



<b>Drinking-Water System Number:</b>	<b>220010654</b>
<b>Drinking-Water System Name:</b>	Sandcastle Estates Water Treatment and Distribution
<b>Drinking-Water System Owner:</b>	The Corporation of the Township of Severn
<b>Drinking-Water System Category:</b>	Small Municipal Residential
<b>Period being reported:</b>	January 1, 2011 to December 31, 2011

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ X ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>Township of Severn Administrative Office 1024 Hurlwood Lane Orillia, Ontario L3V 6J3</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b>  <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px 0;"></div> </p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b> <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px 0;"></div></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></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:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>

**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**

Water for the Sandcastle Estates water treatment plant is pumped from Lake Couchiching to a package water treatment plant located on Sandcastle Court. Sodium Hypochlorite and SternPAC are added prior to direct filtration. Filtration is provided by two trains of pressure type depth filters and clarifiers. Filtered water is disinfected with ultraviolet light and then chlorinated before being sent to a 50 cubic meter concrete underground reservoir for storage. Backwash water from the clarifiers and filters is stored in a 45 cubic meter settling tank. Solids are settled out and then the supernatant is discharged to Lake Couchiching. The distribution system was constructed in the 1970's. The Sandcastle Estates water system serves the approx. 170 residents of the 65 home subdivision.

**List all water treatment chemicals used over this reporting period**

Sodium Hypochlorite  
SternPAC

**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**

UV#1 main board replaced - \$1200  
Standby Generator repairs - \$1500  
Standby Generator battery replacement - \$350  
Floor repaired - \$1800  
Low reservoir float installed - \$500  
SM2000 replaced - \$6500  
Filter Train #1 Turbidity Analyzer Repairs - \$1500

**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

**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	52	0 – 18	0 - >80	0	
Treated	52	0	0	0	
Distribution	52	0	0	52	<10 - 320

**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 – Train 1	8760	0.00 – 5.10 NTU
Turbidity – Train 2	8760	0.00 – 5.10 NTU
Turbidity	8760	0.00 – 5.10 NTU
Chlorine	8760	0.00 – 5.00 mg/L
Chlorine Free Residual Distribution System	112	0.46 – >4.40mg/L
Fluoride (If the DWS provides fluoridation)		

*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
July 29, 2011	TSS	Annual Avg.	22.5	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	Oct. 25, 2010	0.25	µg/L	No
Arsenic	Oct. 25, 2010	0.6	µg/L	No
Barium	Oct. 25, 2010	27.3	µg/L	No
Boron	Oct. 25, 2010	18	µg/L	No
Cadmium	Oct. 25, 2010	<0.003	µg/L	No

<b>Chromium</b>	Oct. 25, 2010	<0.5	µg/L	No
<b>*Lead</b>	N/A			
<b>Mercury</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Selenium</b>	Oct. 25, 2010	<1	µg/L	No
<b>Sodium</b>	Nov. 14, 2011	26.8	mg/L	Yes
<b>Uranium</b>	Oct. 25, 2010	0.206	µg/L	No
<b>Fluoride</b>	Nov. 4, 2008	0.06	mg/L	No
<b>Nitrite</b>	Jan. 31, 2011 Apr. 26, 2011 Jul. 24, 2011 Oct. 24, 2011	<0.005 <0.005 <0.005 <0.005	mg/L	No
<b>Nitrate</b>	Jan. 31, 2011 Apr. 26, 2011 Jul. 25, 2011 Nov. 2, 2011	0.042 0.027 0.014 0.024	mg/L	No

\*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

### 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)

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Lead Results (min#) – (max #)</b>	<b>Number of Exceedances</b>
<b>Plumbing</b>	<b>10</b>	<b>0.12 – 0.77 ug/L</b>	<b>0</b>
<b>Distribution</b>	<b>2</b>	<b>0.21 – 0.32 ug/L</b>	<b>0</b>

