

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220001085
Drinking-Water System Name:	Tottenham Well Supply System
Drinking-Water System Owner:	The Corporation of the Town of New Tecumseth
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 st – December 31 st , 2015

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>www.newtecumseth.ca</p> <p>10 Wellington Street East – Municipal Building, Alliston</p> <p>6558 8th Line (County Road #1) – Joint Operations Centre, Beeton</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; text-align: center; width: 100px; margin: 5px auto;">NIL</div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to:</p> <div style="border: 1px solid black; text-align: center; width: 100px; margin: 5px auto;">NIL</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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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
N/A	

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 [] 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

The Tottenham Well Supply System consists of four groundwater production wells that are grouped into two general locations: Wells #4 & #5 (Walkem Drive Wells) and Wells #6A & #7 (Coventry Park Wells). The water from these wells is conveyed through dedicated mains to one central location, the Mill Street Reservoir (the Reservoir has one active cell with a storage capacity of approximately 900 m³). There is one elevated storage tank within the system having an operating capacity of approximately 4,500 m³.

The reservoir is the central location for the Supervisory Control and Data Acquisition (SCADA) System that provides various monitoring and control over the Tottenham Water System.

The Tottenham Water Supply System distributes treated water to approximately 4,720 consumers (based on 2011 Census from Statistics Canada). There are approximately 1,650 service connections comprising of residential, institutional, commercial and industrial consumers. In addition, there are approximately 22 kilometers of watermain and 141 fire hydrants.

(Please see attached spreadsheet for flow information)

List all water treatment chemicals used over this reporting period

- 12% Sodium Hypochlorite Solution
- Sodium Silicate Solution

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

Numerous works were undertaken during the period of January 1st – December 31st, 2015 in support of compliance with the Ministry Regulations as well as the Certificate of Approval, Municipal Drinking Water Licence, Drinking Water Works Permit and Permit to Take Water. The following is a brief summary of the major works: (please note that the costs are estimates only)

General:

- Flow meter calibrations: \$411
- Distribution System Watermain Flushing (quarterly)..... \$24,000

Tottenham Reservoir

- Reservoir Methane Control (exhaust fan)\$9,456

Tottenham Groundwater Wells:

- Well #4 Rehabilitation -\$20,807
- Well #7 Rehabilitation -\$26,135

Tottenham Distribution:

- Swabbing of Distribution System -\$29,260

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/YYYY)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
01/12/2015	Trihalomethanes	128.0	µg/l	Re-sampled location on January 19 th with results of 100 µg/l. No further action required.	01/21/2014
04/14/2015	Trihalomethanes	76.0	µg/l	Re-sampled location on April 22 nd with results of 75 µg/l. No further action required.	04/28/2014
07/13/2015	Trihalomethanes	98.0	µg/l	Re-sampled location on July 20 th with results of 153 µg/l. No further action required.	07/24/2014
10/13/2015	Trihalomethanes	115.0	µg/l	Re-sampled location on October 19 th with results of 84 µg/l. No further action required.	10/27/2014

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	198	0 – 1	0 – 2	0	N/A
Treated	52	0 – 0	0 – 0	52	0 – 2
Distribution	261	0 – 0	0 – 0	104	0 – 1180

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

Tottenham Reservoir

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0.00 – 5.00 NTU
Chlorine – Treated	8760	0.00 – 5.00
Chlorine – Distribution	8760	0.00 – 2.00

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 lead testing under Schedule 15.1 during this reporting period

(Applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems) **Not Applicable for this reporting period.**

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances	Standard
Plumbing				

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

Mill Street Reservoir (Treated)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance	Standard
Antimony	02/23/2015	0.16	µg/l	No	6.0
Arsenic	02/23/2015	0.9	µg/l	No	25
Barium	02/23/2015	113	µg/l	No	1000
Boron	02/23/2015	66.5	µg/l	No	5000
Cadmium	02/23/2015	<0.003	µg/l	No	5.0
Chromium	02/23/2015	<0.03	µg/l	No	50
Mercury	02/23/2015	0.01	µg/l	No	1.0
Selenium	02/23/2015	<1	µg/l	No	10
Sodium	12/10/2012	44.3	mg/l	No	200*
Uranium	02/23/2015	0.011	µg/l	No	20
Fluoride	01/13/2014	0.20	mg/l	No	1.5
Nitrite	01/12/2015 04/14/2015 07/13/2015 10/13/2015	<0.003	mg/l	No	1.0
Nitrate	01/12/2015 04/14/2015 07/13/2015 10/13/2015	0.031 – 0.034	mg/l	No	10.0

