



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

## **2020 Client Monthly Operations Report**

**Lambton Area Water Supply System**

**July 31, 2020**

## Facility Description

Facility Name: Lambton Area Water Supply System  
Facility Type: Municipal  
Classification: Class 4 Water Treatment  
Class 4 Water Distribution  
Title Holder: Municipality  
Operation Status: OCWA  
Sr. Operations Manager: Mark Harris (519) 344-7429 Ext. 251  
Business Development Manager: Susan Budden  
Capacity (m3/d): 181844  
Service Area: City of Sarnia, Village of Point Edward, Township of St. Clair, Township of Warwick-Watford, Municipality of Lambton Shores, Town of Plympton-Wyoming  
Service Population: 104,162  
In service Date: 1975

## Operational Description

The Lambton WTP is a direct filtration surface water facility consisting of chemically assisted filtration with disinfection. The facility consists of an intake system (and alternate intake), a low lift pump station, a treatment system and distribution pumping system situated in the City of Sarnia. Water is drawn into the plant (a zebra mussel system is available as needed) and screened at the surge wells (pre-disinfection is utilized). Water flows to the pump wells where a total of 4 vertical turbine pumps are located and used as needed which pump to a discharge header. Coagulant is added, flashed mixed (PAC is also applied at this location when needed) the raw water is then flocculated (Polymer is added at the flocculation trains as needed) and diverted to filtration (10 dual media filters). The gravity fed filter effluents combine into two clear wells where sodium hypochlorite is injected. To maximize the contact time the water is diverted to the two baffled reservoirs (in series). Six vertical turbine pumps are available for supplying the distribution demand as needed. The entire water treatment system is continuously monitored (via SCADA) with continuous on-line analyzers equipped throughout the processes. The utility serves a large part of Lambton County and has over 250 kilometers of pipeline of various sizes and materials. There is also the East Lambton Booster Station with 9,000 cubic meters of storage capacity which is remotely monitored and controlled from the Lambton WTP via SCADA. During the 1997 calendar year the West Lambton Pumping Station, with the largest above ground water storage in the province with a capacity of 90,000m<sup>3</sup>, was brought on-line. This pumping station is also remotely monitored and controlled from Lambton WTP via SCADA. The LAWSS distribution system has 5 towers/elevated tanks that the utility monitors via SCADA. In 2007 the Residual Management System (RMS) which treats backwash effluent was brought on-line.

## Treatment Process

Pre-treatment Chemicals:	Prechlorination (sodium hypochlorite); Zebra mussel control
Coagulation/Flocculation:	Aluminum Sulphate (Clar+Ion A7)
Filtration:	Dual Media; Filter Aid polymer
Disinfection Method:	Sodium hypochlorite
Post Treatment Chemical Addition:	Fluoride
Waste Residue Management:	Filter backwash effluent is treated by an Actiflo system.
Waste effluent/residue Disposal:	Sludge is hauled to Sarnia WPCP on a needed basis.

## Inspections

**July: ESA inspection at LAWSS and East Lambton Pumping Station on July 10<sup>th</sup>.**

## Maintenance, Operations & Distribution Works Summary 2020

### Maintenance

#### July:

Date	(P)reventative Capital Major Mtc (C)orrective	Description
July 2	<b>P</b>	Completed annual inspection of highlift #2 discharge valve.
July 2	<b>P</b>	Completed monthly inspection of eyewash stations and safety showers.
July 2	<b>Capital</b>	Reviewed radio project communications.
July 2	<b>P</b>	Completed monthly calibration checks on all online chlorine analyzers at the water treatment plant.
July 3	<b>P</b>	Conducted monthly calibration checks on East and West Lambton Pumping Station chlorine analyzers.
July 6	<b>Capital</b>	Prep for radio project cut over.
July 7	<b>C</b>	Replaced belts on air handling unit #1 in the high lift pump room.
July 7	<b>Capital</b>	Working with Experteers to install modems for radio project.
July 7	<b>P</b>	Completed monthly inspection of water treatment plant compressors.
July 7	<b>C</b>	Installed foam seal around sand hopper to prevent dust.
July 8-9	<b>P</b>	Five year inspection on freight elevator.
July 9	<b>Capital</b>	Testing communications at Watford and Forest standpipes and East Lambton Pumping Station as part of radio project.
July 9	<b>C</b>	Rotork in to inspect surface wash valve on Filter #5.

