



CORPORATION OF THE TOWN OF HAWKESBURY

2004
WATERWORKS
SUMMARY REPORT
(January 1, 2004 to December 31, 2004)

PREPARED BY:

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TABLE OF CONTENTS

| | Pages |
|--|------------|
| 1. REQUIREMENTS OF THE SAFE DRINKING WATER ACT, 2002..... | 1 |
| 2. REQUIREMENTS OF THE DRINKING WATER SYSTEMS REGULATION (O.REG. 170/03)..... | 1 |
| 3. REQUIREMENTS OF THE SYSTEM'S APPROVAL..... | 2 |
| • Waterworks Upgrades Phase I | |
| • Waterworks Upgrades Phase II | |
| 4. RATED CAPACITY AND FLOW RATES..... | 3 |
| 5. AVAILABILITY OF REPORT..... | 3-4 |
| APPENDIX "A" - WATERWORKS DATA 2004 | |

CORPORATION OF THE TOWN OF HAWKESBURY
2004 WATERWORKS SUMMARY REPORT
(January 1, 2004 to December 31, 2004)

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. On February 15, 2004, the Ministry of the Environment issued to the Town of Hawkesbury a new Permit to Take Water that will expire on February 15, 2014.

In 2004, 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 2004.

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

Waterworks Upgrades – Phase I:

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:

The work included 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.

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

Due to the Waterworks upgrades, the Town of Hawkesbury temporarily suspended fluoridation of drinking water, as per the recommendation of J.L. Richards & Associates and under the authorization of the Eastern Ontario Health Unit. Fluoridation of drinking water was restored in August 2004.

The Certificate of Substantial completion was issued on August 17, 2004. However, minor deficiencies remained to be addressed by the contractor. Those deficiencies should be corrected in the First Quarter of 2005.

On September 21, 2004, the Town of Hawkesbury advised the Ministry of the Environment that the municipality met the deadline for implementation of the Waterworks upgrades, as per condition 8.1 of the Amended Certificate of Approval no. 1145-5UCLCJ.

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 (m³/day) = 27,275

Based on the water production data, the maximum daily water production was in July 2004 at 14,211 m³/day or 165 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 (l/min) = 13,888
- Maximum Rate of Taking (l/day) = 20,000,000

Based on the raw water consumption data, the rate of taking (peak) was in October 2004 at 19,040 l/min or 27,418,000 l/day, over the maximum allowed. However, the maximum raw water taking was in July 2004 at 16,845,000 l/day or 11,700 l/min., within the permitted rate.

On February 15, 2004, the Ministry of the Environment issued a new Permit to Take Water and the maximum rate of taking water was decreased from 36,368,000 l/day to 20,000,000 l/day. The Ministry's decision was based on the fact that, in our application dated October 27, 2003, the volume requested exceeded the Water Treatment Plant capacity. Therefore, the Ministry could not issue a Permit to Take Water for that volume. However, this issue will be addressed with the Ministry of the Environment.

See Appendix "A" for Waterworks Data 2004.

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, 2005, 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.hawkesbury.ca

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

This 2004 Summary Report has been prepared on March 31, 2005 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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Director of Technical Services
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APPENDIX “A”

WATERWORKS DATA 2004

SOMMAIRE / SUMMARY

| | 2003 | 2004 | 2003 | 2004 |
|---------------------------------------|---------------------------------------|-------------|-----------------------------------|-------------|
| | Production d'eau (Gallons) | | Water production (m3) | |
| Total de l'année Total for year | 811,019,660 | 853,113,442 | 3,686,453 | 3,877,788 |
| Moy. par jour Daily ave. | 2,222,000 | 2,337,297 | 10,100 | 10,624 |
| Moy. par min. Ave. per min. | 1,543 | 1,623 | 7.01 | 7.38 |
| Consommation max. Max. consumption | 3,305,940 | 3,126,315 | 15,027 | 14,211 |
| Consommation min. Min. consumption | 1,617,000 | 1,682,010 | 7,350 | 7,646 |
| | Produits chimiques (lbs) | | Chemical products (kg) | |
| Alun/Alum | 709,045 | 1,052,258 | 322,293 | 478,299 |
| Chaux/Lime | 91,507 | 97,837 | 41,594 | 44,471 |
| Chlore/Chlorine | 23,819 | 24,380 | 10,827 | 11,082 |
| Fluor/Fluoride | 2,147 | 1,129 | 976 | 513 |
| Silicate | 19,424 | 24,658 | 8,829 | 11,208 |
| Aluminate | 8,899 | 11,194 | 4,045 | 5,088 |

