



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

2020 Client Monthly Operations Report

Lambton Area Water Supply System

August 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 90,000m³, 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

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|-----------------------------------|---|
| 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

August: Internal audit report completed on August 6th.

Maintenance, Operations & Distribution Works Summary 2020

Maintenance

August:

| Date | (P)reventative Capital Major Mtc (C)orrective | Description |
|------------|--|--|
| August 4 | C | Rotork in to look at actuator on Filter #3 surface wash valve. |
| August 4 | P | Conducted 2 year inspection on MCCs at the water treatment plant. |
| August 4 | P | Conducted annual inspection of floc actuator at the water treatment plant. |
| August 5 | C | Polair in at East Lambton Pumping Station to look at air conditioning system. |
| August 6 | Capital | Contractors in for walkthrough for generator project. |
| August 6 | P | Completed annual inspection of PLC panels at West Lambton Pumping Station. |
| August 6 | P | Completed annual inspection of PLC panels at the water treatment plant. |
| August 6 | C | Replaced faulty power supply in the bisulphite control panel for the Residual Management System. |
| August 6 | C | Hydrant #46 in Plympton Wyoming back in service after getting closing nut back on threads. |
| August 6-7 | P | Completed monthly maintenance on chlorine analyzers at the water treatment plant. |
| August 7 | P | Completed monthly maintenance on chlorine analyzer at |

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| | | West Lambton Pumping Station. |
| August 10 | C | Repaired sodium hypo leak at West Lambton Pumping Station. |
| August 10 | P | Completed monthly maintenance on streaming current meters. |
| August 10 | P | Completed monthly maintenance on portable turbidity meter. |
| August 10 | P | Completed monthly maintenance on Residual Management System turbidity meters. |
| August 10 | P | Conducted quarterly test of critical control point limit alarms. |
| August 10 | C | Replaced control fuse on filter #3 backwash valve. |
| August 10 | P | Completed monthly inspection of fluoride analyzer. |
| August 11 | C | Repaired small leak on sand auger in the Residual Management System. |
| August 11 | C | Rotork has completed repairs on the backwash valve for Filter #3. |
| August 11 | P | Conducted monthly maintenance on pH probes at the water treatment plant. |
| August 11 | C | Breaker on inlet valve #2 now operational. |
| August 11 | P | Pumped out diesel and HFS containment areas. |
| August 12 | Major Mtc | Repaired hydrant isolation valve on hydrant #74 at 2977 St Clair Parkway. |
| August 12 | P | Conducted monthly test of eyewash and emergency shower stations. |
| August 13 | P | Working on annual flow meter calibrations in Point Edward. |
| August 13 | C | Replaced belt on #2 air handling unit at the water treatment plant. |
| August 13 | P | Completed six month inspection on Pumps 1, 2 and 5 at West Lambton Pumping Station. |
| August 13-14 | C | Looking into deficiencies from site security audit at Indian Rd Tower. |
| August 14 | Capital | Meeting with LAWSS GM in regards to LAWSS Master Plan. |
| August 17 | C | Reset card reader for entry and exit at the water treatment plant. |
| August 17 | P | Completed monthly inspection on vacuum system at East Lambton Pumping Station. |
| August 18 | P | Completed monthly inspection and calibration of chlorine analyzers at East Lambton Pumping Station. |
| August 18-19 | Major Mtc | Crack injection completed at West Lambton Pumping Station and the water treatment plant. |
| August 18 | C | Polair in to work on the HVAC system in the MCC room at the water treatment plant. |
| August 18 | Capital | Meeting with contractors in regards to the new generator project. |
| August 19 | P | Completed monthly calibration on hand held chlorine analyzers. |
| August 20 | P | Conducted monthly test of polymer system at the water |

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| | | treatment plant. |
| August 20 | P | Completed monthly maintenance on floc gear drives. |
| August 21 | C | Work required as part of the site security audit at Port Lambton has been completed. |
| August 21 | P | Completed annual inspection of PLC panels at East Lambton Pumping Station. |
| August 24 | Major Mtc | Replaced hydrocyclone wear parts on Actiflo #1. |
| August 24 | P | Annual inspection of PLC panels in the Residual Management System is complete. |
| August 24 | P | Completed monthly maintenance on Hach handheld chlorine analyzers. |
| August 24 | C | Made repairs to leaking chlorine line at West Lambton Pumping Station. |
| August 24-25 | P | Completed monthly calibration of all online turbidity analyzers at the water treatment plant. |
| August 25 | Major Mtc | Replaced hydrocyclone wear parts on Actiflo #2. |
| August 25 | P | Completed monthly maintenance on Hach portable turbidity meter. |
| August 25 | C | Rotork in to look at filter inlet valves 1 and 2. |
| August 26 | P | Completed monthly maintenance on travelling screens at the water treatment plant. |
| August 26-31 | C | Correcting deficiencies of the LAWSS radio project. |
| August 27 | C | Ainsworth in to clear potential blockage of thickener effluent to EQ tank pipe. |
| August 31 | C | Ainsworth in to repair MCC air conditioner system at the water treatment plant. |