July 10	<b>P</b>	Tested generator at East Lambton Pumping Station.
July 10	<b>Capital</b>	Installed cell booster at water treatment plant as part of radio project.
July 10	<b>C</b>	Completed repairs required for the Watford site security audit report.
July 13	<b>C</b>	Repaired fire alarm panel in generator room.
July 13	<b>C</b>	Repaired leaking chlorine injector at East Lambton Pumping Station.
July 13	<b>Capital</b>	Working with WSP at water treatment plant as part of the radio project.
July 13	<b>C</b>	Completing repairs at East Lambton Pumping Station and the water treatment as required by the ESA inspection.
July 14	<b>P</b>	Annual vibration analysis conducted by J.A. Tech.
July 14	<b>P</b>	Completed monthly inspection of vacuum priming system at East Lambton Pumping Station.
July 14	<b>Capital</b>	Working on cut over at Wyoming and Port Lambton standpipes as part of the radio project.
July 14	<b>P</b>	PW Makar onsite at Port Lambton Standpipe to conduct annual site security audit.
July 15	<b>Capital</b>	Completed radio/SCADA switchover at East Lambton Pumping Station as part of the Radio Project.
July 15	<b>P</b>	Completed monthly test of generator at East Lambton Pumping Station.
July 15	<b>P</b>	Completed monthly test of alarm system at East Lambton Pumping Station.
July 16	<b>Capital</b>	Completed radio/SCADA switchover at West Lambton Pumping Station as part of the Radio Project.
July 16	<b>P</b>	Completed test of generators at West Lambton Pumping Station.
July 17	<b>Capital</b>	Working on HMI cut over for radio project.
July 17	<b>Capital</b>	Working on Forest and Watford standpipes cutover.
July 21	<b>P</b>	Conducted monthly chlorine residual test of Residual Management System.
July 21	<b>P</b>	Conducted monthly test of diesel generators at the water treatment plant.
July 21	<b>C</b>	Replaced leaking fitting on cooling piping on generator 2 at the water treatment plant.
July 21	<b>P</b>	Pumped out diesel and fluoride containments at the water treatment.
July 22	<b>P</b>	Conducted monthly test of water treatment plant polymer system.
July 22	<b>P</b>	Tested man down system at the water treatment plant.
July 22	<b>C</b>	Replaced UPS on man down system at the water treatment plant.
July 22	<b>C</b>	Removed and lubricated fan for polymer dosing pump #3.
July 22	<b>P</b>	Conducted monthly inspection of travelling screens.
July 22	<b>P</b>	Completed monthly inspection of elevator.

July 23	<b>C</b>	Installed second keyed entry into West Lambton Pumping Station.
July 23-24	<b>P</b>	Completed monthly inspection of all floc gear drives.
July 28	<b>C</b>	Due to multiple pump failures, the PRV on all chlorine discharge valves were cleaned.
July 28	<b>C</b>	Replaced new check valve on Sombra pit sump pump.
July 28-31	<b>Capital</b>	Working on correcting communications fault at Forest radio system.
July 30	<b>P</b>	Completed monthly verification of handheld chlorine analyzers.
July 31	<b>P</b>	Confirmed calibration of Stations 1, 2, 5 and 7 pH analyzers.
July 31	<b>Capital</b>	At East Lambton Pumping Station with WSP to work on radio project.

## Operations and Compliance

### July:

July 2	Switched from Actiflo 1 to Actiflo 2 in the Residual Management System.
July 6	Customer complaint at 3551 London Line. The issue was with 'foamy' water. Jodi responded to the complaint and there have been no further issues and the issue seemed to be a one-time occurrence. Homeowner was asked to contact the water plant should it occur again.
July 6	Air handling unit #1 in the highlift pump room belts have failed.
July 6	South clearwell chlorine pump failed. Pump and panel was reset.
July 7	Monthly TSS sample was taken from the Residual Management System effluent.
July 7	Filter #5 surface wash valve failed to reach stop limit. Valve was manually closed.
July 9	Pre chlorine pump #3 failed. Pump and panel were reset.
July 9	South clearwell chlorine pump failed. Pump and panel was reset.
July 13	Filter #3 surface wash valve failed to close. Valve was closed manually.
July 13	South clearwell chlorine pump failed. Pump and panel was reset.
July 16	Filter #5 surface wash valve failed to open. Valve was opened manually.
July 16	Filter #3 surface wash valve failed to close. Valve was closed manually.
July 17	Updated SCADA/PLC failure contingency.
July 17	South clearwell pump #2 failed with P+. Pump and panel was reset.
July 19	Power failure at West Lambton Pumping Station. Pumps had to be restarted but no issues.
July 20	Updated Form 2 for the radio project as the project has been installed.
July 21	Filter #3 surface wash valve failed to close. Valve was closed manually.
July 22	Man down alarm not working.
July 22	South clearwell pump #2 failed with P+. Pump and panel was reset.
July 23	Filter #5 surface wash valve failed to close. Valve was closed manually.
July 24	Filter #3 surface wash valve failed to close. Valve was closed manually.
July 26	South clearwell pumps 1 and 2 failed with airlock. Pumps and panel were reset.

