

		April Actual	Month Budget	YTD - ACTUAL	YTD - Budget	Annual Budget	Variance	Percent of Budget Used
<b>Municipality Revenue</b>								
4050	<b>Municipality Revenue</b>	-825,305.50	-798,429.58	-3,220,594.24	-3,220,594.24	-9,706,155.00	0.00	33%
	Sarnia	-474,299.58	-474,299.58	-1,897,198.32	-1,897,198.32	-5,691,595.00	0.00	33%
	St. Clair Township	-223,537.92	-223,537.92	-894,151.68	-894,151.68	-2,682,455.00	0.00	33%
	Plympton-Wyoming	-43,110.92	-43,110.92	-172,443.68	-172,443.68	-517,331.00	0.00	33%
	Lambton Shores	-16,525.83	-16,525.83	-66,103.32	-66,103.32	-198,310.00	0.00	33%
	Warwick	-22,194.08	-22,194.08	-88,776.32	-88,776.32	-266,329.00	0.00	33%
	Point Edward	-18,761.25	-18,761.25	-75,045.00	-75,045.00	-225,135.00	0.00	33%
	Bluewater Power Distribution Corp.			0.00	0.00		0.00	
4120	<b>Brooke-Alvinston Revenue</b>	-26,875.92		-26,875.92	0.00	-125,000.00	-26,875.92	22%
	<b>Total Municipalities Revenue</b>	-825,305.50	-798,429.58	-3,220,594.24	-3,193,718.32	-9,706,155.00	-26,875.92	33%
<b>Other Revenue</b>								
4130	<b>Emergency Water Taking</b>		0.00	-44,058.70	0.00	0.00	-44,058.70	0%
4150	<b>LAWSS Other Revenue</b>		0.00	0.00	0.00	0.00	0.00	0%
	Canada Coast Guard		0.00	0.00	0.00	-7,000.00	0.00	0%
4430	<b>Misc. Revenue (HST Rebate)</b>		0.00	0.00	0.00	-100,000.00	0.00	0%
4430	<b>Misc. Revenue from OCWA</b>		0.00	0.00	0.00	0.00	0.00	0%
4430	<b>Misc. Revenue from St. Clair</b>		0.00	0.00	0.00	0.00	0.00	0%
	Misc. Revenue from OMWA		0.00	0.00	0.00	0.00	0.00	0%
4430	<b>Misc. Revenue from OPA</b>		0.00	0.00	0.00	-80,000.00	0.00	0%
	<b>Total Other Revenue</b>	0.00	0.00	-44,058.70	0.00	-187,000.00	-44,058.70	24%
<b>Investment Interest</b>								
4420	<b>Interest Earned</b>	-6,564.70	0.00	-22,857.13	0.00	-65,000.00	-22,857.13	35%
	<b>Total Revenue</b>	-831,870.20	-798,429.58	-3,287,510.07	-3,193,718.32	-9,958,155.00	-93,791.75	33%
<b>Project Expenses</b>								
5100	<b>Project Expenses</b>	18,765.29	0.00	57,592.74	224,160.00	5,189,475.00	-193,599.80	1%
	18-01 Rebuild 32" Ross Valve at WLBS		0.00	0.00	0.00	70,000.00	0.00	0%
	18-02 New Generators Replacement (Including Air Louvers)		0.00	0.00	0.00	4,000,000.00	0.00	0%
	18-03 SCADA Radio Replacement Work (Installation)		0.00	15,706.66	203,490.00	150,000.00	-187,783.34	10%
	18-04 Engineering Studies	1,837.51	0.00	14,853.54	20,670.00	100,000.00	-5,816.46	15%
	<b>Tasks carried over from 2017</b>	16,927.78	0.00	27,032.54	0.00	869,475.00	27,032.54	3%
	14-09 Main Plant HVAC		0.00	27,032.54	0.00	587,383.00	27,032.54	5%
	16-02 Warranty Holdback for VFD at WTP Project		0.00	0.00	0.00	32,092.00	0.00	0%
	17-05 Engineering Design for Emergency Generators		0.00	0.00	0.00	250,000.00	0.00	0%
	17-02 Forest Tower Repaint	16,927.78	0.00	53,092.27	0.00	1,400,000.00	53,092.27	4%
	R17-01 24" Watermain Abandonment		0.00	1,230.66	0.00	0.00	1,230.66	0%
	R17-05 Purchase of Chevrolet Silverado							
	R17-06 Maher Drain Watermain Offset		0.00	5,063.10	0.00	0.00	5,063.10	0%
	R18-01 Lead Replacement Plan							
5150	<b>Distribution Repairs</b>	3,103.97	16,000.00	66,488.56	83,160.00	200,000.00	-16,671.44	33%