Operations and Compliance

August:

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| August 2 | South clearwell pump #2 failed with airlock. Pump and panel were reset and restarted. |
| August 5 | Filter #6 inlet valve failed to close prior to backwash. Valve was manually closed. |
| August 6 | Internal audit report completed. |
| August 9 | South clearwell pumps 1 and 2 failed with airlock. Pump and panel were reset and restarted. |
| August 10 | Quarterly THM, HAA and nitrate samples taken. |
| August 10 | Monthly Total Suspended Solids taken in the Residual Management System. |
| August 10 | During weekly checks found small sodium hypo leak at West Lambton Pumping Station. |
| August 10 | South clearwell pump failed with airlock. Pump and panel were reset and restarted. |
| August 11 | Pre chlorine pump failed with a P+ alarm. Pump and panel were reset and |

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| | restarted. |
| August 12 | Filter #2 inlet valve failed to close in both auto and manual mode. |
| August 15 | Pre chlorine pump failed with a P+ alarm. Pump and panel were reset and restarted. |
| August 15 | South clearwell pump #2 failed with airlock. Pump and panel were reset and restarted. |
| August 16 | South clearwell pumps 1 and 2 failed with airlock. Pump and panel were reset and restarted. |
| August 16 | Power outages at the water treatment plant due to storm. No major issues. Pumps had to be reset. |
| August 17 | South clearwell pump failed with airlock. Pump and panel were reset and restarted. |
| August 17 | Filter #4 inlet valve failed to open or close in automatic or manual. |
| August 18 | Power failure at East Lambton Pumping Station. Generator on with no issues. |
| August 18 | Switched over sample pumps for Station 1, 5 and 6. |
| August 18 | Switched from alum pump 1 to alum pump 2. |
| August 19 | Reviewed WSIB certificates for commonly used contractors at LAWSS. No changes required. |
| August 24 | South clearwell pumps 1 and 2 failed with airlock. Pump and panel were reset and restarted. |
| August 25 | South clearwell pump failed with a P+ alarm. Pump and panel were reset and restarted. |
| August 26 | Testing both Actiflo systems after install of hydrocyclone wear parts. Both Actiflos running well and retaining sand. |
| August 26 | Created THM and HAA reports for third quarter. |
| August 26 | Notified of provisional adverse for Point Edward and St Clair Township. Resamples taken. |
| August 28 | Second set of samples taken for adverse results. |
| August 27 | City of Sarnia has large watermain break increasing treated water flow rate. |
| August 29 | Ran pump 1 at West Lambton Pumping Station. |
| August 30 | Pre Chlorine pump failed with airlock. Pump and panel were reset and restarted. |
| August 30 | Ran pump 2 at West Lambton Pumping Station. |

Distribution

August:

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| August 5 | Flushing hydrants on London Line in Sarnia and Plympton Wyoming. |
| August 5 | Hydrant #46 in Plympton Wyoming on London Line will not close. |
| August 6 | Hydrant #46 in Plympton Wyoming back in service after repairs. |
| August 7 | Valve operations and chamber check on London Line in Plympton Wyoming. |
| August 13 | Endress and Hauser in to calibrate flow meters in Point Edward. |
| August 14 | Hydrant flushing in St Clair Township on Wilkesport Line. |
| August 16 | Emergency locate #2020340331. |

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| August 17 | Emergency locate #2020346549 at 3675 Confederation Line. |
| August 25 | Flushing hydrants on the St Clair Parkway in St Clair Township. |
| August 25 | Flushing hydrants on London Line in Plympton-Wyoming. |
| August 26 | On site for third party work on London Line in the City of Sarnia. |
| August 26 | On site for third party work on Confederation and Brock in the City of Sarnia for work being done by Vink. |
| August 27 | On site for third party work on London Rd and Murphy for work being done by Bluewater Power. |
| August 27 | Flushing hydrants on St Clair Parkway in St Clair Township. |
| August 28 | Site visit for work being done on Hwy 40 and LaSalle Line. |
| August 31 | Site visit for work being done on Hwy 40 and LaSalle Line. |

Call Outs 2020

August: Call out for sodium bisulphite pump failure in the Residual Management System on August 3rd. Issue was with a faulty 24V power supply to the pump relays. Pump was placed in hand and operated in hand until power supply was restored.