July 26	Filter #5 surface wash valve failed to close. Valve was closed manually.
July 26	Filter #9 surface wash valve failed to close. Valve was closed manually.
July 27	Sent out annual essential services letter to all essential service providers.
July 28	South clearwell pumps 1 and 2 failed with airlock. Pumps and panel were reset.
July 29	Non-compliance caused by the flow valve for Filter #2 turbidity meter being turned to off after calibration and the filter being returned to service. Client, OCWA management and the MECP were notified. Letter to MECP was sent out July 30 <sup>th</sup> .
July 29	Provided LAWSS GM with highlift flows for COVID study.
July 30	Filter #2 inlet valve failed to open.
July 30	Filter #3 backwash valve failed to close.

## Distribution

### July:

July 2	Flushing hydrants on Murphy Rd in the City of Sarnia.
July 2	Onsite for meter pit decommissioning at Confederation Line and Wanstead Rd.
July 6	Onsite for third party work at 3638 St Clair Parkway for directional drill near LAWSS watermain.
July 9	Emergency locate #2020218095 in Camlachie.
July 9	Notified of service lateral leak at 259 Moore Line.
July 10	Leak of lateral at 259 Moore Line repaired.
July 14	Onsite for third party work with Bluewater Power at Murphy and Exmouth.
July 16	Onsite for third party work at Country Corners (3962 Lakeshore) for directional bore over LAWSS watermain with Pickard Construction.
July 21	Hydrant flushing in City of Sarnia and St Clair Township on White and Wilkesport Line.
July 22	Onsite for third party work with Bluewater Power at Murphy and Exmouth.
July 27	Onsite for third party work with Lambton County Roads at Lakeshore and Douglass.
July 28	Hydrant flushing on London Line in the City of Sarnia.
July 28	Chamber checks and valve operations in on Hill St and Rokeby Line in St Clair Township.
July 28	Changed out check valve in chamber on Bentpath and St Clair Parkway.
July 30	Onsite for third party work at Highway 40 and Holt Line work for daylighting of LAWSS watermain for the MTO.
July 31	Conducted monthly meter reads.

## Call Outs 2020

**July:** No call outs for July

## One Call Utility Locates

These numbers represent the number of locate notifications that were cleared from LAWSS assets

Number of Locates/Month

YEAR	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2019	69	62	104	164	189	149	182	153	121	148	81	50
2020	57	54	107	131	165	162	155					

## RMS Sludge Haulage

These numbers represent total monthly amounts of sludge produced by the Residual Management System and hauled to Sarnia WPCP

Amount of sludge produced per month in m<sup>3</sup>

YEAR	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2019	236	158	237	236	216	158	313	237	160	160	159	163
2020	241	228	231	240	230	237	309					

## Required Monthly Reports

**Monthly System Flows-** see separate attached summary report

**Workplace Management System Reports** – see separate attached reports

**Performance Data and Compliance** – See separate attached report

## Required Financial Reports

**Quarterly Financial Summary** – Q3 due October 30, 2020.

**Annual “Schedule G” Reconcilable Commodities Report** – Due January 30, 2021.

## Health & Safety Work Order Summary by Facility

Start Date: 2020-07-01

End Date: 2020-07-31

Hub: Lambton

Cluster	ORG ID	Facility ID	Health and Safety					Closure Rate		
			Initiated	Approved	Completed	Total Labor Hrs	Total Cost \$	Target	Actual	Variance
LAWSS (133000)	Lambton Area Water Treatment	5544, East Lambton Distribution (5544-WDEL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, East Lambton PS (5544-WPEL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Indian Road Tower (5544-WDIR)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area RMS (5544-WWLA)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area WTP (5544-WTLA)	2	2	2	5.00	231.56	85.00%	100.00%	-15.00%
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Watford Standpipe (5544-WDWF)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, West Lambton Booster Stn (5544-WPWL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, West ST.Claire Distribution (5544-WDWS)	1	1	1	2.00	97.95	85.00%	100.00%	-15.00%
		Lambton Area Water Treatment Plant (5544)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		Total			3	3	3	7.00	329.51	85.00%

Key Column	Colour	Meaning
Init		No Work Orders initialized
Closed		Closure Rate between 20-50%
Closed		Closure Rate less than 20%

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## Health & Safety Work Order Summary by Facility

