SUMMARY REPORT
TOWN OF ERIN

HILLSBURGH WELL SUPPLY
DRINKING –WATER SYSTEM NO. 220007285

Certificate of Approval No. 4387-74MLXC
Certificate of Approval No. PB220007285RR-01
Certificate of Approval No. 8-2160-89-006
Certificate of Approval No. 7742-7ZLLFN
Municipal Drinking Water Licence Number 102-102
Drinking Water Works Permit Number 102-202
PTTW # 92-P-2021
PTTW # 8548-65BGWC

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Submitted by:	**Frank Smedley** **Water Superintendent**
Signature:	_____
Date:	**March 8, 2011**
Prepared by:	**Louise Warn**

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Permit to Take Water No. 92-P-2021
Permit to Take Water No. 8548-6SBGWC

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Section 1 – Introduction

This is the Summary Report for the Town of Erin – Hillsburgh Well Supply, as required by O.Reg 170/03, Schedule 22, as amended, Summary Reports for Municipalities. For purposes of that regulation, the Town of Erin - Hillsburgh Well Supply is considered to be a municipal large residential system.

A copy of Schedule 22 from O.Reg. 170/03 is in Appendix 1 of this report.

Section 2 – Background

The reporting period for this report is January 1, 2010 to December 31, 2010.

During the reporting period, the Town of Erin – Hillsburgh Well Supply was operated pursuant to:

- Certificate of Approval No. 4387-74MLXC, issued August 2nd, 2007
- Certificate of Approval No. PB220007285RR-01, issued July 11th 2008
- Certificate of Approval No. 8-2160-89-006, issued August 25, 1989.
- Certificate of Approval No. 7742-7ZLLFN, issued January 22, 2010, Certificate of Approval No. 7742-7ZLLFN revokes and replaces Certificate(s) of Approval No. 4387-74MLXC, issued August 2nd, 2007.
- Municipal Drinking Water Licence Number 102-102, issued December 20, 2010; *Once issued, a condition on the licence revokes all Cs of A which were previously issued for the drinking water system.*
- Drinking Water Works Permit Number 102-202, issued December 20, 2010

The Ministry of Environment conducted an inspection of the Hillsburgh Well Supply which commenced on July 14, 2010. The MOE Inspection Report indicates that there are four issues of non compliance and one issue of best practice identified by the inspector during the inspection period.

A copy of the 'Non-Compliance with Regulatory Requirements and Actions Required' and the 'Summary of Best Practice Issues and Recommendations' sections of the Hillsburgh Well Supply 2010 Inspection Report are in Appendix 2 of this report.

The summary report is required to provide the following:

1. A list of those occasions where the system failed to meet the requirements of the Safe Drinking Water Act, the regulations, the system's approval, and any order.
2. Descriptions of the measures that were taken to correct the failure.
3. A summary of the quantities and flow rates of water supplied during the reporting period.
4. The monthly average and maximum daily instantaneous peak flow rates.
5. A comparison of the data summarized above to the rated capacity and flow rates in the system's approval.

Section 3 – Failure to Meet Requirements

The following is a summary of the occasions when the system failed to meet the regulations or the system's approval or any order that has been issued.

Safe Drinking Water Act, 2002 S.O. 2002, chapter 32

Duties of owners and operating authorities

11. (1) Every owner of a municipal drinking-water system or a regulated non-municipal drinking-water system and, if an operating authority is responsible for the operation of the system, the operating authority for the system shall ensure the following:

1. That all water provided by the system to the point where the system is connected to a user's plumbing system meets the requirements of the prescribed drinking-water quality standards.

SCHEDULE 1
MICROBIOLOGICAL STANDARDS

Item	Microbiological Parameter	Standard (expressed as a maximum)
1.	*Escherichia coli* (E. coli)	Not detectable
2.	Fecal coliforms	Not detectable
3.	Total coliforms	Not detectable
4.	General bacteria population expressed as background colony counts on the total coliform membrane filter	200 colony forming units (CFU) per 100 millilitres
5.	General bacteria population expressed as colony counts on a heterotrophic plate count	500 colony forming units (CFU) per millilitre

SCHEDULE 2
CHEMICAL STANDARDS

Item	Chemical Parameter	Standard (expressed as a maximum concentration in milligrams per litre)
44.	Lead	0.01

Incident Date	**Parameter**	**Result**	**Unit of Measure**	**Corrective Action**	**Corrective Action Date**
01/20/2010	*Lead Exceedance*	*0.11*	*Mg/L*	*Resampled results OK*	*01/25/2010*
01.20/2010	*Lead Exceedance*	*0.12*	*Mg/L*	*Resampled results OK*	*01/25/2010*

Section 4 – Summaries of Quantities and Flow Rates and Water Supply

Table 1 provides information with respect to the quantity and flow rates of water supplied to the system during the reporting period.