* The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets

Distribution

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance	Standard
Lead	01/24/2012	0.58	µg/l	No	10.0

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

Mill Street Reservoir (Treated)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance	Standard
Alachlor	02/23/2015	<0.02	µg/l	No	5.0
Aldicarb	02/23/2015	<0.01	µg/l	No	9.0
Aldrin + Dieldrin	02/23/2015	<0.01	µg/l	No	0.7

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

Atrazine + N-dealkylated metabolites	02/23/2015	<0.01	µg/l	No	5.0
Azinphos-methyl	02/23/2015	<0.02	µg/l	No	20.0
Bendiocarb	02/23/2015	<0.01	µg/l	No	40.0
Benzene	02/23/2015	<0.32	µg/l	No	5.0
Benzo(a)pyrene	02/23/2015	<0.004	µg/l	No	0.01
Bromoxynil	02/23/2015	<0.33	µg/l	No	5.0
Carbaryl	02/23/2015	<0.01	µg/l	No	90.0
Carbofuran	02/23/2015	<0.01	µg/l	No	90.0
Carbon Tetrachloride	02/23/2015	<0.16	µg/l	No	5.0
Chlordane (Total)	02/23/2015	<0.01	µg/l	No	7.0
Chlorpyrifos	02/23/2015	<0.02	µg/l	No	90.0
Cyanazine	02/23/2015	<0.03	µg/l	No	10.0
Diazinon	02/23/2015	<0.02	µg/l	No	20.0
Dicamba	02/23/2015	<0.20	µg/l	No	120
1,2-Dichlorobenzene	02/23/2015	<0.41	µg/l	No	200
1,4-Dichlorobenzene	02/23/2015	<0.36	µg/l	No	5.0
Dichlorodiphenyltrichloroethane (DDT) + metabolites	02/23/2015	<0.01	µg/l	No	30.0
1,2-Dichloroethane	02/23/2015	<0.35	µg/l	No	5.0
1,1-Dichloroethylene (vinylidene chloride)	02/23/2015	<0.33	µg/l	No	14.0
Dichloromethane	02/23/2015	<0.35	µg/l	No	50.0
2-4 Dichlorophenol	02/23/2015	<0.15	µg/l	No	900
2,4-Dichlorophenoxy acetic acid (2,4-D)	02/23/2015	<0.19	µg/l	No	100
Diclofop-methyl	02/23/2015	<0.40	µg/l	No	9.0
Dimethoate	02/23/2015	<0.03	µg/l	No	20.0
Dinoseb	02/23/2015	<0.36	µg/l	No	10.0
Diquat	02/23/2015	<1	µg/l	No	70.0
Diuron	02/23/2015	<0.03	µg/l	No	150
Glyphosate	02/23/2015	<1	µg/l	No	280
Heptachlor + Heptachlor Epoxide	02/23/2015	<0.01	µg/l	No	3.0
Lindane (Total)	02/23/2015	<0.01	µg/l	No	4.0
Malathion	02/23/2015	<0.02	µg/l	No	190
Methoxychlor	02/23/2015	<0.01	µg/l	No	900
Metolachlor	02/23/2015	<0.01	µg/l	No	50.0
Metribuzin	02/23/2015	<0.02	µg/l	No	80.0
Monochlorobenzene	02/23/2015	<0.3	µg/l	No	80.0
Paraquat	02/23/2015	<1	µg/l	No	10.0
Parathion	02/23/2015	<0.02	µg/l	No	50.0
Pentachlorophenol	02/23/2015	<0.15	µg/l	No	60.0
Phorate	02/23/2015	<0.01	µg/l	No	2.0
Picloram	02/23/2015	<1	µg/l	No	190
Polychlorinated Biphenyls(PCB)	02/23/2015	<0.04	µg/l	No	3.0
Prometryne	02/23/2015	<0.03	µg/l	No	1.0
Simazine	02/23/2015	<0.01	µg/l	No	10.0