Surintendant/Superintendent
SERVICE DE L'ENVIRONNEMENT/ENVIRONMENT SERVICE

| MONTH | DAILY RAW WATER TAKING VALUES | | |
|--------|-------------------------------|----------------|-----------------------|
| | | Raw Water (M3) | Raw water (peak) M3/D |
| JAN | Avg. | 11,868 | |
| | Max | 13,858 | 18,971 |
| | Min | 10,218 | |
| | Total | 367,894 | |
| FEV | Avg. | 11,138 | |
| | Max | 12,486 | 25,279 |
| | Min | 9,391 | |
| | Total | 323,016 | |
| MARS | Avg. | 11,119 | |
| | Max | 12,750 | 18,464 |
| | Min | 8,736 | |
| | Total | 344,694 | |
| APRIL | Avg. | 10,988 | |
| | Max | 12,845 | 22,935 |
| | Min | 9,131 | |
| | Total | 329,652 | |
| MAY | Avg. | 11,022 | |
| | Max | 14,077 | 24,795 |
| | Min | 9,174 | |
| | Total | 341,667 | |
| JUNE | Avg. | 11,640 | |
| | Max | 14,101 | 19,225 |
| | Min | 9,174 | |
| | Total | 349,215 | |
| JULY | Avg. | 12,039 | |
| | Max | 16,845 | 24,336 |
| | Min | 9,174 | |
| | Total | 373,202 | |
| AUGUST | Avg. | 11,975 | |
| | Max | 14,327 | 20,530 |
| | Min | 7,884 | |
| | Total | 371,217 | |
| SEPT. | Avg. | 12,751 | |
| | Max | 14,055 | 23,092 |
| | Min | 10,453 | |
| | Total | 382,523 | |
| OCTO. | Avg. | 12,086 | |
| | Max | 13,692 | 27,418 |
| | Min | 8,595 | |
| | Total | 374,669 | |
| NOV. | Avg. | 11,923 | |
| | Max | 13,386 | 19,382 |
| | Min | 9,731 | |
| | Total | 357,698 | |
| DEC. | Avg. | 10,706 | |
| | Max | 13,379 | 25,025 |
| | Min | 8,761 | |
| | Total | 331,900 | |
| | Avg. | 11,605 | |
| | Max | 16,845 | 27,418 |
| | Min | 7,884 | |
| | Total | 4,626,880 | |

| MONTH | BACKWASH | | WATER PRODUCTION | | | | | |
|--------|----------|---------------|-------------------------------------|-----------------------------|----------------------|----------------------|-------------------------------|------------------------|
| | | TSS (mg/l) | Raw Water Consumption (M3) | City Consumption (M3) | Back Wash (M3) | Plant Use (M3) | Total Production (m3/d) | Town Flow (m3/d) |
| JAN | Avg. | 10 | 11,868 | 10,713 | | | 10,841 | 10,781 |
| | Max | | 13,858 | 12,563 | | | 12,682 | 12,625 |
| | Min | | 10,218 | 9,255 | | | 9,373 | 9,288 |
| | Total | | 367,894 | 332,106 | 3,954 | 8,011 | 336,059 | 334,220 |
| FEV | Avg. | 13 | 11,138 | 10,017 | | | 10,143 | 9,892 |
| | Max | | 12,486 | 10,995 | | | 11,124 | 11,218 |
| | Min | | 9,391 | 8,372 | | | 8,492 | 8,440 |
| | Total | | 323,016 | 290,484 | 3,652 | 6,971 | 294,136 | 286,874 |
| MARS | Avg. | 16 | 11,119 | 10,138 | | | 10,251 | 10,041 |
| | Max | | 12,750 | 11,043 | | | 11,181 | 10,861 |
| | Min | | 8,736 | 8,025 | | | 8,145 | 8,093 |
| | Total | | 344,694 | 314,267 | 3,527 | 5,932 | 317,794 | 311,286 |
| APRIL | Avg. | 8 | 10,988 | 9,806 | | | 9,919 | 8,956 |
| | Max | | 12,845 | 11,542 | | | 11,643 | 11,106 |
| | Min | | 9,131 | 7,526 | | | 7,646 | 0 |
| | Total | | 329,652 | 294,188 | 3,393 | 7,128 | 297,580 | 268,687 |
| MAY | Avg. | 7 | 11,022 | 9,823 | | | 9,941 | 9,477 |
| | Max | | 14,077 | 12,300 | | | 12,435 | 11,342 |
| | Min | | 9,174 | 7,899 | | | 7,986 | 2 |
| | Total | | 341,667 | 304,504 | 3,680 | 6,916 | 308,184 | 293,775 |
| JUNE | Avg. | 7 | 11,640 | 11,606 | | | 11,728 | 9,446 |
| | Max | | 14,101 | 13,722 | | | 13,866 | 13,340 |
| | Min | | 9,174 | 9,760 | | | 9,880 | 0 |
| | Total | | 349,215 | 348,174 | 3,664 | 9,001 | 351,838 | 283,370 |
| JULY | Avg. | 36 | 12,039 | 11,218 | | | 11,340 | 10,262 |
| | Max | | 16,845 | 14,089 | | | 14,211 | 14,119 |
| | Min | | 9,174 | 9,542 | | | 9,665 | 0 |
| | Total | | 373,202 | 347,770 | 3,767 | 11,836 | 351,537 | 318,114 |
| AUGUST | Avg. | 9 | 11,975 | 10,608 | | | 10,726 | 10,447 |
| | Max | | 14,327 | 12,464 | | | 12,584 | 12,569 |
| | Min | | 7,884 | 8,672 | | | 8,793 | 6,734 |
| | Total | | 371,217 | 328,857 | 3,640 | 11,787 | 332,497 | 323,859 |
| SEPT. | Avg. | 7 | 12,751 | 11,104 | | | 11,225 | 8,090 |
| | Max | | 14,065 | 12,390 | | | 12,509 | 12,001 |
| | Min | | 10,453 | 8,876 | | | 8,997 | 0 |
| | Total | | 382,523 | 333,116 | 3,638 | 10,239 | 336,754 | 242,686 |
| OCTO. | Avg. | 12 | 12,086 | 10,539 | | | 10,675 | 10,201 |
| | Max | | 13,692 | 11,783 | | | 11,998 | 11,867 |
| | Min | | 8,595 | 7,824 | | | 7,925 | 0 |
| | Total | | 374,669 | 326,707 | 4,218 | 9,674 | 330,924 | 316,233 |
| NOV. | Avg. | 3 | 11,923 | 10,479 | | | 10,606 | 9,805 |
| | Max | | 13,386 | 11,700 | | | 11,865 | 11,867 |
| | Min | | 9,731 | 8,172 | | | 8,281 | 0 |
| | Total | | 357,698 | 314,379 | 3,790 | 7,791 | 318,169 | 294,158 |
| DEC. | Avg. | 31 | 10,706 | 9,635 | | | 9,752 | 9,712 |
| | Max | | 13,379 | 11,423 | | | 11,541 | 11,649 |
| | Min | | 8,761 | 7,847 | | | 7,966 | 7,766 |
| | Total | | 331,900 | 298,689 | 3,627 | 8,082 | 302,316 | 301,076 |
| | Avg. | 13 | 11,605 | 10,474 | | | 10,596 | |
| | Max | 36 | 16,845 | 14,089 | | | 14,211 | |
| | Min | 3 | 7,884 | 7,526 | | | 7,646 | |
| | Total | | 4,626,880 | 4,174,177 | 44,548 | 103,368 | 3,877,788 | |