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 | 158 | | | | |

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 m³

| 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 | 156 | | | | |

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: 2020-08-01

End Date: 2020-08-31

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 | 5.75 | 288.09 | 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) | 1 | 1 | 1 | 1.00 | 38.16 | 85.00% | 100.00% | -15.00% |
| | | Lambton Area Water Treatment Plant (5544) | 1 | 1 | 1 | 1.50 | 89.69 | 85.00% | 100.00% | -15.00% |
| | | Total | | | 4 | 4 | 4 | 8.25 | 415.94 | 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: 2020-08-31

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) | 25 | 25 | 25 | 48.50 | 2096.84 | 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) | 7 | 7 | 7 | 8.25 | 339.57 | 85.00% | 100.00% | -15.00% |
| | | Lambton Area Water Treatment Plant (5544) | 4 | 4 | 4 | 6.00 | 308.45 | 85.00% | 100.00% | -15.00% |
| | | Total | | | 36 | 36 | 36 | 62.75 | 2744.86 | 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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Work Order Summary by Facility

Start Date: 2020-08-01
End Date: 2020-08-31
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) | 1 | 1 | 1 | 6.5 | 414.38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, East Lambton PS (5544-WPEL) | 1 | 1 | 1 | 1 | 46.31 | 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) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, Lambton Area RMS (5544-WWLA) | 2 | 2 | 1 | 6 | 404.29 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 8 | 551.88 |
| | | 5544, Lambton Area WTP (5544-WTLA) | 2 | 2 | 1 | 0.5 | 21.69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, Port Lambton Standpipe (5544-WDPL) | 1 | 1 | 1 | 6 | 277.86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, Watford Standpipe (5544-WDWF) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, West Lambton Booster Stn (5544-WPWL) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, West ST.Clair Distribution (5544-WDWS) | 6 | 6 | 6 | 16.5 | 2220.42 | 1 | 1 | 1 | 3 | 191.25 | 0 | 0 | 0 | 0 | 0 |
| | | Lambton Area Water Treatment Plant (5544) | 5 | 5 | 2 | 27.25 | 1768.61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grand Total | | | 18 | 18 | 13 | 63.75 | 5153.56 | 1 | 1 | 1 | 3.00 | 191.25 | 1 | 1 | 1 | 8.00 | 551.88 |

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Work Order Summary by Facility

Start Date: 2020-08-01
End Date: 2020-08-31
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 | 7.25 | 310.56 | 0 | 0 | 0 | 0 | 0 | 85% | 100% | -15.0% |
| | | 5544, East Lambton PS (5544-WPEL) | 3 | 3 | 3 | 6 | 357.14 | 2 | 2 | 2 | 6.5 | 293.93 | 0 | 0 | 0 | 0 | 0 | 85% | 100% | -15.0% |
| | | 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% | 100% | -15.0% |
| | | 5544, Lambton Area RMS (5544-WWLA) | 3 | 3 | 3 | 5 | 290.46 | 2 | 2 | 2 | 7.75 | 446.53 | 2 | 2 | 2 | 20 | 1061 | 85% | 87.5% | -2.50% |
| | | 5544, Lambton Area WTP (5544-WTLA) | 30 | 30 | 27 | 56.75 | 2723.08 | 11 | 11 | 10 | 1562 | 43571.98 | 0 | 0 | 0 | 0 | 0 | 85% | 88.37% | -3.37% |
| | | 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) | 7 | 7 | 6 | 12.5 | 746.42 | 2 | 2 | 2 | 10 | 537.56 | 0 | 0 | 0 | 0 | 0 | 85% | 88.88% | -3.88% |
| | | 5544, West ST.Clair Distribution (5544-WDWS) | 1 | 1 | 0 | 0 | 0 | 5 | 5 | 5 | 20.5 | 918.85 | 1 | 1 | 0 | 7.25 | 345.83 | 85% | 92.30% | -7.30% |
| | | Lambton Area Water Treatment Plant (5544) | 1 | 1 | 1 | 1.5 | 89.69 | 1 | 1 | 0 | 12.5 | 762 | 0 | 0 | 0 | 0 | 0 | 85% | 42.85% | 42.14% |
| Grand Total | | | 45 | 45 | 40 | 81.75 | 4206.79 | 27 | 27 | 25 | 1626.5 | 46841.41 | 3 | 3 | 2 | 27.25 | 1406.83 | 85% | 100% | -15.0% |

