



LUCAN BIDDULPH WATER DISTRIBUTION SYSTEM

2022 SUMMARY REPORT

Drinking-Water System Number:	260003071
Drinking-Water System Name:	Lucan Biddulph Water Distribution
Drinking-Water System Owner:	The Corporation of the Township of Lucan Biddulph
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	1 January 2022 to 31 December 2022
Classification of System	Class 2 Water Distribution Subsystem

Preamble

As a requirement of Ontario Regulation (O.Reg.) 170/03, a regulation made under the Safe Water Drinking Act, every owner of a drinking water system must prepare a summary report for every water system operated by the owner. Where a water system is owned by a municipality the report must be presented to the Municipal Council. All summary reports must be prepared by March 31 in the year following the year which the report covers.

In addition to the above report, an Annual report must be prepared and be available for viewing by February 28 of the year following the year which the report covers. A copy of this report is presented at the end of this Summary Report for Council's review.

System Description

Water to the Lucan booster station is supplied by the Lake Huron Water Supply System (LHWSS). The Lucan booster station transmits the water to a 2270 m³ (500,000 gal) elevated storage tank where it provides water to approximately 1400 units @ approximately 68psi. The distribution system extends 8km to the Granton re-chlorination Facility in the Village of Granton, where it is re-chlorinated and stored in a 415 m³ (110,000 gal) reservoir for distribution to approximately 130 units.

The Lucan Booster station includes three (3) booster pumps, chlorine analysis equipment, emergency stand-by power (generator) and a full computer controlled supervisory control and data acquisition system (SCADA).

The system operation is such that the pipeline water delivered from the LHWSS is pumped via the booster pumps to the elevated water tower where gravity returns it to the distribution system. The water from the LHWSS is continually monitored for chlorine levels and should the levels drop below a preset low level, an alarm is sounded and an operator is alerted.

The Granton re-chlorination facility receives water from Lucan. If needed (based on incoming chlorine levels), the water is re-chlorinated and pumped from the reservoir to the distribution system in Granton. To ensure proper chlorine levels, the facility includes chlorine analyzing equipment and chlorine injection pumps. The chlorine injection system utilizes a Sodium Hypochlorite (NaOCl) at a 12% concentration level.

Modification\Maintenance to the Water System

Lucan/Granton Booster Stations

During the 2022 year, the Township of Lucan Biddulph did not undertake any major modifications to its booster stations.

Lucan/Granton Distribution Systems

In 2022, the Township of Lucan Biddulph experienced zero water main breaks. There was however, one service leak. There was a service leak at 5846 William St, west of Lucan. The service line was copper pipe.

Installation of New Watermain

During 2022, the Township of Lucan Biddulph installed five new sections of watermain to its distribution system.

Olde Clover – Phase 4B (Lucan): There was an extension of an existing 200 mm PVC pipe to service 55 residential lots on Watts Dr and Stuart Ave.

Ausable Fields (Lucan): New 150 mm PVC watermain installed and connected on existing 150 mm watermain on Elizabeth St and existing 350 mm PVC watermain on Queen St.

Soccer Fields (Lucan): New 200 & 150 mm PVC watermain extended from Campanale Way to service future soccer field complex (approximately 100 meters).

Fallon Dr Reconstruction (Lucan): Replace existing 50 mm watermain West of Saintsbury Line with 200 mm PVC watermain (approximately 240 meters).

Alice St Reconstruction (Lucan): Replace existing 150 mm with new 150 mm PVC from Main St to Saintsbury Line (approximately 400 meters).

Results of Mandatory Testing

In 2022, there were 2 lead samples taken from the distribution system.

Both lead samples from the distribution system (collected at fire hydrants) were below the regulatory limit. The MOE and the Medical Officer of Health for Middlesex County (MOH) were informed of the test results as required.

Compliance

During this period, the facility was operated in full compliance with the Act, the Regulations and the facility's approval except for the following instances:

Requirement	Duration of Failure	Measures to Correct the Failure
N/A		

Jacobs received a 100% Inspection Rating from the Ministry of Conservation & Parks (MECP) during the 2022 Inspection review period.

Flows

The existing pumps at the Lucan Booster Station have a capacity of 3600m³/day. The system is currently operating well within its limits and no capacity expansion should be required for the foreseeable future.

The average monthly flow per day for 2022 was 855 m³ while the total combined annual flow was 312 486 m³

The following is a summary of the monthly flows recorded for the Lucan Biddulph Water Distribution System in m³ for 2022.

	2022	
Month	Daily Avg. (m³)	Total (m³)
Jan	767	23 789
Feb	728	20 386
Mar	745	23 098
Apr	767	23 014
May	953	29 552
Jun	1184	35 532
Jul	1190	36 903
Aug	888	27 530
Sep	851	25 538
Oct	728	22 563
Nov	716	21 490
Dec	745	23 091
Average	855 m³	
Total Flow		312 486 m³
2021 Flow's	858 m³	313 649 m³

Recommendation

That the Township of Lucan Biddulph accepts the Lucan Biddulph Distribution System Summary and Annual Reports 2022 and that the report will be made available on the Township website.