Start Date: 2020-01-01

End Date: 2020-07-31

Hub: Lambton

Cluster	ORG ID	Facility ID	Health and Safety					Closure Rate		
			Initiated	Approved	Completed	Total Labor Hrs	Total Cost \$	Target	Actual	Variance
LAWSS (133000)	Lambton Area Water Treatment	5544, East Lambton Distribution (5544-WDEL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, East Lambton PS (5544-WPEL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Indian Road Tower (5544-WDIR)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area RMS (5544-WWLA)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area WTP (5544-WTLA)	23	23	23	42.75	1808.75	85.00%	100.00%	-15.00%
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Watford Standpipe (5544-WDWF)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, West Lambton Booster Stn (5544-WPWL)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, West ST.Clair Distribution (5544-WDWS)	6	6	6	7.25	301.41	85.00%	100.00%	-15.00%
		Lambton Area Water Treatment Plant (5544)	3	3	3	4.50	218.76	85.00%	100.00%	-15.00%
		<b>Total</b>	32	32	32	54.50	2328.92	85.00%	100.00%	-15.00%

Key Column	Colour	Meaning
Init		No Work Orders initialized
Closed		Closure Rate between 20-50%
Closed		Closure Rate less than 20%

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Work Order Summary by Facility

Start Date: 2020-07-01  
End Date: 2020-07-31  
Hub: Lambton

Key Col	Colour	Meaning
Init		No Work Orders initialized
Closed		Closure Rate between 20-50%
Closed		Closure Rate less than 20%

			Corrective Maintenance					Emergency Maintenance					Call Back				
			Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, East Lambton PS (5544-WPEL)	1	1	1	5	231.55	0	0	0	0	0	0	0	0	0	0
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, Indian Road Tower (5544-WDIR)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, Lambton Area RMS (5544-WWLA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, Lambton Area WTP (5544-WTLA)	10	10	6	24.5	1749.06	0	0	0	0	0	0	0	0	0	0
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, Watford Standpipe (5544-WDWF)	1	1	1	4.5	214.27	0	0	0	0	0	0	0	0	0	0
		5544, West Lambton Booster Stn (5544-WPWL)	1	1	1	2.25	440.8	0	0	0	0	0	0	0	0	0	0
		5544, West ST.Clair Distribution (5544-WDWS)	0	0	0	0	0	1	1	1	9	319.89	0	0	0	0	0
		Lambton Area Water Treatment Plant (5544)	3	3	2	3.5	223.13	0	0	0	0	0	0	0	0	0	0
Grand Total			17	17	11	39.75	2858.81	1	1	1	9.00	319.89	0	0	0	0.00	0.00

Work Order Summary by Facility

Start Date: 2020-07-01  
End Date: 2020-07-31  
Hub: Lambton

Key Col	Colour	Meaning
Init		No Work Orders initialized
Closed		Closure Rate between 20-50%
Closed		Closure Rate less than 20%

			Preventive Maintenance					Operational					Capital/Project Work					Closure Rate		
			Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Target	Actual	Variance
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	0	0	0	0	0	4	4	4	8.5	353.03	0	0	0	0	0	85%	100%	-15.0%
		5544, East Lambton PS (5544-WPEL)	6	6	4	5.25	232.72	2	2	2	5	221.51	0	0	0	0	0	85%	77.77%	7.222%
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, Indian Road Tower (5544-WDIR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	0%	85%
		5544, Lambton Area RMS (5544-WWLA)	2	2	2	2.75	160.33	2	2	2	12	642.34	0	0	0	0	0	85%	100%	-15.0%
		5544, Lambton Area WTP (5544-WTLA)	38	38	26	53.5	2565.71	10	10	10	1612.5	50506.31	0	0	0	0	0	85%	72.41%	12.58%
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, Watford Standpipe (5544-WDWF)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, West Lambton Booster Stn (5544-WPWL)	10	10	3	5	221.14	2	2	2	7.25	327.38	0	0	0	0	0	85%	46.15%	38.84%
		5544, West ST.Clair Distribution (5544-WDWS)	0	0	0	0	0	3	3	3	14.75	692.15	0	0	0	0	0	85%	100%	-15.0%
		Lambton Area Water Treatment Plant (5544)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	66.66%	18.33%
Grand Total			56	56	35	66.5	3179.9	23	23	23	1660	52742.72	0	0	0	0	0	85%	100%	-15.0%

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Work Order Summary by Facility

Start Date: 2020-01-01  
End Date: 2020-07-31  
Hub: Lambton

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Init		No Work Orders initialized
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			Corrective Maintenance					Emergency Maintenance					Call Back					
			Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	133000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5544, East Lambton Distribution (5544-WDEL)	3	3	3	30.75	1321.87	1	1	1	13.25	545.45	2	2	2	16	3764.87	
		5544, East Lambton PS (5544-WPEL)	5	5	5	31.5	1354.23	0	0	0	0	0	1	1	1	8	527.2	
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5544, Indian Road Tower (5544-WDIR)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5544, Lambton Area RMS (5544-WWLA)	2	2	2	13.5	580.55	0	0	0	0	0	0	0	0	0	0	
		5544, Lambton Area WTP (5544-WTLA)	30	30	23	215.5	14629.99	0	0	0	0	0	2	2	2	8	395.4	
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5544, Watford Standpipe (5544-WDWF)	1	1	1	4.5	214.27	0	0	0	0	0	0	0	0	0	0	0
		5544, West Lambton Booster Stn (5544-WPWL)	6	6	6	19.25	1178.25	0	0	0	0	0	0	0	0	0	0	0
		5544, West ST.Clair Distribution (5544-WDWS)	2	2	1	22.5	1073.26	1	1	1	9	319.89	1	1	1	6	211.62	
		Lambton Area Water Treatment Plant (5544)	7	7	6	12.25	2102.68	0	0	0	0	0	0	0	0	0	0	0
Grand Total			57	57	47	349.75	22455.1	2	2	2	22.25	865.34	6	6	6	38	4899.09	