Work Order Summary by Facility

Start Date: 2020-01-01
End Date: 2020-08-31
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) | 133000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, East Lambton Distribution (5544-WDEL) | 4 | 4 | 4 | 37.25 | 1736.25 | 1 | 1 | 1 | 13.25 | 545.45 | 2 | 2 | 2 | 16 | 3764.87 |
| | | 5544, East Lambton PS (5544-WPEL) | 6 | 6 | 6 | 32.5 | 1400.54 | 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 | 6.25 | 289.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, Lambton Area RMS (5544-WWLA) | 4 | 4 | 3 | 19.5 | 984.84 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 8 | 551.88 |
| | | 5544, Lambton Area WTP (5544-WTLA) | 32 | 32 | 25 | 231.75 | 15761.94 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 8 | 395.4 |
| | | 5544, Port Lambton Standpipe (5544-WDPL) | 1 | 1 | 1 | 6 | 277.86 | 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) | 6 | 6 | 6 | 19.25 | 1178.25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 5544, West ST.Claire Distribution (5544-WDWS) | 8 | 8 | 8 | 48.25 | 10393.36 | 2 | 2 | 2 | 12 | 511.14 | 1 | 1 | 1 | 6 | 211.62 |
| Grand Total | | | 63 | 63 | 54 | 405.25 | 32236.75 | 3 | 3 | 3 | 25.25 | 1056.59 | 7 | 7 | 7 | 46.00 | 5450.97 |

Work Order Summary by Facility

Start Date: 2020-01-01
End Date: 2020-08-31
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) | 133000 | 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 | 3 | 4.25 | 270.94 | 32 | 32 | 32 | 85 | 3322.36 | 1 | 1 | 1 | 17.25 | 14528.39 | 85% | 93.33% | -8.33% |
| | | 5544, East Lambton PS (5544-WPEL) | 44 | 44 | 40 | 58 | 2860.01 | 18 | 18 | 18 | 77.5 | 3244.29 | 0 | 0 | 0 | 0 | 0 | 85% | 94.20% | -9.20% |
| | | 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) | 23 | 23 | 23 | 55.75 | 2750.77 | 16 | 16 | 16 | 114.75 | 5861.08 | 2 | 2 | 2 | 20 | 1061 | 85% | 97.72% | -12.7% |
| | | 5544, Lambton Area WTP (5544-WTLA) | 284 | 284 | 257 | 839.25 | 49733.95 | 99 | 99 | 96 | 12578.25 | 365835.1 | 4 | 4 | 2 | 23 | 17209.88 | 85% | 91.12% | -6.12% |
| | | 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) | 65 | 65 | 53 | 72.5 | 3501.53 | 16 | 16 | 16 | 100.5 | 4882.48 | 0 | 0 | 0 | 0 | 0 | 85% | 86.20% | -1.20% |
| | | 5544, West ST.Clair Distribution (5544-WDWS) | 4 | 4 | 0 | 0.5 | 18.21 | 26 | 26 | 25 | 78.25 | 3427.8 | 2 | 2 | 0 | 17.75 | 997.77 | 85% | 87.80% | -2.80% |
| Grand Total | | | 426 | 426 | 376 | 1030.25 | 59135.41 | 207 | 207 | 203 | 13034.25 | 386573.1 | 10 | 10 | 5 | 226.75 | 42487.11 | 85% | 100% | -15.0% |

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Ontario Clean Water Agency
Time Series Info Report