All of which is respectfully submitted by:



Lucas Egli

Jacobs (OMI Canada Inc.)

Project Manager/Overall Responsible Operator (ORO)
Township of Lucan-Biddulph
519 955 2746



2022 ANNUAL REPORT: Township of Lucan Biddulph

Drinking-Water System Number:	260003071
Drinking-Water System Name:	Lucan Biddulph Water Distribution
Drinking-Water System Owner:	The Corporation of the Township of Lucan Biddulph
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2022 to December 31 2022

<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;"> <p>www.lucanbiddulph.on.ca and</p> <p>Lucan Biddulph Township Office 270 Main Street Lucan, ON</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px;" type="text" value="3"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [x] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px;" type="text" value="0"/></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>
--	---

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
Lucan Biddulph Water Distribution	260003071

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 Water System is supplied by the Lake Huron Regional Water Supply System to the Lucan Booster station. The Lucan station consists of three highlift pumps, a supervisory control and data acquisition (SCADA) system and a back up generator. The highlift pumps pump the water to a 500,000 gallon elevated tank (Lucan Water Tower) where it is distributed to approximately 1400 customers at 68 psi. The system also supplies the Village of Granton via 8 km of transmission main. The Granton Booster Station consists of four highlift pumps that provide the system with pressure, a re-chlorination system and is equipped with SCADA system and back up generator.

List all water treatment chemicals used over this reporting period

12% Sodium hypochlorite (NaOCl)

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

The following projects were undertaken this year:

During the 2022 year, the Township of Lucan Biddulph did not undertake any major modifications to its system with the exception of five new sections of watermain.



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
N/A					

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	N/A				
Treated	N/A				
Distribution	308	0-0,	0-0,	102	<10 to 40

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	N/A	
Chlorine	8760	0.22 -1.58
Fluoride (If the DWS provides fluoridation)	N/A	

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
N/A				

Summary of Inorganic parameters tested during this reporting period or the most recent sample results (Inorganic parameters are sampled by Lake Huron Supply).

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony		N/A		
Arsenic		N/A		
Barium		N/A		
Boron		N/A		

Cadmium		N/A		
Chromium		N/A		
Haloacetic Acids	Quarterly	18.6	Ug/L	No
*Lead		N/A		
Mercury		N/A		
Selenium		N/A		
Sodium		N/A		
Uranium		N/A		
Fluoride		N/A		
Nitrite		N/A		
Nitrate		N/A		

*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)

Location Type	Date	Number of Samples	Range of Lead Results (min#) – (max #)	Exceedance?
Distribution	Apr 4, 2022	1	3.26 ug/l	No
Distribution	Oct 12, 2022	1	0.35 ug/l	No

Note: Maximum Acceptable Concentration=10.0 ug/L.

Summary of Organic parameters sampled during this reporting period or the most recent sample results. (Organic parameters are sampled by Lake Huron Supply).

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor		N/A		
Aldicarb		N/A		
Aldrin + Dieldrin		N/A		
Atrazine + N-dealkylated metabolites		N/A		
Azinphos-methyl		N/A		
Bendiocarb		N/A		
Benzene		N/A		
Benzo(a)pyrene		N/A		
Bromoxynil		N/A		
Carbaryl		N/A		
Carbofuran		N/A		
Carbon Tetrachloride		N/A		
Chlordane (Total)		N/A		



Chlorpyrifos		N/A		
Cyanazine		N/A		
Diazinon		N/A		
Dicamba		N/A		
1,2-Dichlorobenzene		N/A		
1,4-Dichlorobenzene		N/A		
Dichlorodiphenyltrichloroethane (DDT) + metabolites		N/A		
1,2-Dichloroethane		N/A		
1,1-Dichloroethylene (vinylidene chloride)		N/A		
Dichloromethane		N/A		
2,4 Dichlorophenol		N/A		
2,4-Dichlorophenoxy acetic acid (2,4-D)		N/A		
Diclofop-methyl		N/A		
Dimethoate		N/A		
Dinoseb		N/A		
Diquat		N/A		
Diuron		N/A		
Glyphosate		N/A		
Heptachlor + Heptachlor Epoxide		N/A		
Lindane (Total)		N/A		
Malathion		N/A		
Methoxychlor		N/A		
Metolachlor		N/A		
Metribuzin		N/A		
Monochlorobenzene		N/A		
Paraquat		N/A		
Parathion		N/A		
Pentachlorophenol		N/A		
Phorate		N/A		
Picloram		N/A		
Polychlorinated Biphenyls(PCB)		N/A		
Prometryne		N/A		
Simazine		N/A		
THM (NOTE: show latest annual average)	Quarterly	35.8	ug/l	No
Temephos		N/A		
Terbufos		N/A		
Tetrachloroethylene		N/A		
2,3,4,6-Tetrachlorophenol		N/A		
Triallate		N/A		
Trichloroethylene		N/A		
2,4,6-Trichlorophenol		N/A		



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

2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)		N/A		
Trifluralin		N/A		
Vinyl Chloride		N/A		

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
N/A			