5125

	April Actual	Month Budget	YTD - ACTUAL	YTD - Budget	Annual Budget	Variance	Percent of Budget Used
<b>Major Maintenance</b>	<b>2,930.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>283,000.00</b>	<b>0.00</b>	<b>0%</b>
MM17-08 Retrofit panelboard HC and HC incl. Engineer							
MM17-17 Refuebe ext. Gear oper. On Valve	2,930.04						
MM18-01 Fire Alarm Panel		0.00	0.00	0.00	10,000.00	0.00	0%
MM18-02 Flood Lights at WTP		0.00	0.00	0.00	3,000.00	0.00	0%
MM18-03 2yr Electrical inspection at WTP (electrical study)		0.00	0.00	0.00	12,500.00	0.00	0%
MM18-04 Low Life and Surge Well Clean out		0.00	0.00	0.00	25,000.00	0.00	0%
MM18-05 Bisulphite Pump Replacement		0.00	0.00	0.00	25,000.00	0.00	0%
MM18-06 PLC SCADA migration at WLBS		0.00	0.00	0.00	15,000.00	0.00	0%
MM18-07 WLBS Septic System Tile Bed Repair		0.00	0.00	0.00	50,000.00	0.00	0%
MM18-08 Chamber at St Clair Pkwy North of Stanley		0.00	0.00	0.00	10,000.00	0.00	0%
MM18-09 Chamber at white line repair ground water leak cement work		0.00	0.00	0.00	10,000.00	0.00	0%
MM18-10 Flocculation Gear Drives(6 Units)		0.00	0.00	0.00	22,500.00	0.00	0%
MM18-11 Flocculation Mixers (6 Units)		0.00	0.00	0.00	12,000.00	0.00	0%
MM18-12 Hydrant Replacement in Pt.edward on Michigan (Contaminated Site)		0.00	0.00	0.00	25,000.00	0.00	0%
MM18-13 Meter Removal townsend line Chamber		0.00	0.00	0.00	12,000.00	0.00	0%
MM18-14 Phragmites control at WLBS		0.00	0.00	0.00	6,000.00	0.00	0%
MM18-15 Replace Asbestos Damaged Ceiling Due to Rain		0.00	0.00	0.00	45,000.00	0.00	0%

**General & Administrative Expenses**

5200	OCWA Operating & Maintenance	369,516.42	739,032.84	739,032.84	0.00	4,434,197.00	739,032.84	17%
5300	Flow Reconciliations		0.00	0.00	0.00	150,000.00	0.00	0%
5400	LAWSS Wages & Benefits	69,866.00	69,866.00	69,866.00	0.00	250,000.00	69,866.00	28%
5450	WSIB		0.00	0.00	0.00	1,600.00	0.00	0%
5500	Audit Fees		1,510.12	1,510.12	0.00	12,000.00	1,510.12	13%
5510	Accounting & Legal & Audit Fees	1,604.40	15,569.17	15,569.17	0.00	10,000.00	15,569.17	156%
5515	Advertising & Promotions		0.00	0.00	0.00	200.00	0.00	0%
5520	Membership Fees		336.59	336.59	0.00	4,000.00	336.59	8%
5522	Education / Conference		1,526.40	1,526.40	0.00	7,500.00	1,526.40	20%
5535	Courier & Postage		24.90	24.90	0.00	1,000.00	24.90	2%
5540	Income Taxes		0.00	0.00	0.00	0.00	0.00	0%
5545	Property Taxes	34,145.40	68,638.16	68,638.16	0.00	200,000.00	68,638.16	34%
5550	Property Administration	277.70	855.47	855.47	0.00	6,000.00	855.47	14%
5555	Insurance		20,847.60	20,847.60	0.00	16,000.00	20,847.60	130%
5560	Interest & Bank Charges		0.00	0.00	0.00	100.00	0.00	0%
5565	Office Supplies		1,460.25	1,460.25	0.00	10,000.00	1,460.25	15%
5566	Computer Software		0.00	0.00	0.00	6,000.00	0.00	0%
5570	Internet		170.74	170.74	0.00	1,600.00	170.74	11%
5571	GIS and Internet Services		2,100.00	0.00	0.00	10,000.00		
5575	Travel (Includes Mileage)		314.00	314.00	0.00	6,000.00	314.00	5%
5576	Vehicle Expenses		0.00	0.00	0.00	20,000.00	0.00	0%
5580	Telephone		281.42	281.42	0.00	2,000.00	281.42	14%
5585	Mobile Phone		350.97	350.97	0.00	3,000.00	350.97	12%
5590	Meals & Entertainment	74.18	174.77	174.77	0.00	2,000.00	174.77	9%
5600	Miscellaneous Expense		620.70	620.70	0.00	1,000.00	620.70	62%
	<b>Total Expenses</b>	<b>500,283.40</b>	<b>939,680.10</b>	<b>1,072,693.94</b>	<b>307,320.00</b>	<b>11,696,147.00</b>	<b>921,580.10</b>	<b>9%</b>