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Work Order Summary by Facility

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End Date: 2020-07-31  
Hub: Lambton

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Init		No Work Orders initialized
Closed		Closure Rate between 20-50%
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			Preventive Maintenance					Operational					Capital/Project Work					Closure Rate		
			Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Init	Approved	Completed	Total Labor Hrs	Total Cost \$	Target	Actual	Variance
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	133000	0	0	0	0	0	0	0	0	0	0	1	1	0	148.75	8690.07	85%	100%	-15.0%
		5544, East Lambton Distribution (5544-WDEL)	6	6	0	0	0	28	28	28	77.75	3011.8	1	1	1	17.25	14528.39	85%	85%	0%
		5544, East Lambton PS (5544-WPEL)	41	41	37	52	2502.87	16	16	16	71	2950.36	0	0	0	0	0	85%	93.65%	-8.65%
		5544, Forrest Standpipe (5544-WDFS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, Indian Road Tower (5544-WDIR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	0%	85%
		5544, Lambton Area RMS (5544-WWLA)	20	20	20	50.75	2460.31	14	14	14	107	5414.55	0	0	0	0	0	85%	100%	-15.0%
		5544, Lambton Area WTP (5544-WTLA)	254	254	229	738.5	33734.51	88	88	85	10994.75	321095.3	4	4	2	23	17209.88	85%	90.64%	-5.64%
		5544, Port Lambton Standpipe (5544-WDPL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, Watford Standpipe (5544-WDWF)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85%	100%	-15.0%
		5544, West Lambton Booster Stn (5544-WPWL)	58	58	47	60	2755.11	14	14	14	90.5	4344.92	0	0	0	0	0	85%	85.89%	-0.89%
		5544, West ST.Clair Distribution (5544-WDWS)	3	3	0	0.5	18.21	21	21	20	57.75	2508.95	1	1	0	10.5	651.94	85%	82.14%	2.857%
		Lambton Area Water Treatment Plant (5544)	8	8	5	46.25	2279.54	1	1	1	30.75	1513.28	1	1	0	0	0	85%	75%	9.999%
Grand Total			390	390	338	948	43750.55	182	182	178	11429.5	340839.1	8	8	3	199.5	41080.28	85%	89.63%	10.36%

Ontario Clean Water Agency  
Time Series Info Report

From: 01/01/2020 to 31/07/2020

Report extracted 08/07/2020 09:32

Facility Org Number: 5544  
Facility Works Number: 210000906  
Facility Name: LAMBTON AREA WATER SUPPLY SYSTEM (LAWSS)  
Facility Owner: Local Services Board: LAMBTON AREA WATER SUPPLY SYSTEM  
Facility Classification: Class 4 Water Treatment  
Receiver:  
Service Population: 100000.0  
Total Design Capacity: 181844.0 m3/day

