,045	256,326	322,293
Chaux/Lime	82,713	91,507	37,597	41,584
Chlore/Chlorine	22,761	23,820	10,346	10,827
Fluor/Fluoride	10,479	2,148	4,763	976
Silicate	16,984	19,424	7,720	8,829
Aluminate	8,017	8,898	3,644	4,045

Surintendant/Superintendent  
SERVICE DE L'ENVIRONNEMENT/ENVIRONMENT SERVICE



		DAILY RAW WATER TAKING VALUES	
MONTH		Raw Water (M3)	Raw water (peak) (M3)
JAN	Avg.	10,353	
	Max	12,664	n/a
	Min	8,719	
	Total	320,952	
FEV	Avg.	9,544	
	Max	11,083	n/a
	Min	8,085	
	Total	267,229	
MARS	Avg.	9,684	
	Max	11,159	n/a
	Min	8,647	
	Total	300,212	
APRIL	Avg.	10,166	
	Max	11,932	n/a
	Min	8,054	
	Total	304,986	
MAY	Avg.	10,937	
	Max	12,543	n/a
	Min	9,794	
	Total	339,048	
JUNE	Avg.	12,212	
	Max	17,329	22,101
	Min	9,859	
	Total	366,349	
JULY	Avg.	11,646	
	Max	15,086	22,657
	Min	8,106	
	Total	361,028	
AUGUST	Avg.	12,398	
	Max	14,465	46,401
	Min	10,383	
	Total	384,350	
SEPT.	Avg.	11,659	
	Max	14,119	20,494
	Min	9,282	
	Total	349,761	
OCTO.	Avg.	10,606	
	Max	12,720	20,965
	Min	7,937	
	Total	328,800	
NOV.	Avg.	10,087	
	Max	11,795	17,291
	Min	8,280	
	Total	301,995	
DEC.	Avg.	11,467	
	Max	13,281	18,512
	Min	9,281	
	Total	344,012	
Avg.		15,086	46,401
Max		7937	
Min		4,332,328	
Total			



MONTH	BACKWASH		WATER PRODUCTION					Town Flow (m3/d)
		TSS (mg/l)	Raw Water Consumption (M3)	City Consumption (M3)	Back Wash (M3)	Plant Use (M3)	Total Production (m3/d)	
JAN	Avg.	0.0	10,353				9,683	9,054
	Max	0.0	12,684				10,988	10,882
	Min	0.0	8,719				8,164	0
	Total		320,952	298,487	3,720	742	300,187	280,685
FEV	Avg.	0.0	9,544				8,722	6,796
	Max	0.0	11,083				10,322	10,311
	Min	0.0	8,085				7,444	0
	Total		267,229	240,821	3,386	547	244,207	190,286
MARS	Avg.	0.0	9,684				8,855	8,507
	Max	0.0	11,159				10,577	10,477
	Min	0.0	8,647				7,911	0
	Total		300,212	270,804	3,697	804	274,500	263,732
APRIL	Avg.	0.0	10,166				9,308	9,258
	Max	0.0	11,932				11,174	11,037
	Min	0.0	8,054				7,350	7,259
	Total		304,988	275,721	3,524	2,732	279,245	277,669
MAY	Avg.	0.0	10,937				10,169	10,084
	Max	0.0	12,543				11,648	11,759
	Min	0.0	9,794				8,748	8,652
	Total		339,048	311,470	3,772	3,805	315,242	312,615
JUNE	Avg.	0.0	12,212				11,405	11,300
	Max	0.0	17,329				15,027	14,915
	Min	0.0	9,859				9,059	8,958
	Total		366,349	338,522	3,630	764	342,152	339,010
JULY	Avg.	0.0	11,646				10,741	10,315
	Max	0.0	15,086				13,955	13,987
	Min	0.0	8,108				7,494	0
	Total		381,028	329,266	3,702	2,630	332,967	319,766
AUGUST	Avg.	0.0	12,398				11,490	11,422
	Max	0.0	14,465				13,590	13,465
	Min	0.0	10,383				9,752	9,671
	Total		384,350	352,455	3,720	12,354	356,175	354,087
SEPT.	Avg.	0.0	11,659				11,095	11,026
	Max	0.0	14,119				13,606	13,465
	Min	0.0	8,282				9,420	9,348
	Total		349,761	329,513	3,348	10,100	332,860	330,792
OCTO.	Avg.	0.0	10,606				10,098	9,944
	Max	0.0	12,720				10,995	10,928
	Min	0.0	7,937				8,246	8,151
	Total		328,800	308,698	4,338	8,704	313,035	308,265
NOV.	Avg.	0.0	10,067				9,332	9,241
	Max	0.0	11,795				10,590	10,590
	Min	0.0	8,280				7,646	7,576
	Total		301,995	276,469	3,506	8,138	279,975	277,222
DEC.	Avg.	0.0	11,467				10,530	10,415
	Max	0.0	13,281				12,764	11,955
	Min	0.0	9,281				7,865	7,810
	Total		344,012	310,740	5,167	7,788	315,907	312,456
	Avg.	0.00					10,119	
	Max	0.00					15,027	
	Min	0.00					7,350	
	Total		4,332,328	3,640,945	45,508	58,907	3,686,453	



		FILTERS		
MONTH		Turb. No.1	Turb. No.2	Turb. No.3
JAN	Avg.	0.14	0.10	0.16
	Max	0.60	0.26	0.78
	Min	0.06	0.04	0.00
FEV	Avg.	0.09	0.09	0.00
	Max	0.16	0.13	0.00
	Min	0.05	0.05	0.00
MARS	Avg.	0.11	0.11	0.11
	Max	0.22	0.18	0.21
	Min	0.07	0.08	0.07
APRIL	Avg.	0.11	0.12	0.12
	Max	0.16	0.15	0.15
	Min	0.08	0.08	0.09
MAY	Avg.	0.11	0.11	0.11
	Max	0.17	0.19	0.17
	Min	0.07	0.06	0.06
JUNE	Avg.	0.10	0.10	0.10
	Max	0.14	0.17	0.14
	Min	0.07	0.07	0.07
JULY	Avg.	0.11	0.11	0.12
	Max	0.19	0.16	0.21
	Min	0.06	0.07	0.08
AUGUST	Avg.	0.12	0.11	0.11
	Max	0.55	0.38	0.45
	Min	0.07	0.07	0.07
SEPT.	Avg.	0.12	0.12	0.11
	Max	0.35	0.24	0.33
	Min	0.08	0.08	0.06
OCTO.	Avg.	0.13	0.11	0.11
	Max	0.79	0.50	0.53
	Min	0.05	0.00	0.05
NOV.	Avg.	0.11	0.11	0.10
	Max	0.17	0.15	0.15
	Min	0.08	0.07	0.07
DEC.	Avg.	0.12	0.11	0.13
	Max	0.28	0.18	0.45
	Min	0.08	0.07	0.07
Avg.		0.12	0.11	0.11
Max		0.79	0.50	0.78
Min		0.05	0.00	0.00
Total				