**Lambton Area Water Supply System  
Cash Balance Sheet as at April 30,2018**

<b>LAWSS Bank Account on April 1, 2018</b>	<b><u>4,223,613.21</u></b>
LAWSS Accounts Receivable - Received	848,105.20
	<b><u>5,071,718.41</u></b>
<b>LAWSS Accounts Payable - Paid</b>	548,843.73
LAWSS Accounts Payable - Outstanding	107,547.61
	<b><u>656,391.34</u></b>
<b>LAWSS Bank Account on April 30, 2018</b>	<b><u>4,522,874.68</u></b>
<b>Adjusted Bank Balance on April 30,2018</b>	<b><u>4,415,327.07</u></b>
<b>Cash in Reserve</b>	<b><u>1,994,873.22</u></b>



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

## **2018 Client Monthly Operations Report**

**Lambton Area Water Supply System**

**May 31, 2018**

## 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:	Dave Hunt (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

**May:** None

## Maintenance, Operations & Distribution Works Summary 2018

### Maintenance

**May:**

Date	Preventative / Corrective	Description
May 1	<b>Major Mtc</b>	Shelley's Machine in to work on Flocculator #1.
May 1	<b>P</b>	Completed monthly inspection of eyewash and safety showers.
May 2-3	<b>P</b>	Completed annual inspection of PLC panels.
May 2	<b>P</b>	Completed 6 month inspection on centrifugal pumps at East Lambton Pumping Station.
May 2	<b>P</b>	Completed annual calibration of pressure transmitters at Port Lambton Tower.
May 3	<b>Major Mtc</b>	Asbestos removal work starts with installation of scaffolding.
May 3	<b>P</b>	Completed annual maintenance on chlorine analyzers at West Lambton Pumping Station.
May 3	<b>P</b>	Completed annual calibration of pressure transmitters at West Lambton Pumping Station.
May 3	<b>P</b>	Completed monthly inspection of water treatment plant compressor.
May 4	<b>P</b>	Completed annual inspection of High Lift Pump #8 discharge valve.
May 7	<b>Major Mtc</b>	Actual asbestos removal work starts.
May 7	<b>P</b>	Tested emergency generators at East Lambton Pumping Station.
May 8	<b>Major Mtc</b>	Crack and corrosion tests done on Flocculator #1 and #2

		mixers.
May 8	<b>P</b>	Completed annual inspection of check valves on Low Lift Pumps 2 and 5.
May 8	<b>P</b>	Completed annual maintenance on all chlorine analyzers at the water treatment plant.
May 8-9	<b>C</b>	Albert's Generator Service in to repair coolant tank on the generator at East Lambton Pumping Station.
May 8	<b>Capital</b>	Roof work on Forest Tower.
May 8	<b>Capital and Major Mtc</b>	Meeting with LAWSS and Aecom in regards to 20 year plan.
May 9	<b>Capital</b>	Meeting with LAWSS and Megacomm in regards to the radio project.
May 9	<b>P</b>	Completed 6 month inspection on all low lift pumps.
May 9	<b>P</b>	Completed six month inspection on the grit pump and surface wash pump.
May 10	<b>P</b>	ASL Roteq in to do vibration analysis on pumps at East and West Lambton Pumping Station.
May 11	<b>P</b>	Cleaned/flushed South and North filter inlet channels.
May 11	<b>P</b>	Port Lambton and Indian Rd security audit done.
May 14	<b>P</b>	Pumped out HFS and diesel containment areas.
May 14	<b>Major Mtc</b>	Eaton Electrical in to replace refurbished Panel L breaker.
May 14	<b>P</b>	Completed monthly maintenance on Hach portable turbidity meter in the lab.
May 14	<b>P</b>	Completed annual inspection of butterfly valves in the chemical room.
May 14	<b>P</b>	Completed monthly maintenance on all on line turbidity meters at the water treatment plant.
May 15	<b>Major Mtc</b>	Bluewater Plumbing and Vozza in to start work on the septic system at West Lambton Pumping Station.
May 15	<b>P</b>	Completed annual inspection of submersible pumps at East Lambton Pumping Station.
May 15	<b>P</b>	Completed monthly maintenance on online pH probes.
May 15	<b>P</b>	Completed monthly maintenance on online fluoride analyzer.
May 15	<b>P</b>	Completed monthly maintenance on streaming current analyzers.
May 15	<b>P</b>	Completed monthly maintenance on both Residual Management System turbidity meters.
May 16	<b>Capital</b>	Final top coating of Forest Tower.
May 16	<b>P</b>	Completed monthly inspection of the vacuum priming system at East Lambton Pumping Station.
May 16	<b>P</b>	Completed monthly maintenance on East Lambton Pumping Station chlorine analyzers.
May 16	<b>P</b>	Completed 6 month inspection of distribution flow meters.
May 17	<b>Major Mtc</b>	Vozza in to work on weeping tile bed at West Lambton Pumping Station.
May 17	<b>P</b>	Tested generators at West Lambton Pumping Station.

