

**Part III Form 2
Section 11. ANNUAL REPORT.**

Drinking-Water System Number:	220003421
Drinking-Water System Name:	Windsor Utilities Commission
Drinking-Water System Owner:	City of Windsor
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	Calendar Year 2006

<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 [X] No []</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;"> City of Windsor – City Hall 350 City Hall Square Windsor ON N9A 6S1 </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <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: <input style="width: 100px; height: 20px;" type="text"/></p> <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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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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
Town of LaSalle, Ontario	220004402
Town of Tecumseh, Ontario	260004969

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 [X] 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 Windsor Utilities Commission water treatment facilities employs screening, pre-chlorination (on an as needed basis), pH adjustment (utilizing CO₂), primary disinfection (utilizing ozone), coagulation, flocculation, sedimentation, dual-media filtration with post chlorination and fluoridation to treat raw water obtained from the Detroit River. The water treatment plant also treats sedimentation sludge and backwash water utilizing coagulation, flocculation and sedimentation followed by centrifugal dewatering with the cake being shipped to landfill for disposal.

Treated water from the plants is routed to an on-site reservoir and subsequently pumped into the distribution system from two pumping stations that are co-located nearby the water treatment facilities. Water from the pumping stations satisfies demand for the greater Windsor area including the communities of Tecumseh and LaSalle. A remote reservoir and pumping station provides re-chlorination facilities (using sodium hypochlorite) to provide system pressure and flow to the south-west portion of the city, while a centrally located water tower, provides pressure and flow control to the downtown core.

The drinking water system is monitored at various locations, both at the water treatment and pumping stations as well as throughout the transmission system, via a Supervisory Control and Data Acquisition (SCADA) system.

List all water treatment chemicals used over this reporting period

- Chlorine gas
- Carbon dioxide (CO₂)
- Ozone
- Aluminum sulphate (alum)
- Polyaluminum chloride (PaCL)
- Hydrofluosilicic acid
- Filter aid cationic polymer

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

Process Analyzers
Replaced equipment guarding for rotating equipment
Replaced and upgraded PLC processors
Installed second 1200 mm connection between plant and on-site reservoir
Installation of approximately 12 km of new water main (100mm to 600mm)
Installation of 35 new fire hydrants and associated appurtenances
New Electric Rotork Operators for OTP low lift pumps & backwash pumps
New 900 hp motor and pump along with electric check valve & pressure relief dump valve
Rewind of one of the three 150hp backwash pumps
Anthracite replenishing of filter #8 in Weeks' plant & all six filters in OTP
New altitude valve & check valve with vault at elevated tank
Replacement of monitoring equipment for ozone generator production
Three variable speed drives
Flygt pump rewind and repair
Flygt mixer replacement
200 hp backwash pump rewind and repair

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	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
Jan 02 06	None – service line break, AWQI 61827			Flush & sample	Jan 06 06
Jan 09 06	None – service line break to pond/ice-rink. AWQI 61945			Flush & sample	Jan 12 06
Feb 11 06	Turbidity spike AWQI 62480	2.2 & 1.2	NTU	Process adjustment in rate	Feb 11 06
Feb 14 06	None – service line break, AWQ 62507			Health Unit issued BWA; Repaired, Flushed & sampled	Feb 20 06
Feb 14 06	None – water main break, AWQI 62513			Health Unit issued BWA, flushed & sampled	Feb 20 06
Feb 16 06	None – broken pipe – AWQI 62543			Repaired, flushed & sampled	Feb 20 06
Feb 16 06	Free chlorine – AWQI 62546	0.00	mg/L	Flushed & re-sampled	Feb 16 06