Report extracted 09/04/2020 15:34

From: 01/01/2020 to 31/08/2020

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 | 08/2020 | 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 | 24.456 | | | 30.355 | |
| Mean IH | 20.802 | 24.673 | 25.189 | 23.287 | 21.491 | 19.913 | 20.225 | 20.231 | | 21.957 | | |
| Min IH | 15.602 | 20.415 | 20.129 | 16.333 | 16.002 | 17.122 | 15.408 | 17.292 | | | | 15.408 |
| Coagulation/Floculation / Coagulant Used - kg | | | | | | | | | | | | |
| Max IH | 1241.6 | 1459.2 | 1638.4 | 1190.4 | 1459.2 | 1779.2 | 2163.2 | 1740.8 | | | 2163.2 | |
| Mean IH | 964.129 | 1110.069 | 1104.103 | 979.2 | 1063.226 | 1296.64 | 1533.11 | 1302.297 | | 1169.836 | | |
| Min IH | 691.2 | 870.4 | 793.6 | 780.8 | 832 | 908.8 | 1139.2 | 1024 | | | | 691.2 |
| Total IH | 29888 | 32192 | 34227.2 | 29376 | 32960 | 38899.2 | 47526.4 | 40371.2 | 285440 | | | |
| Coagulation/Floculation / Coagulant Volume Used - m³ | | | | | | | | | | | | |
| Max IH | 0.97 | 1.14 | 1.28 | 0.93 | 1.14 | 1.39 | 1.69 | 1.36 | | | 1.69 | |
| Mean IH | 0.753 | 0.867 | 0.863 | 0.765 | 0.831 | 1.013 | 1.198 | 1.017 | | 0.914 | | |
| Min IH | 0.54 | 0.68 | 0.62 | 0.61 | 0.65 | 0.71 | 0.89 | 0.8 | | | | 0.54 |
| Total IH | 23350 | 25150 | 26740 | 22950 | 25750 | 30390 | 37130 | 31540 | 223000 | | | |
| DW / Trihalomethane: Total - µg/l | | | | | | | | | | | | |
| Max Lab | 31 | | | | 39 | | | 64 | | | 64 | |
| Mean Lab | 29.667 | | | | 34.667 | | | 54.333 | | 39.556 | | |
| Min Lab | 28 | | | | 28 | | | 43 | | | | 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 | 1.48 | | | 1.83 | |
| Mean OL | 1.359 | 1.372 | 1.434 | 1.424 | 1.419 | 1.382 | 1.296 | 1.244 | | 1.366 | | |
| Min OL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.05 | | | | 0 |
| Filter Backwash / Backwash Volume - m³ | | | | | | | | | | | | |
| Max IH | 2988 | 4208 | 3666 | 2702 | 2716 | 3016 | 3020 | 3378 | | | 4208 | |
| Mean IH | 2017.581 | 2051.793 | 2001.742 | 1775.2 | 1903.613 | 2066.133 | 2190.516 | 2167.968 | | 2022.402 | | |
| Min IH | 1208 | 1200 | 0 | 602 | 1204 | 1206 | 1794 | 1200 | | | | 0 |
| HFS / Fluoride Dosage - mg/L | | | | | | | | | | | | |
| Max IH | 0.63 | 0.633 | 0.647 | 0.645 | 0.685 | 0.594 | 0.87 | 0.589 | | | 0.87 | |
| Mean IH | 0.55 | 0.556 | 0.555 | 0.554 | 0.551 | 0.534 | 0.532 | 0.52 | | 0.544 | | |
| Min IH | 0.477 | 0.516 | 0.433 | 0.491 | 0.41 | 0.399 | 0.459 | 0.351 | | | | 0.351 |
| HFS / Fluoride Used - l | | | | | | | | | | | | |
| Max IH | 88.823 | 94.553 | 91.689 | 88.823 | 120.341 | 137.533 | 171.932 | 160.451 | | | 171.932 | |
| Mean IH | 83.185 | 82.796 | 81.437 | 77.934 | 90.587 | 114.818 | 132.568 | 113.887 | | 97.275 | | |

| | | | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|--|---------|
| Min IH | 68.766 | 77.361 | 63.295 | 68.762 | 71.631 | 85.957 | 106.015 | 83.582 | | | | | 63.295 |
| Total IH | 2578.73 | 2401.087 | 2524.546 | 2338.016 | 2808.208 | 3444.541 | 4109.602 | 3530.489 | 23735.22 | | | | |
| HFS / HFS (kg) - kg | | | | | | | | | | | | | |
| Max IH | 108.364 | 115.355 | 111.86 | 108.364 | 146.816 | 167.79 | 209.757 | 195.75 | | | 209.757 | | |
| Mean IH | 101.486 | 101.011 | 99.353 | 95.079 | 110.517 | 140.078 | 161.733 | 138.942 | | 118.676 | | | |
| Min IH | 83.895 | 94.38 | 77.22 | 83.89 | 87.39 | 104.868 | 129.338 | 101.97 | | | | | 77.22 |
| Total IH | 3146.051 | 2929.326 | 3079.946 | 2852.38 | 3426.014 | 4202.34 | 5013.714 | 4307.197 | 28956.97 | | | | |
| HFS / Treated Water Fluoride Residual - mg/L | | | | | | | | | | | | | |
| Max OL | 2 | 0.81 | 0.92 | 0.8 | 0.81 | 0.81 | 0.75 | 0.71 | | | 2 | | |
| Mean OL | 0.544 | 0.63 | 0.692 | 0.666 | 0.673 | 0.661 | 0.599 | 0.605 | | 0.633 | | | |
| Min OL | 0 | 0.23 | 0.51 | 0.55 | 0.56 | 0.21 | 0.44 | 0.48 | | | | | 0 |
| Post Disinfection / Chlorine Dosage - mg/L | | | | | | | | | | | | | |
| Max IH | 2.078 | 1.897 | 2.157 | 2.232 | 2.063 | 2.016 | 3.085 | 2.566 | | | 3.085 | | |
| Mean IH | 1.449 | 1.561 | 1.676 | 1.599 | 1.618 | 1.796 | 1.955 | 2.276 | | 1.743 | | | |
| Min IH | 0.822 | 1.03 | 1.288 | 0.933 | 1.134 | 1.582 | 1.109 | 1.802 | | | | | 0.822 |
| Post Disinfection / Hypochlorite Dosage - mg/L | | | | | | | | | | | | | |
| Max IH | 17.316 | 15.809 | 17.977 | 18.596 | 17.191 | 16.797 | 25.705 | 21.38 | | | 25.705 | | |
| Mean IH | 12.072 | 13.011 | 13.971 | 13.325 | 13.483 | 14.971 | 16.289 | 18.963 | | 14.526 | | | |
| Min IH | 6.854 | 8.586 | 10.733 | 7.779 | 9.447 | 13.18 | 9.244 | 15.014 | | | | | 6.854 |
| Post Disinfection / Hypochlorite Used - kg | | | | | | | | | | | | | |
| Max IH | 777.85 | 680.325 | 1083.35 | 707.35 | 1025.775 | 1294.85 | 1834.175 | 1595.65 | | | 1834.175 | | |
| Mean IH | 559.262 | 585.231 | 615.927 | 560.867 | 672.782 | 972.927 | 1237.768 | 1222.948 | | 805.553 | | | |
| Min IH | 254.975 | 358.375 | 440.625 | 420.65 | 425.35 | 701.475 | 566.35 | 830.725 | | | | | 254.975 |
| Total IH | 17337.13 | 16971.7 | 19093.75 | 16826 | 20856.25 | 29187.82 | 38370.8 | 37911.38 | 196554.8 | | | | |
| Post Disinfection / Hypochlorite Volume-Total - m³ | | | | | | | | | | | | | |
| Max IH | 0.662 | 0.579 | 0.922 | 0.602 | 0.873 | 1.102 | 1.561 | 1.358 | | | 1.561 | | |
| Mean IH | 0.476 | 0.498 | 0.524 | 0.477 | 0.573 | 0.828 | 1.053 | 1.041 | | 0.686 | | | |
| Min IH | 0.217 | 0.305 | 0.375 | 0.358 | 0.362 | 0.597 | 0.482 | 0.707 | | | | | 0.217 |
| Total IH | 14755 | 14444 | 16250 | 14320 | 17750 | 24840.7 | 32656 | 32265 | 167280.7 | | | | |
| Post Disinfection / Station 7 Cl Residual: Free - mg/L | | | | | | | | | | | | | |
| Max OL | 5 | 1.75 | 3.1 | 1.84 | 1.85 | 1.8 | 1.82 | 1.87 | | | 5 | | |
| Mean OL | 1.608 | 1.636 | 1.816 | 1.664 | 1.662 | 1.613 | 1.62 | 1.636 | | 1.657 | | | |
| Min OL | 0 | 1.45 | 1.45 | 0 | 1.4 | 0 | 1.33 | 0 | | | | | 0 |
| PrTr / P.A.C. Dosage - mg/L | | | | | | | | | | | | | |
| Max IH | | | | | | 0.594 | 0.39 | 0.501 | | | 0.594 | | |
| Mean IH | | | | | | 0.386 | 0.29 | 0.358 | | 0.344 | | | |
| Min IH | | | | | | 0.187 | 0.191 | 0.274 | | | | | 0.187 |
| PrTr / P.A.C. Used - kg | | | | | | | | | | | | | |
| Max IH | | | | | | 29.461 | 22.09 | 29.28 | | | 29.461 | | |
| Mean IH | | | | | | 24.607 | 21.526 | 22.645 | | 22.889 | | | |
| Min IH | | | | | | 12.27 | 12.27 | 21.271 | | | | | 12.27 |
| Total IH | | | | | | 713.612 | 667.309 | 702.005 | 2082.926 | | | | |
| Raw Water / Background - cfu/100mL | | | | | | | | | | | | | |
| Max Lab | 10 | 5 | 0 | 0 | 11 | 270 | 2000 | 2200 | | | 2200 | | |
| Mean Lab | 2.5 | 1.25 | 0 | 0 | 2.75 | 58 | 528.75 | 845.25 | | 170.941 | | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | | | | | 0 |