May 17	<b>P</b>	Cleaned out and removed anthracite from Actilo #2.
May 17	<b>P</b>	Completed monthly maintenance on Hach pocket chlorine analyzers.
May 22-28	<b>Major Mtc</b>	Sentry Fire in to start setup of new fire system.
May 22	<b>C</b>	Bluewater Plumbing in to repair hot water mixing valve on HFS eyewash station.
May 23	<b>Major Mtc</b>	Flocculator #1 gear box installed.
May 23	<b>P</b>	Completed annual maintenance on alum flow meter.
May 24	<b>P</b>	Completed monthly inspection of travelling screens.
May 25	<b>P</b>	Tested generators at West Lambton Pumping Station.
May 25	<b>P</b>	Completed monthly inspection of Flocculators 3, 4, 5 and 6.
May 28	<b>C</b>	Replaced Station #7 pH probe.
May 30	<b>P</b>	Semi-annual inspection of MCC panels is completed.
May 30	<b>C</b>	Installed new sump pump on Meter Chamber #5.
May 31	<b>P</b>	Tested emergency generators at the water treatment plant.

## Operations and Compliance

### **May:**

May 1	Overflowed Watford Tower to test overflow set points. Dechlorination was conducted.
May 1	Monthly TSS sample taken for the Residual Management System.
May 1	Monthly check of chlorine residuals from EQ Tank Overflow. Residual of 0.0 mg/L was achieved.
May 2	Annual sample of diesel fuel containment area taken.
May 2	Further investigating pressure complaint at 3551 London Line by testing pressures at other homes in the area.
May 3	Pre chlorine pump failed. Reset pump and panels with no issues.
May 4	Power failure caused by severe windstorms. Generators on at all remote stations. No major issues.
May 7	Quarterly HAA, THM and nitrite/nitrates taken.
May 7	Annual samples taken for Schedule 23 and 24.
May 11	Switched over to East Low Lift header.
May 13	Pre chlorine pump failed. Reset pump and panels with no issues.
May 14	Started up PAC system with water only.
May 15	Safety inspection at East and West Lambton Pumping Stations.
May 17	Pre chlorine pump failed. Reset pump and panels with no issues.
May 23	Changed to zebra mussel chlorination from pre chlorination.
May 23	PAC now running.
May 23	Flocculator units 1 and 2 back in service.
May 24	Bacteriological testing from LAWSS watermain at Chatham Kent interconnect in prep for water taking test.
May 25	Tested polymer system at the water treatment plant.
May 25	Made changes to Emergency Water Taking with Chatham Kent SOP.
May 26	Station #7 pH probe failed. Probe is for operational use only and is not a



	regulatory analyzer.
May 28	Bacteriological testing from LAWSS watermain at Chatham Kent interconnect for water taking test.
May 28	Start of emergency water taking with Chatham Kent test.

## Distribution

### May:

May 1	Repaired/replaced curb stop @ 3883 St Clair Parkway in St Clair Township.
May 1	Painted to code new hydrants in Point Edward.
May 1-2	On site for third party work near 24" LAWSS watermain on Brock and Devine St.
May 2	On site for third party work near Home Depot.
May 3	Site meet with Van Bree for work to be conducted on Queen St.
May 4	On site for third party work on LAWSS watermain at Murphy and Confederation.
May 4	Emergency locate for hydro pole replacement on Exmouth.
May 5	Emergency locate for hydro pole replacement on Campbell St.
May 7	On site for third party work on London Line at Business Park.
May 8	Site meet for future third party work on Queen St.
May 8	On site for third party work on Murphy and Confederation.
May 8	Annual valve operations and hydrant flushing starts in City of Sarnia.
May 9-10	Valve operations and hydrant flushing in the City of Sarnia.
May 11	Meeting with Chatham-Kent in regards to water taking test.
May 11	On site for daylighting of LAWSS 18" watermain on Fleming.
May 15	Repaired ¾" service line at Queen St.
May 16	Repaired another ¾" service line at Queen St.
May 17	Valve operations, chamber checks and hydrant inspections in the City of Sarnia.
May 18	Emergency locate # 20182031196 on LaSalle Line.
May 22-25	Third party work on Queen St.
May 22	On site for third party work with Quanta on Campbell St
May 23	Meeting with Chatham Kent in regards to water taking request and test.
May 24	Onsite for daylighting of LAWSS 30" watermain on Moore Line.
May 24	Notified of leaking curb stop at 3053 St Clair Parkway.
May 24	Onsite for third party work with Quanta on Brock St.
May 29	Third party work with Quanta over LAWSS 24" main on Confederation.
May 31	Emergency locate #20182226302.
May 31	Meter reads complete.