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

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
<b>Alachlor</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Aldicarb</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Aldrin + Dieldrin</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Atrazine + N-dealkylated metabolites</b>	Oct. 25, 2010	0.03	µg/L	No
<b>Azinphos-methyl</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Bendiocarb</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Benzene</b>	Oct. 25, 2010	<0.32	µg/L	No
<b>Benzo(a)pyrene</b>	Oct. 25, 2010	<0.004	µg/L	No
<b>Bromoxynil</b>	Oct. 25, 2010	<0.33	µg/L	No
<b>Carbaryl</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Carbofuran</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Carbon Tetrachloride</b>	Oct. 25, 2010	<0.16	µg/L	No



<b>Chlordane (Total)</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Chlorpyrifos</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Cyanazine</b>	Oct. 25, 2010	<0.03	µg/L	No
<b>Diazinon</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Dicamba</b>	Oct. 25, 2010	<0.20	µg/L	No
<b>1,2-Dichlorobenzene</b>	Oct. 25, 2010	<0.41	µg/L	No
<b>1,4-Dichlorobenzene</b>	Oct. 25, 2010	<0.36	µg/L	No
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>1,2-Dichloroethane</b>	Oct. 25, 2010	<0.35	µg/L	No
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	Oct. 25, 2010	<0.33	µg/L	No
<b>Dichloromethane</b>	Oct. 25, 2010	1.8	µg/L	No
<b>2-4 Dichlorophenol</b>	Oct. 25, 2010	<0.15	µg/L	No
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	Oct. 25, 2010	<0.19	µg/L	No
<b>Diclofop-methyl</b>	Oct. 25, 2010	<0.40	µg/L	No
<b>Dimethoate</b>	Oct. 25, 2010	<0.03	µg/L	No
<b>Dinoseb</b>	Oct. 25, 2010	<0.36	µg/L	No
<b>Diquat</b>	Oct. 25, 2010	<1	µg/L	No
<b>Diuron</b>	Oct. 25, 2010	<0.03	µg/L	No
<b>Glyphosate</b>	Oct. 25, 2010	<6	µg/L	No
<b>Heptachlor + Heptachlor Epoxide</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Lindane (Total)</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Malathion</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Methoxychlor</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Metolachlor</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Metribuzin</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Monochlorobenzene</b>	Oct. 25, 2010	<0.30	µg/L	No
<b>Paraquat</b>	Oct. 25, 2010	<1	µg/L	No
<b>Parathion</b>	Oct. 25, 2010	<0.02	µg/L	No
<b>Pentachlorophenol</b>	Oct. 25, 2010	<0.15	µg/L	No
<b>Phorate</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Picloram</b>	Oct. 25, 2010	<0.25	µg/L	No
<b>Polychlorinated Biphenyls(PCB)</b>	Oct. 25, 2010	<0.04	µg/L	No
<b>Prometryne</b>	Oct. 25, 2010	<0.03	µg/L	No
<b>Simazine</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>THM</b> (NOTE: show latest annual average)		71.75	µg/L	No
<b>Temephos</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Terbufos</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Tetrachloroethylene</b>	Oct. 25, 2010	<0.35	µg/L	No
<b>2,3,4,6-Tetrachlorophenol</b>	Oct. 25, 2010	<0.14	µg/L	No
<b>Triallate</b>	Oct. 25, 2010	<0.01	µg/L	No
<b>Trichloroethylene</b>	Oct. 25, 2010	<0.43	µg/L	No
<b>2,4,6-Trichlorophenol</b>	Oct. 25, 2010	0.34	µg/L	No



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

2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Oct. 25, 2010	<0.22	µg/L	No
Trifluralin	Oct. 25, 2010	<0.02	µg/L	No
Vinyl Chloride	Oct. 25, 2010	<0.17	µg/L	No

**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
Sodium	26.8	mg/L	Nov. 14, 2011
THM's	71.75	µg/L	2011 Average