| Raw Water / Conductivity - µS/cm | | | | | | | | | | | | | |
| Max IH | 223.4 | 235.2 | 231.1 | 229.8 | 244.9 | 234.5 | 231.8 | 257.3 | | | 257.3 | | |
| Mean IH | 220.597 | 226.503 | 222.677 | 222.918 | 227.515 | 229.864 | 229.078 | 231.924 | | 226.383 | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|----------|---|----------|---|----------|---|----------|---|----------|---|----------|---|----------|---|----------|--|----------|--|--|--|--|--|-------|----------|--------|--------|----|
| Min IH | | 217.1 | | 217.6 | | 217.8 | | 218.65 | | 176.9 | | 227.8 | | 199.2 | | 223.5 | | | | | | | | | | | 176.9 | |
| Raw Water / E. Coli: EC - cfu/100mL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 2 | | 2 | | 20 | | | | | | | | | | 20 | | |
| Mean Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0.4 | | 0.75 | | 5.75 | | | | | | | | 0.824 | | | | |
| Min Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | 0 | | |
| Raw Water / Raw Flow Daily - m³/d | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max IH | | 51462 | | 49347 | | 68210 | | 54076 | | 68792 | | 89737 | | 105002 | | 80612 | | | | | | | | | | 105002 | | |
| Mean IH | | 46223.13 | | 45011.1 | | 43968.16 | | 42331.93 | | 49718.13 | | 65201.9 | | 75955.06 | | 64405.61 | | | | | | | | | 54179.14 | | | |
| Min IH | | 37203 | | 38233 | | 26615 | | 30479 | | 41407 | | 44210 | | 56658 | | 51308 | | | | | | | | | | | 26615 | |
| Raw Water / Raw Flow Rate - l/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max IH | | 595.62 | | 571.15 | | 789.47 | | 600.16 | | 796.2 | | 1038.62 | | 1215.3 | | 933.01 | | | | | | | | | | 1215.3 | | |
| Mean IH | | 534.99 | | 523.03 | | 508.89 | | 482.67 | | 575.45 | | 754.15 | | 878.95 | | 749.35 | | | | | | | | | 626.84 | | | |
| Min IH | | 430.59 | | 442.51 | | 308.04 | | 352.77 | | 479.24 | | 511.69 | | 655.76 | | 593.84 | | | | | | | | | | | 308.04 | |
| Raw Water / Raw Water Turbidity - NTU | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max OL | | 14 | | 11.4 | | 23 | | 6.6 | | 3.4 | | 3.79 | | 4.93 | | 6.5 | | | | | | | | | | 23 | | |
| Mean OL | | 2.445 | | 3.495 | | 3.194 | | 1.747 | | 1.714 | | 1.035 | | 0.86 | | 1.009 | | | | | | | | | 1.937 | | | |
| Min OL | | 0.26 | | 0.51 | | 0.587 | | 0.41 | | 0.65 | | 0.354 | | 0.3 | | 0.29 | | | | | | | | | | | 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 | | | | | | | | | | 8.46 | | |
| Mean IH | | 8.114 | | 8.051 | | 8.051 | | 8.065 | | 8.153 | | 8.252 | | 8.357 | | 8.395 | | | | | | | | | 8.181 | | | |
| Min IH | | 8.02 | | 7.98 | | 7.96 | | 7.9 | | 8.03 | | 8.14 | | 8.26 | | 8.31 | | | | | | | | | | | 7.9 | |
| Raw Water / Temperature - °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max IH | | 10 | | 8 | | 12 | | 11.7 | | 14 | | 17.9 | | 23 | | 24 | | | | | | | | | | 24 | | |
| Mean IH | | 7.466 | | 6.083 | | 9.203 | | 9.432 | | 11.392 | | 15.318 | | 20.93 | | 22.701 | | | | | | | | | 12.875 | | | |
| Min IH | | 5.5 | | 3 | | 5.9 | | 6.87 | | 8.025 | | 12.8 | | 17.9 | | 21.5 | | | | | | | | | | | 3 | |
| Raw Water / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 5 | | 10 | | 230 | | | | | | | | | | 230 | | |
| Mean Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 1 | | 4.75 | | 103 | | | | | | | | | 12.824 | | | |
| Min Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | 0 | | |
| Treated Water / Background - cfu/100mL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 5 | | | | | | | | | | 5 | | |
| Mean Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 1.25 | | | | | | | | | 0.147 | | | |
| Min Lab | | 0 | | 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 | | | | | | | | | | 0 | | |
| Mean Lab | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | | | | | | 0 | | | |
| Min Lab | | 0 | | 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 | | 1087759 | | 8096150 | | | | | | | | | | |