## Call Outs 2018

**May:** Call out on May 19<sup>th</sup> for chlorine line leak on the clearwell discharge line. Fitting was replaced with no issues

## 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
2017	88	118	227	318	400	338	321	276	278	281	213	45
2018	50	64	107	149	189							

## 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
2017	317	207	304	330	319	366	313	401	316	238	306	393
2018	493	300	239	320	230							

## 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** –Q2 due July 30, 2018.

**Semi-Annual “Schedule G” Reconcilable Commodities Report** – due July 30, 2018

**Ontario Clean Water Agency  
Time Series Info Report**

From: 01/01/2018 to 31/05/2018

Report extracted 06/11/2018 11:55

**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

	01/2018	02/2018	03/2018	04/2018	05/2018	Total	Avg	Max	Min
<b>Coagulation/Floculation / Coagulant Dosage-Calculated - mg/L</b>									
Max IH	44.339	30.712	39.452	31.463	39.286			44.339	
Mean IH	28.112	26.299	28.064	27.038	24.646		26.841		
Min IH	22.852	21.223	23.047	23.737	18.8				18.8
<b>Coagulation/Floculation / Coagulant Used - kg</b>									
Max IH	2508.8	1561.6	2304	1472	2611.2			2611.2	
Mean IH	1479.845	1247.543	1340.697	1233.92	1346.89		1332.048		
Min IH	1126.4	832	1075.2	947.2	934.4				832
Total IH	45875.2	34931.2	41561.6	37017.6	41753.6	201139.2			
<b>Coagulation/Floculation / Coagulant Volume Used - m<sup>3</sup></b>									
Max IH	1.96	1.22	1.8	1.15	2.04			2.04	
Mean IH	1.156	0.975	1.047	0.964	1.052		1.041		
Min IH	0.88	0.65	0.84	0.74	0.73				0.65
Total IH	35840	27290	32470	28920	32620	157140			
<b>Coagulation/Floculation / Polymer Dosage - mg/L</b>									
Max IH	0.072	0.045	0.077	0.06				0.077	
Mean IH	0.035	0.027	0.062	0.034			0.038		
Min IH	0	0	0.012	0					0
<b>Coagulation/Floculation / Polymer Used - kg</b>									
Max IH	4.3	2.2	4.4	3				4.4	
Mean IH	1.891	1.36	3.117	1.52			1.905		
Min IH	0	0	0.6	0					0
Total IH	20.8	8.16	18.7	15.2		62.86			
DW THM Data / Trihalomethane: Total - µg/l									





Max IH		0.544	0.414	0.465	0.44	0.472			0.544		
Mean IH		0.412	0.364	0.377	0.36	0.393		0.381			
Min IH		0.326	0.298	0.33	0.308	0.329				0.298	
Total IH		12765	10200	11687	10803	9441	54896				
Raw Water / Background - cfu/100mL											
Max Lab		3200	560	150	21	83			3200		
Mean Lab		928.2	232	90.667	8.6	23.5		284.667			
Min Lab		41	56	51	0	0				0	
Raw Water / Conductivity - µS/cm											
Max IH		229.6	222.2	223.2	224.8	229.7			229.7		
Mean IH		219.881	214.896	218.461	221.257	226.34		220.265			
Min IH		211.4	211.5	215.6	217.4	223.3				211.4	
Raw Water / E. Coli: EC - cfu/100mL											
Max Lab	<	10	0	1	1	1			<	10	
Mean Lab	<	4	0	0.333	0.2	0.25		<	1.095		
Min Lab		0	0	0	0	0				0	
Raw Water / Raw Flow Daily - m³/d											
Max IH		60923	51410	58400	55566	74342			74342		
Mean IH		52422.74	47338.79	47625.48	45644.97	54303.16		49534.62			
Min IH		44262	39203	41293	38802	41366				38802	
Raw Water / Raw Flow Rate - l/s											
Max IH		705.13	595.02	675.93	643.13	860.44			860.44		
Mean IH		606.62	547.72	551.22	526.63	628.51		572.93			
Min IH		512.29	453.74	477.93	421.52	478.77				421.52	
Raw Water / Raw Water Turbidity - NTU											
Max OL		40	8.07	38.2	12.8	5.5			40		
Mean OL		5.972	1.238	3.455	3.2	1.438		3.061			
Min OL		0.47	0.232	0.2	0.63	0.49				0.2	
Raw Water / Raw Water pH - ---											
Max IH		8.18	8.16	8.22	8.23	8.37			8.37		
Mean IH		8.009	8.039	7.981	7.909	8.203		8.029			
Min IH		7.76	7.83	7.75	7.19	7.86				7.19	
Raw Water / Temperature - °C											
Max IH		8.75	8.25	8.3	10.1	16.6			16.6		
Mean IH		7.176	7.396	7.78	7.73	11.578		8.354			
Min IH		5.8	6	7	5	10				5	
Raw Water / Total Coliform: TC - cfu/100mL											
Max Lab		22	34	5	1	24			34		
Mean Lab		16.6	14.5	3	0.2	6.75		8.476			
Min Lab		6	1	1	0	0				0	
Treated Water / Background - cfu/100mL											