Mar 27 06	None – water main break AWQI 63126			Health Unit issued BWA, Repaired, flushed & sampled	Mar 31 06
Apr 10 06	None – broken service pipe, AWQI 63333			Health Unit issued BWA, repaired & sampled	Apr 13 06
Apr 10 06	None – broken water main AWQI 63335			Health Unit issued BWA, repaired & sampled.	Apr 13 06
Apr 12 06	None – water main break AWQI 63375			Health Unit issued BWA, repaired & sampled	Apr 18 06
Apr 19 06	None – broken watermain AWQI 63486			Health Unit issued BWA, repaired, flushed & sampled	Apr 24 06
May 4 06	None – service line break AWQI 63795			Health Unit issued BWA, repaired, flushed & sampled	May 11 06
May 12 06	None – broken service pipe AWQI 63950			Repaired , flushed & tested	May 18 06
May 29 06	None – broken water line AWQI 64365			Health Unit issued BWA, repaired & sampled	Jun 2 06
Jun 2 06	None – broken watermain AWQI 64567			Health Unit issued BWA, repaired, flushed & sampled	Jun 7 06
Jul 28 06	None – broken watermain AWQI 66466			Health Unit issued BWA, repaired, flushed & sampled	Jul 31 06
Aug 4 06	Total Coliform – AWQI 66760	1	/100 ml	Flushed & re-sampled	Aug 09 06
Aug 17 06	None – service line break AWQI 67085			Health Unit issued BWA, repaired, flushed & sampled	Aug 24 06
Aug 18 06	None – broken water main AWQI 67129			Health Unit issued BWA, repaired & re-sampled	Aug 22 06
Aug 24 06	Free Chlorine – AWQI 67259	0.0	mg/L	Flushed & re-sampled	Aug 24 06
Aug 30 06	Total Coliform – AWQI 67410	1	/100 ml	Re-sampled	Sep 05 06
Aug 30 06	Total Coliform – AWQI 67411	1	/100 ml	Re-sampled	Sep 05 06
Sep 01 06	Free chlorine – AWQI 67531	0.0	mg/L	Flushed & re-sampled	Sep 05 06
Oct 04 06	Total coliform – AWQI 68255	>200	/100 ml	Increased chlorine by 0.15 ppm (free) & CT credit by 0.1	Oct 10 06
Nov 29 06	Total coliform – AWQI 69196	TC = 70 EC=18	/100 ml	Increased chlorine & ozone, re-sampled	Dec 04 06
Dec 09 06	Turbidity – AWQI 69372	>1.0	Ntu	Initial analysis inconclusive, after review filter #1 did not exceed 1.0 ntu.	Dec 12 06
Dec 12 06	None – broken service pipe AWQI 69414			Health Unit issued BWA, system flushed & sampled	Dec 15 06

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	755	<2 - >400	<10 - >20,000	--	--
Treated	2602	0 - 18	0 - 70	432	<1
Distribution	2261	0 - 0	0 - >200	1505	0 - 4

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	0.0 - 2.9
Chlorine	8760	0.06 - 3.58
Fluoride (If the DWS provides fluoridation)	8760	0.29 - 0.84

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
5129-64CP7J	Bromates – Treated	Jan – Dec	<1 – 8.6	ppb
5129-64CP7J	Bromates – Distribution	Jan – Dec	<1 – 8.2	ppb
5129-64CP7J	Suspended Solids (Composite)	Jan – Dec	<1 – 18.0	mg/L

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	08 Nov 06	<.001	mg/L	
Arsenic	08 Nov 06	<.001	mg/L	
Barium	08 Nov 06	0.016	mg/L	
Boron	08 Nov 06	0.011	mg/L	
Cadmium	08 Nov 06	<0.0001	mg/L	
Chromium	08 Nov 06	0.00170	mg/L	
Lead (distribution)	08 Nov 06	0.00023	mg/L	
Mercury	08 Nov 06	<0.0001	mg/L	
Selenium	08 Nov 06	<0.005	mg/L	

Sodium	10 Feb 06	12.1	mg/L	
Uranium	08 Nov 06	<0.005	mg/L	
Fluoride	December Average	0.61	mg/L	
Nitrite (as nitrogen)	10 Nov 06	<0.003	mg/L	
Nitrate (as nitrogen)	10 Nov 06	1.885	mg/L	