| Treated Water / Flow: Total of All Sources - m³/d | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max IH | | 48147 | | 47888 | | 47433 | | 45327 | | 65796 | | 79186 | | 97657 | | 81049 | | | | | | | | | | 97657 | | |
| Mean IH | | 44815.48 | | 44078.86 | | 43484.03 | | 41675.97 | | 48893.58 | | 63849.17 | | 74404.65 | | 64862.68 | | | | | | | | | 53337.35 | | | |
| Min IH | | 37737 | | 38449 | | 35292 | | 38147 | | 38491 | | 47877 | | 43853 | | 47559 | | | | | | | | | | | 35292 | |
| Total IH | | 1389280 | | 1278287 | | 1348005 | | 1250279 | | 1515701 | | 1915475 | | 2306544 | | 2010743 | | 13014314 | | | | | | | | | | |
| Treated Water / HPC - cfu/mL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max Lab | < | 10 | < | 40 | < | 10 | < | 10 | < | 10 | < | 10 | < | 10 | < | 10 | | | | | | | | | < | 40 | | |
| Mean Lab | < | 10 | < | 17.5 | < | 10 | < | 10 | < | 10 | < | 10 | < | 10 | < | 10 | | | | | | | | | < | 10.968 | | |
| Min Lab | < | 10 | < | 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 | | | 0 | 0 | | |
| Mean Lab | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | | | |
| Min Lab | | 0 | 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 | 0.09 | | | | 0.741 | | |
| Mean OL | | 0.069 | 0.069 | 0.082 | 0.072 | 0.069 | 0.069 | 0.065 | 0.066 | | | 0.07 | | | |
| Min OL | | 0.052 | 0.052 | 0.048 | 0.05 | 0.05 | 0.045 | 0.044 | 0.048 | | | | | 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 | 1.67 | | | | 4.98 | | |
| Mean OL | | 1.666 | 1.694 | 1.735 | 1.63 | 1.626 | 1.5 | 1.451 | 1.453 | | | 1.594 | | | |
| Min OL | | 0 | 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 | 1.807 | | | | 1.807 | | |
| Mean IH | | 1.057 | 1.137 | 1.143 | 1.125 | 1.091 | 1.042 | 1.07 | 1.172 | | | 1.105 | | | |
| Min IH | | 0.972 | 0.971 | 1.039 | 0.83 | 0.829 | 0.896 | 0.941 | 1.032 | | | | | 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 | 0.64 | | | | 0.77 | | |
| Mean IH | | 0.597 | 0.599 | 0.634 | 0.61 | 0.627 | 0.609 | 0.617 | 0.579 | | | 0.609 | | | |
| Min IH | | 0.46 | 0.44 | 0.51 | 0.42 | 0.43 | 0.44 | 0.44 | 0.45 | | | | | 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 | 0.8 | | | | 0.88 | | |
| Mean IH | | 0.759 | 0.754 | 0.785 | 0.746 | 0.756 | 0.728 | 0.736 | 0.723 | | | 0.748 | | | |
| Min IH | | 0.61 | 0.6 | 0.67 | 0.53 | 0.52 | 0.53 | 0.55 | 0.56 | | | | | 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 | 15.054 | | | | 15.054 | | |
| Mean IH | | 8.812 | 9.472 | 9.521 | 9.375 | 9.095 | 8.684 | 8.918 | 9.763 | | | 9.204 | | | |
| Min IH | | 8.102 | 8.095 | 8.656 | 6.916 | 6.906 | 7.468 | 7.841 | 8.6 | | | | | 6.906 | |
| Zebra Mussel Control / Hypochlorite Used - kg | | | | | | | | | | | | | | | |
| Max IH | | 470 | 492.325 | 667.4 | 504.075 | 635.675 | 791.95 | 1110.375 | 871.85 | | | | 1110.375 | | |
| Mean IH | | 407.081 | 425.512 | 418.262 | 393.938 | 451.882 | 565.998 | 677.141 | 627.185 | | | 496.582 | | | |
| Min IH | | 339.575 | 358.375 | 278.475 | 312.55 | 323.125 | 381.875 | 489.975 | 492.325 | | | | | 278.475 | |
| Total IH | | 12619.5 | 12339.85 | 12966.13 | 11818.15 | 14008.35 | 16979.93 | 20991.38 | 19442.73 | 121166 | | | | | |
| Zebra Mussel Control / Hypochlorite Volume-Total-1 - m³ | | | | | | | | | | | | | | | |
| Max IH | | 0.4 | 0.419 | 0.568 | 0.429 | 0.541 | 0.674 | 0.945 | 0.742 | | | | 0.945 | | |
| Mean IH | | 0.346 | 0.362 | 0.356 | 0.335 | 0.385 | 0.482 | 0.576 | 0.534 | | | 0.423 | | | |
| Min IH | | 0.289 | 0.305 | 0.237 | 0.266 | 0.275 | 0.325 | 0.417 | 0.419 | | | | | 0.237 | |
| Total IH | | 10740 | 10502 | 11035 | 10058 | 11922 | 14451 | 17865 | 16547 | 103120 | | | | | |
| Filter Backwash / Backwash Volume - m³ | | | | | | | | | | | | | | | |
| Total IH | | 62545 | 59502 | 62054 | 53256 | 59012 | 61984 | 67906 | 67207 | 493466 | | | | | |
| | | | | | | | | | | | | | | | |
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