Max Lab		0	0	0	0	0			0			
Mean Lab		0	0	0	0	0		0				
Min Lab		0	0	0	0	0				0		
Treated Water / E. Coli: EC - cfu/100mL												
Max Lab		0	0	0	0	0			0			
Mean Lab		0	0	0	0	0		0				
Min Lab		0	0	0	0	0				0		
Treated Water / Electrical Consumption - kWh												
Total IH		1017634	1161518	972191.1	1063309	963463.6	5178116					
Treated Water / Flow: Total of All Sources - m³/d												
Max IH		59548	49319	52553	52108	76389			76389			
Mean IH		50663.13	44974.68	45865.94	44023.57	53297.71		47845.22				
Min IH		43457	40359	36779	34795	43998				34795		
Total IH		1570557	1259291	1421844	1320707	1652229	7224628					
Treated Water / HPC - cfu/mL												
Max Lab	<	10	<	10	30	<	10	<	10	<	30	
Mean Lab	<	10	<	10	<	15	<	10	<	10	<	10.909
Min Lab	<	10	<	10	<	10	<	10	<	10	<	10
Treated Water / Total Coliform: TC - cfu/100mL												
Max Lab		0	0	0	0	0			0			
Mean Lab		0	0	0	0	0		0				
Min Lab		0	0	0	0	0				0		
Treated Water / Turbidity - NTU												
Max OL		0.35	0.117	0.17	0.094	0.098			0.35			
Mean OL		0.088	0.066	0.068	0.065	0.061		0.07				
Min OL		0.045	0.044	0.042	0.047	0.042				0.042		
West Lambton Booster Station / Cl Residual: Outlet Free - mg/L												
Max OL		1.99	2	1.91	1.76	1.73			2			
Mean OL		1.732	1.765	1.644	1.538	1.485		1.633				
Min OL		0	0	0	0	0				0		
Zebra Mussel Control / Chlorine Dosage - mg/L												
Max IH						1.115			1.115			
Mean IH						1.086		1.086				
Min IH						1.059				1.059		
Zebra Mussel Control / Cl Residual: Free - mg/L												
Max IH						0.64			0.64			
Mean IH						0.591		0.591				
Min IH						0.46				0.46		
Zebra Mussel Control / Cl Residual: Total - mg/L												
Max IH						0.8			0.8			
Mean IH						0.721		0.721				





## Health & Safety Work Order Summary by Facility

Start Date: 2018-05-01

End Date: 2018-05-31

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 Plant (5544)	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, Lambton Area RMS (5544-WWLA)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area WTP (5544-WTLA)	3	3	3	5.50	221.38	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)	0	0	0	0.00	0.00	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%
<b>Total</b>			3	3	3	5.50	221.38	85.00%	100.00%	-15.00%

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

## Health & Safety Work Order Summary by Facility

Start Date: 2018-01-01

End Date: 2018-05-13

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 Plant (5544)	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, Lambton Area RMS (5544-WWLA)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		5544, Lambton Area WTP (5544-WTLA)	20	20	19	33.75	1421.71	85.00%	95.00%	-10.00%
		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)	0	0	0	0.00	0.00	85.00%	100.00%	-15.00%
		Lambton Area Water Treatment Plant (5544)	1	1	1	8.00	674.63	85.00%	100.00%	-15.00%
<b>Total</b>			21	21	20	41.75	2096.34	85.00%	95.24%	-10.24%

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

## Work Order Summary by Facility

Start Date: 2018-05-01  
 End Date: 2018-05-31  
 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 \$	
133000		133000	3	3	2	89	3902.85	0	0	0	0	0	0	0	0	0	0	
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	1	1	0	8	323.68	0	0	0	0	0	0	0	0	0	0	
		5544, East Lambton PS (5544-WPEL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5544, Lambton Area RMS (5544-WWLA)	3	3	2	15.5	607.64	0	0	0	0	0	0	1	1	1	4	171.84
		5544, Lambton Area WTP (5544-WTLA)	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		5544, West Lambton Booster Strn (5544-WPWL)	1	1	1	2	117.06	1	1	1	1	58.53	0	0	0	0	0	0
		5544, West ST.Clair Distribution (5544-WDWS)	2	2	0	20	1069.39	0	0	0	0	0	0	0	0	0	0	0
		Lambton Area Water Treatment Plant (5544)	12	12	5	134.5	6020.62	1	1	1	1	58.53	1	1	1	4	171.84	
		<b>Grand Total</b>			24	24	10	269	12041.24	2	2	2	2.00	117.06	2	2	2	8.00