1. The monthly average taking for all wells individually and for all wells combined, the maximum day taking from each well individually and from all wells combined, and the daily instantaneous peak flow rate for each well and for all wells combined. There are footnotes to the table that provide additional information regarding the data.

Table 1
Town of Erin, Hillsburgh Well Supply
Pumping Volume % Flow Summary
(January 1 to December 31, 2010)

Well	Monthly Average (m^3/mo.)	Approved Rated Capacity (m^3/month)[1]	Maximum Daily Flow (m^3/day)	Approved Daily Rated Capacity (m^3/day)[1]	Maximum Daily Instantaneous Peak Flow Rate (L/min.)	Approved Rated Capacity (L/min)[1]
Hillsburgh Heights	2366.058	**29,869**	195.404	**982**	379.07	**682**
Glendevon	3301.37	**19,922**	119.074	**655**	151.41	**454**
Both Wells Combined:	5667.4249	**49,791**	518.67	**1637**	**N/A**	**N/A**

1. Based on water taking rates and amounts specified in Table A of PTTW # 92-P-2021 & PTTW # 8548-6SBGWC

Section 5 – Summary and Conclusion

In conclusion, Hillsburgh Heights is pumping at a 7.92% average of the approved rated capacity of 29,869 m^3 per month, and Glendevon is pumping at a 16.57% average of the approved rated capacity of 19,922 m^3 per month. The Hillsburgh Well Supply system is pumping at an average of 11.38% of the approved rated capacity of 49,791.m^3 per month.

This report will be given to the members of the Town of Erin Council on or before March 31, 2011, as required by Section 22-2 (1) (a) of Schedule 22 of O. Reg 170/03, as amended. It will be circulated to Council as an information item on the first available agenda following the date completed to formally put the report on the public record. The report is available to the public at no cost, and will be posted on the Town's website.

APPENDIX 1

APPENDIX 1

SCHEDULE 22
SUMMARY REPORTS FOR MUNICIPALITIES

Municipal: Large Residential
Small Residential

Application

22-1. This Schedule applies to the following drinking-water systems:

1. Large municipal residential systems.
2. Small municipal residential systems.

Report

22-2. (1) The owner of a drinking-water system shall ensure that, not later than March 31 of each year after 2003, a report is prepared in accordance with subsections (2) and (3) for the preceding calendar year and is given to,

(a) in the case of a drinking-water system owned by a municipality, the members of the municipal council;

(b) in the case of a drinking-water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or

(c) in the case of a drinking-water system owned by a corporation, the board of directors of the corporation.

(2) The report must,

(a) list the requirements of the Act, the regulations, the system's approval and any order that the system failed to meet at any time during the period covered by the report and specify the duration of the failure; and

(b) for each failure referred to in clause (a), describe the measures that were taken to correct the failure.

(3) The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and daily instantaneous peak flow rates.

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval.

(4) If a report is prepared under subsection (1) for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31.

(5) For the purpose of subsection (1), the preceding calendar year for the report that is required to be prepared not later than March 31, 2004 shall be deemed to be the period from July 1, 2003 to December 31, 2003

OWRA approvals

22-3. A provision of an OWRA approval that requires the completion and presentation of a compliance report does not apply to a drinking-water system if the owner of the system complies with section 22-2.

O. Reg. 170/03, Sched. 22; O. Reg. 249/03, s. 24

24. (1) Section 22-2 (1) of Schedule 22 to the Regulation is amended by striking out "each year after 2004" in the portion before clause (a) and substituting "each year after 2003".

(2) Section 22-2 of Schedule 22 to the Regulation is amended by adding the following subsection:

(5) For the purpose of subsection (1), the preceding calendar year for the report that is required to be prepared not later than March 31, 2004 shall be deemed to be the period from July 1, 2003 to December 31, 2003.

(3) Schedule 22 to the Regulation is amended by adding the following section:

OWRA approvals

22-3. A provision of an OWRA approval that requires the completion and presentation of a compliance report does not apply to a drinking-water system if the owner of the system complies with section 22-2.