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	08 Nov 06	<0.0001	mg/L	
Aldicarb	08 Nov 06	<0.009	mg/L	
Aldrin + Dieldrin	08 Nov 06	<0.00004	mg/L	
Atrazine + N-dealkylated metabolites	08 Nov 06	<0.0002	mg/L	
Azinphos-methyl	08 Nov 06	<0.0001	mg/L	
Bendiocarb	08 Nov 06	<0.0002	mg/L	
Benzene	08 Nov 06	<0.0005	mg/L	
Benzo(a)pyrene	08 Nov 06	<0.00001	mg/L	
Bromoxynil	08 Nov 06	<0.0002	mg/L	
Carbaryl	08 Nov 06	<0.0002	mg/L	
Carbofuran	08 Nov 06	<0.0002	mg/L	
Carbon Tetrachloride	08 Nov 06	<0.0005	mg/L	
Chlordane (Total)	08 Nov 06	<0.0003	mg/L	
Chlorpyrifos	08 Nov 06	<0.0001	mg/L	
Cyanazine	08 Nov 06	<0.0001	mg/L	
Diazinon	08 Nov 06	<0.0001	mg/L	
Dicamba	08 Nov 06	<0.0002	mg/L	
1,2-Dichlorobenzene	08 Nov 06	<0.0005	mg/L	
1,4-Dichlorobenzene	08 Nov 06	<0.0005	mg/L	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	08 Nov 06	<0.0004	mg/L	
1,2-Dichloroethane	08 Nov 06	<0.0005	mg/L	
1,1-Dichloroethylene (vinylidene chloride)	08 Nov 06	<0.0005	mg/L	
Dichloromethane	08 Nov 06	<0.0005	mg/L	
2-4 Dichlorophenol	08 Nov 06	<0.0005	mg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	08 Nov 06	<0.0002	mg/L	
Diclofop-methyl	08 Nov 06	<0.0002	mg/L	
Dimethoate	08 Nov 06	<0.0001	mg/L	
Dinoseb	08 Nov 06	<0.0002	mg/L	
Diquat	08 Nov 06	<0.007	mg/L	
Diuron	08 Nov 06	<0.010	mg/L	
Glyphosate	08 Nov 06	<0.010	mg/L	
Heptachlor + Heptachlor Epoxide	08 Nov 06	<0.0002	mg/L	

Lindane (Total)	08 Nov 06	<0.0001	mg/L	
Malathion	08 Nov 06	<0.0001	mg/L	
Methoxychlor	08 Nov 06	<0.0001	mg/L	
Metolachlor	08 Nov 06	<0.0001	mg/L	
Metribuzin	08 Nov 06	<0.0001	mg/L	
Monochlorobenzene	08 Nov 06	<0.0005	mg/L	
Paraquat	08 Nov 06	<0.001	mg/L	
Parathion	08 Nov 06	<0.0001	mg/L	
Pentachlorophenol	08 Nov 06	<0.0005	mg/L	
Phorate	08 Nov 06	<0.0001	mg/L	
Picloram	08 Nov 06	<0.0002	mg/L	
Polychlorinated Biphenyls(PCB)	08 Nov 06	<0.00006	mg/L	
Prometryne	08 Nov 06	<0.0001	mg/L	
Simazine	08 Nov 06	<0.0001	mg/L	
THM (NOTE: show latest annual average)				
Q1 06	0.020			
Q2 06	0.026			
Q3 06	0.029			
Q4 06	0.032			
Temephos	08 Nov 06	<0.0001	mg/L	
Terbufos	08 Nov 06	<0.0002	mg/L	
Tetrachloroethylene	08 Nov 06	<0.0005	mg/L	
2,3,4,6-Tetrachlorophenol	08 Nov 06	<0.0005	mg/L	
Triallate	08 Nov 06	<0.0001	mg/L	
Trichloroethylene	08 Nov 06	<0.0005	mg/L	
2,4,6-Trichlorophenol	08 Nov 06	<0.0005	mg/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	08 Nov 06	<0.0002	mg/L	
Trifluralin	08 Nov 06	<0.0001	mg/L	
Vinyl Chloride	08 Nov 06	<0.0005	mg/L	

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
Benzo(a)pyrene	<0.00001	mg/L	Feb 10 2006
Benzo(a)pyrene	<0.00001	mg/L	Jun 21 2006
Benzo(a)pyrene	<0.00001	mg/L	Aug 16 2006
Benzo(a)pyrene	<0.00001	mg/L	Nov 08 2006
Aldicarb	<0.009	mg/L	Feb 10 2006
Aldicarb	<0.009	mg/L	Jun 21 2006
Aldicarb	<0.009	mg/L	Aug 16 2006
Aldicarb	<0.009	mg/L	Nov 08 2006

Bromate (Treated)	5.3	ppb	Jan 27 2006
Bromate (Treated)	5.3	ppb	Jan 27 2006
Bromate (Treated)	3.1	ppb	Oct 24 2006
Bromate (Treated)	8.6	ppb	Nov 24 2006
Bromate (Treated)	5.7	ppb	Dec 04 2006
Bromate (Distribution)	5.4	ppb	Jan 27 2006
Bromate (Distribution)	5.2	ppb	Jan 27 2006
Bromate (Distribution)	7.0	ppb	Jan 27 2006
Bromate (Distribution)	5.7	ppb	Feb 10 2006
Bromate (Distribution)	6.0	ppb	Feb 10 2006
Bromate (Distribution)	6.3	ppb	Nov 24 2006
Bromate (Distribution)	8.2	ppb	Nov 24 2006

(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.)