\* NOTE: Capital/Project Work is not included in the calculation of the Closure Rate  
 6/19/18 09:15:47  
 5/25/18 08:21:20

## Work Order Summary by Facility

Start Date: 2018-05-01  
 End Date: 2018-05-31  
 Hub: Lambton

Key Col	Colour	Meaning
Init	Yellow	No Work Orders initialized
Closed	Green	Closure Rate between 20-50%
Closed	Red	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
133000		133000	0	0	0	0	0	4	4	4	33.75	1613.86	0	0	0	0	0	85%	85.71%	-0.71%
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	13	13	13	18.5	866.74	2	2	2	14	670.83	0	0	0	0	0	85%	93.75%	-8.75%
		5544, East Lambton PS (5544-WPEL)	4	4	4	48	1904.36	2	2	2	2.25	92.69	0	0	0	0	0	85%	100%	-15.0%
		5544, Lambton Area RMS (5544-WWLA)	45	45	41	91	3729.29	12	12	12	1932.25	48789.82	1	1	0	16.25	771.19	85%	91.80%	-6.80%
		5544, Lambton Area WTP (5544-WTLA)	7	7	4	11	589.63	2	2	2	8.75	433.69	0	0	0	0	0	85%	54.54%	30.45%
		5544, West Lambton Booster Stn (5544-WPWL)	0	0	0	0	0	2	2	2	12	553.26	1	1	0	3	111.69	85%	100%	-15.0%
		5544, West ST.Clair Distribution (5544-WDWS)	0	0	0	0	0	1	1	0	8	288.32	0	0	0	0	0	85%	0%	85%
		Lambton Area Water Treatment Plant (5544)	69	69	62	168.5	7090.02	25	25	24	2011	52442.47	2	2	0	19.25	882.88	85%	86.11%	13.88%
<b>Grand Total</b>			138	138	124	337	14180.04	50	50	48	4022	104884.94	4	4	0	38.5	1765.76	0	0	0

\* NOTE: Capital/Project Work is not included in the calculation of the Closure Rate

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 5/25/18 08:21:20

## Work Order Summary by Facility

Start Date: 2018-01-01  
 End Date: 2018-05-31  
 Hub: Lambton

Key Col	Colour	Meaning
Init	Yellow	No Work Orders initialized
Closed	Green	Closure Rate between 20-50%
Closed	Red	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 \$		
133000		133000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	5	5	3	122	6320.57	4	4	4	15	707.57	0	0	0	0	0		
		5544, East Lambton PS (5544-WPEL)	7	7	6	61	8632.36	1	1	1	4	171.84	0	0	0	0	0		
		5544, Lambton Area RMS (5544-WWLA)	5	5	5	40.25	13046.04	0	0	0	0	0	0	0	0	0	0	0	
		5544, Lambton Area WTP (5544-WTLA)	25	25	21	289.25	20477.15	0	0	0	0	0	0	5	5	5	41	2139.26	
		5544, West Lambton Booster Strn (5544-WPWL)	3	3	1	13	490.62	0	0	0	0	0	0	0	0	0	0	0	0
		5544, West ST.Clair Distribution (5544-WDWS)	1	1	1	2	117.06	2	2	2	22.5	995.57	0	0	0	0	0	0	0
		Lambton Area Water Treatment Plant (5544)	6	6	4	36.75	5109.09	1	1	1	7.25	17982.19	0	0	0	0	0	0	0
<b>Grand Total</b>			52	52	41	564.25	54192.89	8	8	8	48.75	19857.17	5	5	5	41.00	2139.26		

Grand Total  
 \* NOTE: Capital/Project Work is not included in the calculation of the Closure Rate  
 6/19/18 11:09:18

## Work Order Summary by Facility

Start Date: 2018-01-01  
 End Date: 2018-05-31  
 Hub: Lambton

Key Col	Colour	Meaning
Init	Yellow	No Work Orders initialized
Closed	Orange	Closure Rate between 20-50%
Closed	Red	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
133000		133000	0	0	0	0	0	0	0	0	0	0	1	1	0	19.25	1083.77	85%	100%	-15.0%
LAWSS (133000)	Lambton Area Water Treatment Plant (5544)	5544, East Lambton Distribution (5544-WDEL)	4	4	3	3	175.59	20	20	20	84.25	3805.38	1	1	1	6.5	295.25	85%	90.90%	-5.90%
		5544, East Lambton PS (5544-WPEL)	34	34	34	52	2403.82	10	10	10	34.5	1598.01	0	0	0	0	0	85%	98.07%	-13.0%
		5544, Lambton Area RMS (5544-WWLA)	8	8	8	54	2147.12	10	10	10	89.25	3776.43	1	1	0	102.75	4171.79	85%	100%	-15.0%
		5544, Lambton Area WTP (5544-WTLA)	176	176	169	462	18866.07	65	65	62	8425	217721.62	7	7	3	41.25	2153.31	85%	94.83%	-9.83%
		5544, West Lambton Booster Stn (5544-WPWL)	39	39	36	64.5	3042.72	10	10	10	64.5	2760.51	0	0	0	0	0	85%	90.38%	-5.38%
		5544, West ST.Clair Distribution (5544-WDWS)	2	2	2	9.5	384.37	10	10	10	42.75	1947	1	1	0	3	111.69	85%	100%	-15.0%
		Lambton Area Water Treatment Plant (5544)	5	5	3	46.5	2748.1	1	1	0	8	288.32	2	2	2	90.25	4723.38	85%	61.53%	23.46%
<b>Grand Total</b>			268	268	255	691.5	29767.79	126	126	122	8748.25	231897.27	13	13	6	263	12539.19	85%	93.89%	6.100%