	01/2020	02/2020	03/2020	04/2020	05/2020	06/2020	07/2020	Total	Avg	Max	Min
Coagulation/Floculation / Coagulant Dosage-Calculated - mg/L											
Max IH	26.437	30.355	29.818	28.267	27.141	23.142	23.13			30.355	
Mean IH	20.802	24.673	25.189	23.287	21.491	19.913	20.225		22.209		
Min IH	15.602	20.415	20.129	16.333	16.002	17.122	15.408				15.408
Coagulation/Floculation / Coagulant Used - kg											
Max IH	1241.6	1459.2	1638.4	1190.4	1459.2	1779.2	2163.2			2163.2	
Mean IH	964.129	1110.069	1104.103	979.2	1063.226	1296.64	1533.11		1150.558		
Min IH	691.2	870.4	793.6	780.8	832	908.8	1139.2				691.2
Total IH	29888	32192	34227.2	29376	32960	38899.2	47526.4	245068.8			
Coagulation/Floculation / Coagulant Volume Used - m³											
Max IH	0.97	1.14	1.28	0.93	1.14	1.39	1.69			1.69	
Mean IH	0.753	0.867	0.863	0.765	0.831	1.013	1.198		0.899		
Min IH	0.54	0.68	0.62	0.61	0.65	0.71	0.89				0.54
Total IH	23350	25150	26740	22950	25750	30390	37130	191460			
DW / Trihalomethane: Total - µg/l											
Max Lab	31				39					39	
Mean Lab	29.667				34.667				32.167		
Min Lab	28				28						28
East Lambton Booster Station / Cl Residual: Inlet Free - mg/L											
Max OL	1.49	1.49	1.83	1.63	1.58	1.52	1.47			1.83	
Mean OL	1.359	1.372	1.434	1.424	1.419	1.382	1.296		1.384		
Min OL	0	0	0	0	0	0	0				0
Filter Backwash / Backwash Volume - m³											
Max IH	2988	4208	3666	2702	2716	3016	3020			4208	
Mean IH	2017.581	2051.793	2001.742	1775.2	1903.613	2066.133	2190.516		2001.216		
Min IH	1208	1200	0	602	1204	1206	1794				0
HFS / Fluoride Dosage - mg/L											
Max IH	0.63	0.633	0.647	0.645	0.685	0.594	0.87			0.87	
Mean IH	0.55	0.556	0.555	0.554	0.551	0.534	0.532		0.547		
Min IH	0.477	0.516	0.433	0.491	0.41	0.399	0.459				0.399
HFS / Fluoride Used - l											
Max IH	88.823	94.553	91.689	88.823	120.341	137.533	171.932			171.932	
Mean IH	83.185	82.796	81.437	77.934	90.587	114.818	132.568		94.858		
Min IH	68.766	77.361	63.295	68.762	71.631	85.957	106.015				63.295
Total IH	2578.73	2401.087	2524.546	2338.016	2808.208	3444.541	4109.602	20204.73			
HFS / HFS (kg) - kg											
Max IH	108.364	115.355	111.86	108.364	146.816	167.79	209.757			209.757	
Mean IH	101.486	101.011	99.353	95.079	110.517	140.078	161.733		115.727		
Min IH	83.895	94.38	77.22	83.89	87.39	104.868	129.338				77.22
Total IH	3146.051	2929.326	3079.946	2852.38	3426.014	4202.34	5013.714	24649.77			
HFS / Treated Water Fluoride Residual - mg/L											
Max OL	2	0.81	0.92	0.8	0.81	0.81	0.75			2	
Mean OL	0.544	0.63	0.692	0.666	0.673	0.661	0.599		0.638		
Min OL	0	0.23	0.51	0.55	0.56	0.21	0.44				0
Post Disinfection / Chlorine Dosage - mg/L											
Max IH	2.078	1.897	2.157	2.232	2.063	2.016	3.085			3.085	
Mean IH	1.449	1.561	1.676	1.599	1.618	1.796	1.955		1.666		
Min IH	0.822	1.03	1.288	0.933	1.134	1.582	1.109				0.822
Post Disinfection / Hypochlorite Dosage - mg/L											
Max IH	17.316	15.809	17.977	18.596	17.191	16.797	25.705			25.705	
Mean IH	12.072	13.011	13.971	13.325	13.483	14.971	16.289		13.88		
Min IH	6.854	8.586	10.733	7.779	9.447	13.18	9.244				6.854
Post Disinfection / Hypochlorite Used - kg											
Max IH	777.85	680.325	1083.35	707.35	1025.775	1294.85	1834.175			1834.175	
Mean IH	559.262	585.231	615.927	560.867	672.782	972.927	1237.768		744.805		
Min IH	254.975	358.375	440.625	420.65	425.35	701.475	566.35				254.975
Total IH	17337.13	16971.7	19093.75	16826	20856.25	29187.82	38370.8	158643.4			
Post Disinfection / Hypochlorite Volume-Total - m³											
Max IH	0.662	0.579	0.922	0.602	0.873	1.102	1.561			1.561	
Mean IH	0.476	0.498	0.524	0.477	0.573	0.828	1.053		0.634		
Min IH	0.217	0.305	0.375	0.358	0.362	0.597	0.482				0.217
Total IH	14755	14444	16250	14320	17750	24840.7	32656	135015.7			
Post Disinfection / Station 7 Cl Residual: Free - mg/L											
Max OL	5	1.75	3.1	1.84	1.85	1.8	1.82			5	
Mean OL	1.608	1.636	1.816	1.664	1.662	1.613	1.62		1.66		
Min OL	0	1.45	1.45	0	1.4	0	1.33				0