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

Temephos	02/23/2015	<0.01	µg/l	No	280
Terbufos	02/23/2015	<0.01	µg/l	No	1.0
Tetrachloroethylene	02/23/2015	<0.35	µg/l	No	30.0
2,3,4,6-Tetrachlorophenol	02/23/2015	<0.20	µg/l	No	100
Triallate	02/23/2015	<0.01	µg/l	No	230
Trichloroethylene	02/23/2015	<0.44	µg/l	No	5.0
2,4,6-Trichlorophenol	02/23/2015	<0.25	µg/l	No	5.0
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	02/23/2015	<0.22	µg/l	No	280
Trifluralin	02/23/2015	<0.02	µg/l	No	45.0
Vinyl Chloride	02/23/2015	<0.17	µg/l	No	2.0

Distribution

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance	Standard
THM (2015 annual average)	01/12/2015 04/14/2015 07/13/2015 10/13/2015	104.3	µg/l	Yes	100

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
Trihalomethanes	104.3	µg/l	01/12/2015 – 10/13/2015 (quarterly average for 4 samples taken over that time period. Please see attached sheet for individual values.)

(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)

TOTTENHAM 2015 ANNUAL REPORT
FLOW DATA (m³/day)

YEAR 2015	WELL #4		WELL #5		WELL #6A		WELL #7		All Wells	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
January	534.14	692.31	336.95	651.70	519.79	1009.31	685.86	1020.88	1410.22	1686.56
February	517.35	760.03	260.19	658.88	658.51	1068.59	597.46	854.19	1408.71	1780.50
March	525.94	757.03	431.40	636.27	793.70	1138.22	743.53	1103.69	1490.67	1833.85
April	529.04	956.69	440.77	727.91	657.37	1110.81	844.15	1518.13	1648.59	2419.63
May	338.71	809.75	595.83	831.81	728.05	1233.13	685.70	1014.94	1557.62	2042.88
June	399.81	746.72	647.74	849.22	650.95	874.09	547.12	730.25	1444.38	1760.10
July	663.13	957.16	643.85	982.09	695.76	1046.16	623.50	1013.31	1646.90	2028.25
August	692.12	1200.28	655.36	894.69	707.47	957.50	688.28	1275.38	1613.91	2475.66
September	774.11	1067.03	721.98	955.81	769.65	1023.75	811.45	1118.56	1750.01	2185.59
October	730.58	1138.00	687.41	1187.94	661.54	1369.94	721.42	1222.31	1698.95	2517.32
November	513.43	863.63	773.98	1082.81	728.09	988.69	676.08	1172.19	1671.26	2255.00
December	0.31	0.31	827.24	1118.31	717.84	1200.09	692.86	1007.25	1715.03	2318.40
Ave./Max	518.22	1200.28	585.22	1187.94	690.73	1369.94	693.12	1518.13	1588.02	2517.32
Maximum Flow as per PTTW	1632.960	1632.960	1632.960	1632.960	1728.000	1728.000	1668.924	1668.924	6000.000	6000.000
Percentage of Maximum	31.7%	73.5%	35.8%	72.7%	40.0%	79.3%	41.5%	91.0%	26.7%	44.6%

TOTTENHAM THM RESULTS

First Quarter

	THM Results (µg/l)
DATE:	NOLAN ROAD:
07-Apr-14	106.0
14-Jul-14	129.0
14-Oct-14	102.0
12-Jan-15	128.0
AVERAGE:	116.3

TOTTENHAM THM RESULTS

Second Quarter

	THM Results (µg/l)
DATE:	NOLAN ROAD:
14-Jul-14	129.0
14-Oct-14	102.0
12-Jan-15	128.0
14-Apr-15	76.0
AVERAGE:	108.8

TOTTENHAM THM RESULTS
 Third Quarter

	THM Results (µg/l)
DATE:	NOLAN ROAD:
14-Oct-14	102.0
12-Jan-15	128.0
14-Apr-15	76.0
13-Jul-15	98.0
AVERAGE:	101.0

TOTTENHAM THM RESULTS
 Fourth Quarter

	THM Results (µg/l)
DATE:	NOLAN ROAD:
12-Jan-15	128.0
14-Apr-15	76.0
13-Jul-15	98.0
13-Oct-15	115.0
AVERAGE:	104.3