\* NOTE: Capital/Project Work is not included in the calculation of the Closure Rate  
 6/19/18 11:09:18

Capital Project	Board Approved	Consultant/Contractor	PO/Contract Fee	Spent	Unspent	Start Date	End Date	Status	PO/Contract
18-01 Rebuild 32" Ross Valve at WLBS	\$ 70,000.00			\$0.00	\$70,000.00				
18-02 New Generators Replacement (Including Air Louvers)	\$ 4,000,000.00			\$0.00	\$4,000,000.00				
18-03 SCADA Radio Replacement Work (Installation)	\$ 150,000.00			\$17,441.55	\$132,558.45				
18-04 Engineering Studies	\$ 100,000.00	WSP,AECOM		\$16,494.20	\$83,505.80				
R18-01 Lead Replacement		City of Sarnia		\$50,559.52	\$0.00			In Progress	
Tasks carried over from 2017									
14-09 Main Plant HVAC	\$587,383.00	Efficiency Engineering, Landon Mechanical	\$529,172.41	\$540,371.90	\$47,011.10	01-Jan-17		In Progress	187, 196
17-05 Engineering Design for Emergency Generators	\$250,000.00								
17-02 Forest Tower Repaint	\$1,400,000.00	OCWA, Jacques	\$958,714.00	\$951,809.90	\$448,190.10	11-Apr-17		In Progress	205
R17-01 24" Watermain Abandonment	\$360,628.58	MIG Eng, Cope	\$337,902.88	\$339,846.18	\$20,782.40	23-Mar-17		In Progress	209
R17-06 Maher Drain Watermain Offset	\$ 57,051.85	OMEGA		\$ 56,332.07	\$719.78				
R17-05 - Purchase of Chevrolet Silverado		Macfarlane Chevrolet		\$ 291.38				Complete	
<b>Major Maintenance</b>									
MM17-08 Retrofit Panelboard HC and HC incl. Engineer	\$ 38,000.00	OCWA		\$ 2,404.64	\$35,595.36				
MM17-17 Refurb. Ext Gear oper.	\$ 3,253.71	OCWA		\$ 3,253.71	\$0.00				
MM18-01 Fire Alarm Panel	\$ 10,000.00	OCWA			\$10,000.00				
MM18-02 Flood Lights at WTP	\$ 3,000.00	OCWA			\$3,000.00				
MM18-03 2yr Electrical inspection at WTP (electrical study)	\$ 12,500.00	OCWA			\$12,500.00				
MM18-04 Low Life and Surge Well Clean out	\$ 25,000.00	OCWA			\$25,000.00				
MM18-05 Bisulphite Pump Replacement	\$ 25,000.00	OCWA			\$25,000.00				
MM18-06 PLC SCADA migration at WLBS	\$ 15,000.00	OCWA,			\$15,000.00				
MM18-07 WLBS Septic System Tile Bed Repair	\$ 50,000.00	OCWA			\$50,000.00				
MM18-08 Chamber at St Clair Pkwy North of Stanley	\$ 10,000.00	OCWA			\$10,000.00				
MM18-09 Chamber at white line repair ground water leak cement work	\$ 10,000.00	OCWA			\$10,000.00				
MM18-10 Flocculation Gear Drives(6 Units)	\$ 22,500.00	OCWA			\$22,500.00				
MM18-11 Flocculation Mixers (6 Units)	\$ 12,000.00	OCWA			\$12,000.00				
MM18-12 Hydrant Replacement in Pt.edward on Michigan (Contaminated Site)	\$ 25,000.00	OCWA			\$25,000.00				
MM18-13 Meter Removal townsend line Chamber	\$ 12,000.00	OCWA			\$12,000.00				
MM18-14 Phragmites control at WLBS	\$ 6,000.00	OCWA			\$6,000.00				
MM18-15 Replace Asbestos Damaged Ceiling Due to Rain	\$ 45,000.00	OCWA			\$45,000.00				