PrTr / P.A.C. Dosage - mg/L																					
Max IH								0.594	0.39							0.594					
Mean IH								0.386	0.29				0.336								
Min IH								0.187	0.191									0.187			
PrTr / P.A.C. Used - kg																					
Max IH								29.461	22.09							29.461					
Mean IH								24.607	21.526				23.015								
Min IH								12.27	12.27									12.27			
Total IH								713.612	667.309		1380.921										
Raw Water / Background - cfu/100mL																					
Max Lab	10	5	0	0	11	270	2000									2000					
Mean Lab	2.5	1.25	0	0	2.75	58	528.75					81.033									
Min Lab	0	0	0	0	0	0	3											0			
Raw Water / Conductivity - µS/cm																					
Max IH	223.4	235.2	231.1	229.8	244.9	234.5	231.8									244.9					
Mean IH	220.597	226.503	222.677	222.918	227.515	229.864	229.078					225.577									
Min IH	217.1	217.6	217.8	218.65	176.9	227.8	199.2											176.9			
Raw Water / E. Coli: EC - cfu/100mL																					
Max Lab	0	0	0	0	0	2	2									2					
Mean Lab	0	0	0	0	0	0.4	0.75					0.167									
Min Lab	0	0	0	0	0	0	0											0			
Raw Water / Raw Flow Daily - m³/d																					
Max IH	51462	49347	68210	54076	68792	89737	105002									105002					
Mean IH	46223.13	45011.1	43968.16	42331.93	49718.13	65201.9	75955.06					52690.78									
Min IH	37203	38233	26615	30479	41407	44210	56658											26615			
Raw Water / Raw Flow Rate - l/s																					
Max IH	595.62	571.15	789.47	600.16	796.2	1038.62	1215.3									1215.3					
Mean IH	534.99	523.03	508.89	482.67	575.45	754.15	878.95					609.01									
Min IH	430.59	442.51	308.04	352.77	479.24	511.69	655.76											308.04			
Raw Water / Raw Water Turbidity - NTU																					
Max OL	14	11.4	23	6.6	3.4	3.79	4.93									23					
Mean OL	2.445	3.495	3.194	1.747	1.714	1.035	0.86					2.07									
Min OL	0.26	0.51	0.587	0.41	0.65	0.354	0.3											0.26			
Raw Water / Raw Water pH - ---																					
Max IH	8.27	8.16	8.13	8.16	8.29	8.46	8.45									8.46					
Mean IH	8.114	8.051	8.051	8.065	8.153	8.252	8.357					8.15									
Min IH	8.02	7.98	7.96	7.9	8.03	8.14	8.26											7.9			
Raw Water / Temperature - °C																					
Max IH	10	8	12	11.7	14	17.9	23									23					
Mean IH	7.466	6.083	9.203	9.432	11.392	15.318	20.93					11.444									
Min IH	5.5	3	5.9	6.87	8.025	12.8	17.9											3			
Raw Water / Total Coliform: TC - cfu/100mL																					
Max Lab	0	0	0	0	0	5	10									10					
Mean Lab	0	0	0	0	0	1	4.75					0.8									
Min Lab	0	0	0	0	0	0	0											0			
Treated Water / Background - cfu/100mL																					
Max Lab	0	0	0	0	0	0	0									0					
Mean Lab	0	0	0	0	0	0	0					0									
Min Lab	0	0	0	0	0	0	0											0			
Treated Water / E. Coli: EC - cfu/100mL																					
Max Lab	0	0	0	0	0	0	0									0					
Mean Lab	0	0	0	0	0	0	0					0									
Min Lab	0	0	0	0	0	0	0											0			
Treated Water / Electrical Consumption - kWh																					
Total IH	1060323	1063396	1033647	1058808	936374.9	923041.1	932801.3		7008391												
Treated Water / Flow: Total of All Sources - m³/d																					
Max IH	48147	47888	47433	45327	65796	79186	97657									97657					
Mean IH	44815.48	44078.86	43484.03	41675.97	48893.58	63849.17	74404.65					51659.96									
Min IH	37737	38449	35292	38147	38491	47877	43853											35292			
Total IH	1389280	1278287	1348005	1250279	1515701	1915475	2306544		11003571												
Treated Water / HPC - cfu/mL																					
Max Lab	< 10	< 40	< 10	< 10	< 10	< 10	< 10									< 40					
Mean Lab	< 10	< 17.5	< 10	< 10	< 10	< 10	< 10					< 11.034									
Min Lab	< 10	< 10	< 10	< 10	< 10	< 10	< 10											< 10			
Treated Water / Total Coliform: TC - cfu/100mL																					
Max Lab	0	0	0	0	0	0	0									0					
Mean Lab	0	0	0	0	0	0	0					0									
Min Lab	0	0	0	0	0	0	0											0			
Treated Water / Turbidity - NTU																					
Max OL	0.094	0.11	0.741	0.1	0.089	0.6	0.091									0.741					
Mean OL	0.069	0.069	0.082	0.072	0.069	0.069	0.065					0.071									
Min OL	0.052	0.052	0.048	0.05	0.05	0.045	0.044											0.044			
West Lambton Booster Station / Cl Residual: Outlet Free - mg/L																					
Max OL	4.98	1.88	2.22	2.26	1.84	3	1.71									4.98					
Mean OL	1.666	1.694	1.735	1.63	1.626	1.5	1.451					1.615									
Min OL	0	0	0	0	0	0	0											0			
Zebra Mussel Control / Chlorine Dosage - mg/L																					
Max IH	1.251	1.294	1.283	1.49	1.292	1.177	1.269									1.49					
Mean IH	1.057	1.137	1.143	1.125	1.091	1.042	1.07					1.095									
Min IH	0.972	0.971	1.039	0.83	0.829	0.896	0.941											0.829			
Zebra Mussel Control / Cl Residual: Free - mg/L																					
Max IH	0.66	0.67	0.71	0.71	0.68	0.7	0.77									0.77					