| | | FILTERS | | |
|--------|------|---------------|---------------|---------------|
| MONTH | | Turb. No.1 | Turb. No.2 | Turb. No.3 |
| JAN | Avg. | 0.17 | 0.14 | 0.19 |
| | Max | 0.47 | 0.39 | 0.42 |
| | Min | 0.08 | 0.09 | 0.08 |
| FEV | Avg. | 0.14 | 0.15 | 0.16 |
| | Max | 0.53 | 0.68 | 0.48 |
| | Min | 0.09 | 0.09 | 0.09 |
| MARS | Avg. | 0.11 | 0.11 | 0.12 |
| | Max | 0.16 | 0.16 | 0.19 |
| | Min | 0.07 | 0.07 | 0.08 |
| APRIL | Avg. | 0.11 | 0.11 | 0.11 |
| | Max | 0.14 | 0.15 | 0.16 |
| | Min | 0.09 | 0.09 | 0.09 |
| MAY | Avg. | 0.11 | 0.12 | 0.10 |
| | Max | 0.62 | 0.82 | 0.40 |
| | Min | 0.06 | 0.06 | 0.05 |
| JUNE | Avg. | 0.10 | 0.11 | 0.10 |
| | Max | 0.19 | 0.16 | 0.14 |
| | Min | 0.06 | 0.06 | 0.07 |
| JULY | Avg. | 0.10 | 0.11 | 0.10 |
| | Max | 0.15 | 0.16 | 0.14 |
| | Min | 0.07 | 0.07 | 0.07 |
| AUGUST | Avg. | 0.12 | 0.12 | 0.12 |
| | Max | 0.17 | 0.20 | 0.23 |
| | Min | 0.07 | 0.07 | 0.07 |
| SEPT. | Avg. | 0.13 | 0.13 | 0.12 |
| | Max | 0.17 | 0.17 | 0.16 |
| | Min | 0.08 | 0.09 | 0.08 |
| OCTO. | Avg. | 0.09 | 0.09 | 0.08 |
| | Max | 0.14 | 0.13 | 0.11 |
| | Min | 0.07 | 0.06 | 0.06 |
| NOV. | Avg. | 0.10 | 0.10 | 0.10 |
| | Max | 0.13 | 0.15 | 0.13 |
| | Min | 0.06 | 0.06 | 0.07 |
| DEC. | Avg. | 0.12 | 0.11 | 0.12 |
| | Max | 0.17 | 0.15 | 0.15 |
| | Min | 0.07 | 0.07 | 0.07 |
| Total | | Avg. 0.12 | 0.12 | 0.12 |
| | | Max 0.62 | 0.82 | 0.48 |
| | | Min 0.06 | 0.06 | 0.05 |