APPENDIX 2

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1. **The owner had not ensured that all equipment was installed in accordance with the Permit, Licence or Approval issued under Part V of the SDWA.**

   The most current C of A for the Hillsburgh WS is no. 7742-7ZLLFN. . This C of A was issued on January 22, 2010.

   In comparing the C of A to the equipment found on site, the following issues were noted;

   - one duty metering pump at the Glendevon pumphouse is rated for 0.95 L/hr when the C of A requires one to be rated at 1.1 L/hr.

   - the high-lift pump at the Hillsburgh Heights pumphouse will not shut down upon chemical metering pump failure (dual pump failure) or low chemical tank level. Only the well pump shuts down in these alarm conditions. This is contrary to what is listed in the C of A.

   - the stilling well alarm did not shut down the high lift pump, as required by the C of A. It does shut down the well pump when it is in an alarming state (although there are backup manual high level floats which would shut off such pumps should this reservoir overfill).

   - a turbidity analyzer is present at the Hillsburgh Heights pumphouse on the treated water but it is not listed in the C of A.

   Action(s) Required:
   Actions required:

   As the Township of Erin is actively working towards the completion of it's Drinking Water License and Permit, no amendment to the current C of A will be required at this time. Should the release of the license be significantly delayed, it is recommended that the Township of Erin review all equipment at both sites and amend the current Certificate of Approval to accurately reflect what is present at these sites, or make changes to treatment systems to bring them into agreement with the current C of A.

2. **The owner did not have evidence indicating that all chemicals and materials used in the treatment process met the AWWA and ANSI standards in accordance with the Permit, Licence or Approval issued under Part V of the SDWA.**

   Sodium hypochlorite used for primary disinfection at the two pumphouses in the Hillsburgh WS is obtained by the operating authority from a local merchant, known as the `Hillsburgh Feed Mill'. This sodium hypochlorite is originally manufactured by Lavo Inc, and is NSF approved when delivered in bulk to the feed mill. It loses it's NSF rating though when it is repackaged by the feed mill into smaller containers, as `Hillsburgh Feed Mill' is not an NSF approved repackager. As a result of this, the chemical being used by the Town of Erin in the Hillsburgh DWS is not an NSF approved chemical, and therefore does not meet this C of A requirement.

   Action(s) Required:
   1.) Immediately, obtain and begin utilizing sodium hypochlorite for primary and secondary disinfection which meets the requirements of section 6.1 of C of A # 7742-7ZLLFN.

   2.) Upon successful completion of this action, report the source and usage quantity of the sodium hypochlorite to Drinking Water Inspector Rick Neubrand, Ministry of the Environment, One Stone Road West, 4th Floor, Guelph, Ontario, N1G 4Y2.

SUMMARY OF BEST PRACTICE ISSUES AND RECOMMENDATIONS

This section provides a summary of all best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. Best Management Practices are recommendations and not mandatory requirements, but may lead to safe drinking water for the consumer.

In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following practices and consider measures to implement them so that all drinking water systems continuously improve their processes.

1. **The following issues were also noted during the inspection:**

1.) Operator notes for alarming events were often found to be limited in nature. This required the senior operator and the Inspector to research a multitude of documents in order to determine if proper responses occurred for alarms. Data that should be included are items such as;

- time alarm was received by the on-call operator.

- time when on-call operator arrived on site.

- actions taken by on-call operator on site, such as equipment repairs, flushing / backflushing activities, sampling, alarm and well disactivations, and etc.

- free chlorine residual levels of treated water - grab sample vs analyzer sample

- on-line analyzer alarm setpoints and any changes made thereto;

- time of departure of operator.

2.) In performing audit sampling as part of this inspection, samples were taken at many of the same locations as those used by the operating authority. Some of the sampling points were from non-residential sites, but no dedicated distribution system sampling taps exist in this DWS.

In assessing the sampling points at the endpoints of the distribution system, it was discovered that operating authority staff were taking distribution system samples from ground level water line blowoff outlets, and not from dedicated distribution system sample taps or within homes / residences. This has the possibility of inadvertant contamination of the blowoff, from activities including lawn cutting, snow removal, or even adverse animal interactions (fecal or drinking activities).

Recommendation:
1.) It is recommended that more detailed information be included in logbooks, for better assessment of alarm responses which will aid with future inspections.

2.) As this is a small community and the fact that many homes / residences are unavailable for sampling during regular business hours, it is recommended that dedicated lockable distribution system sample taps be installed, rather than using ground-level blowoffs or hydrants for distribution sampling.