Mean IH	0.597	0.599	0.634	0.61	0.627	0.609	0.617		0.614			
Min IH	0.46	0.44	0.51	0.42	0.43	0.44	0.44				0.42	
Zebra Mussel Control / Cl Residual: Total - mg/L												
Max IH	0.84	0.82	0.86	0.83	0.84	0.803	0.88			0.88		
Mean IH	0.759	0.754	0.785	0.746	0.756	0.728	0.736		0.752			
Min IH	0.61	0.6	0.67	0.53	0.52	0.53	0.55				0.52	
Zebra Mussel Control / Hypochlorite Dosage - mg/L												
Max IH	10.423	10.787	10.696	12.413	10.77	9.805	10.575			12.413		
Mean IH	8.812	9.472	9.521	9.375	9.095	8.684	8.918		9.123			
Min IH	8.102	8.095	8.656	6.916	6.906	7.468	7.841				6.906	
Zebra Mussel Control / Hypochlorite Used - kg												
Max IH	470	492.325	667.4	504.075	635.675	791.95	1110.375			1110.375		
Mean IH	407.081	425.512	418.262	393.938	451.882	565.998	677.141		477.574			
Min IH	339.575	358.375	278.475	312.55	323.125	381.875	489.975				278.475	
Total IH	12619.5	12339.85	12966.13	11818.15	14008.35	16979.93	20991.38	101723.3				
Zebra Mussel Control / Hypochlorite Volume-Total-1 - m³												
Max IH	0.4	0.419	0.568	0.429	0.541	0.674	0.945			0.945		
Mean IH	0.346	0.362	0.356	0.335	0.385	0.482	0.576		0.406			
Min IH	0.289	0.305	0.237	0.266	0.275	0.325	0.417				0.237	
Total IH	10740	10502	11035	10058	11922	14451	17865	86573				
Filter Backwash / Backwash Volume - m³												
Total IH	62545	59502	62054	53256	59012	61984	67906	426259				

**Lambton Area WT 2020**

For the period of Jan 1, 2020 to December 31, 2020

Org. # : 5544  
 Project # : LAWSSM5544W-002  
 Date : 7/31/20

	2019 Actuals	2020 Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	YTD Budget	YTD Actuals	Variance (< YTD budget)
<b>OPERATING CHARGES</b>									
<b>OCWA Service Fee</b>	<b>2,166,229.00</b>	<b>2,214,969.15</b>	553,742.29	553,742.29			<b>2,214,969.15</b>	<b>1,107,484.58</b>	<b>-1,107,484.58</b>
Diesel	5,119.97	9,000.00	0.00	0.00			9,000.00	0.00	-9,000.00
Insurance**	91,050.24	90,960.00	24,076.66	24,076.66			90,960.00	48,153.32	-42,806.68
Point Edward Sewage	85,869.98	92,450.00	0.00	0.00			92,450.00	0.00	-92,450.00
Chemicals	243,931.95	265,860.00	59,055.53	58,368.73			265,860.00	117,424.26	-148,435.74
Hydro	1,328,357.92	1,525,000.00	314,438.06	295,310.53			1,525,000.00	609,748.59	-915,251.41
Sludge Haulage	99,794.49	150,000.00	29,418.82	29,713.01			150,000.00	59,131.83	-90,868.17
<b>TOTAL OPERATING COSTS</b>	<b>4,020,353.55</b>	<b>4,348,239.15</b>	<b>980,731.36</b>	<b>961,211.22</b>	<b>0.00</b>	<b>0.00</b>	<b>4,348,239.15</b>	<b>1,941,942.58</b>	<b>-2,406,296.58</b>
<b>TOTAL OPERATING CHARGES</b>	<b>4,020,353.55</b>	<b>4,348,239.15</b>	<b>980,731.36</b>	<b>961,211.22</b>	<b>0.00</b>	<b>0.00</b>	<b>4,348,239.15</b>	<b>1,941,942.58</b>	<b>-2,406,296.58</b>

Note: The information contained in this report is current as at June 30, 2020