

THE TOWN OF ESSEX HARROW WASTEWATER LAGOONS

Submitted by: Karen Burgess, Senior Operations Manager
Ontario Clean Water Agency

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*2023
Fourth
Quarter
Operations
Report*

HARROW WASTEWATER LAGOONS



Service Information

In service Date: 1974

Classification: Class 1 Wastewater Treatment, Class 2 Wastewater Collection

Environmental Certificate of Approval: 6365-A4RQ5X

Capacity Information

Rated Capacity: 2,106 m³/day

Overview:

The Harrow Wastewater Lagoons is owned by the Town of Essex and operated by the Ontario Clean Water Agency (OCWA).

The Harrow Collection System is also operated by OCWA consisting of two wastewater pump stations. The main pump station contains a diesel generator which is available to allow the treatment plant to remain in operation should a power failure occur.

Collection system piping repairs and maintenance are performed by the Town of Essex - Public Works Department.

Operational Description:

The Harrow Wastewater Lagoons consists of:

- One aerated facultative cell equipped with six floating aerators
- Four facultative cells
- Filtration system containing two sand filters
- Phosphorus removal system
- Discharge pipe to the Richmond Drain, which flows into Cedar Creek

HARROW WASTEWATER LAGOONS



COMPLIANCE SUMMARY

Fourth Quarter

- Quarterly bypass report was submitted to MECP October 13th.
- Effluent discharge ended November 5th.

Third Quarter

- Quarterly bypass report was submitted to MECP July 14th.
- Effluent discharge commenced September 4th.

Second Quarter

- Quarterly bypass report was submitted to MECP April 18th.
- Effluent discharge commenced April 10th and was terminated on May 2nd.
- Bypass was reported to MECP since we were discharging and bypassing cell #2 at the same time.

First Quarter

- Annual WSER report was submitted to Environment Canada on February 6th.
- 2022 fourth quarter bypass report was submitted to MECP on January 13th.
- Annual report was submitted to MECP and the Town of Essex on March 16th.

OCCUPATIONAL HEALTH & SAFETY

Fourth Quarter

- No issues were identified

Third Quarter

- No issues were identified

Second Quarter

- No issues were identified

First Quarter

- Annual Health & Safety Inspection was completed on January 26th
 - No issues were identified

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INSPECTIONS

Fourth Quarter

- No inspections this quarter.

Third Quarter

- Annual flow meter calibrations completed by Indus Control – July 17th
- Semi-annual inspection on fixed gas monitor was completed by Indus Control - July 17th

Second Quarter

- Annual lifting device inspections completed by Alift – April 20th

First Quarter

- Semi-annual inspection on fixed gas monitor completed – January 4th
- Annual backflow device inspections completed by KZ Plumbing – February 10th
 - All units passed
- Annual fire extinguisher inspections completed by Guardian Fire Protection – March 1st

ALARM CALL-IN SUMMARY

Fourth Quarter

- No call-ins this quarter.

Third Quarter

Date	Alarm
31-Aug-23	Phase Loss at the Back Building

Second Quarter

Date	Alarm
08-April-23	Phase Loss at the Back Building

First Quarter

- No call-ins this quarter.

HARROW WASTEWATER LAGOONS



MAINTENANCE & OPERATIONS

OCWA's Computerized Maintenance Management System (CMMS) contains a comprehensive history of the work, condition, cost, criticality, and life expectancy of the equipment at Harrow Wastewater Lagoons and Collection System. OCWA uses a program called Maximo to track, schedule, and document all work related to the infrastructure we operate and maintain on behalf of the Town of Essex.

Fourth Quarter

- Replaced pump #2 run capacitor at Silva PS.
- Chris Taylor made repairs to the berms and main entrance.

Third Quarter

- Aerator #5 repaired by Phasor and put back in service.
- Dimenna Excavating leveled out sludge piles in cell #2.
- Cell #2 put back in service July 14th.
- Major storm event on July 26th knocked down several trees and area wide power outage.
- Both filter beds cut and sprayed for weeds by G&S Equipment Rentals.
- Major storm event on August 24th caused area wide power outage - high levels at the Harrow Front Building and Silva Pump Station.

Second Quarter

- WESSUC transferred dried sludge to the landfill. 325 loads were hauled off-site.
- Guiderail system for the Muffin Monster at the front building was installed by Nevro.
- Replacement cutters on the Muffin Monster were installed by the manufacture.
- Aerators #3, #4 and #5 still out of service for repairs.
- Harrow Front Building PS and Silva PS wet wells cleaned out.

First Quarter

- WESSUC onsite to transfer sludge from cell #2 to the north corner of the cell.
- Replaced sensor on gas monitoring system at front building.
- Aerators #3, #4 and #5 out of service for repairs.
- Repairs made to the unit heater at the back building by Lekter Industrial.

HARROW WASTEWATER LAGOONS



COMPLAINTS & CONCERNS

Fourth Quarter

No complaints received this quarter.

Third Quarter

No complaints received this quarter.

Second Quarter

- There were no complaints received this quarter.

First Quarter

- There were no complaints received this quarter.

PERFORMANCE ASSESSMENT REPORT

- Please see the attached Performance Assessment Report.

5907 HARROW WASTEWATER TREATMENT LAGOON 110002103

	1/ 2023	2/ 2023	3/ 2023	4/ 2023	5/ 2023	6/ 2023	7/ 2023	8/ 2023	9/ 2023	10/ 2023	11/ 2023	12/ 2023	<--Total-->	<--Avg-->	<--Max-->	<-Criteria-->
Flows																
Raw Flow: Total - Raw m³/d	31,221.00	34,372.00	43,380.00	32,552.00	29,744.00	27,206.00	35,968.00	53,516.00	34,033.00	31,099.00	28,900.00	32,150.00	414,141.00			0.00
Raw Flow: Avg - Raw m³/d	1,007.13	1,227.57	1,399.35	1,085.07	959.48	906.87	1,160.26	1,726.32	1,134.43	1,003.19	963.33	1,037.10		1,134.63		
Raw Flow: Max - Raw m³/d	1,735.00	2,625.00	2,573.00	1,619.00	1,393.00	1,375.00	2,207.00	9,074.00	1,497.00	1,405.00	1,114.00	1,241.00			9,074.00	0.00
Raw Flow: Count - Raw m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Eff. Flow: Total - Effluent m³/d	0.00	0.00	0.00	136,227.00	695.00	0.00	0.00	0.00	113,771.00	98,509.00	35,741.00	0.00	384,943.00			0.00
Eff. Flow: Avg - Effluent m³/d	0.00	0.00	0.00	6,487.00	347.50	0.00	0.00	0.00	4,213.74	3,177.71	1,191.37	0.00		3,467.95		
Eff. Flow: Max - Effluent m³/d	0.00	0.00	0.00	9,665.00	348.00	0.00	0.00	0.00	5,558.00	4,150.00	10,256.00	0.00			10,256.00	0.00
Eff Flow: Count - Effluent m³/d	0.00	0.00	0.00	21.00	2.00	0.00	0.00	0.00	27.00	31.00	30.00	0.00	111.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw mg/L	288.00	287.00	233.00	640.00	457.00	88.00	148.00	196.00	376.00	365.00	412.00	191.00		306.75	640.00	0.00
Raw: # of samples of BOD5 - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw mg/L	656.00	258.00	486.00	553.00	1,030.00	51.00	120.00	137.00	327.00	65.00	91.00	83.00		321.42	1,030.00	0.00
Raw: # of samples of TSS - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw mg/L	5.10	3.16	3.50	5.80	7.30	1.81	4.17	2.89	2.65	3.14	2.29	4.80		3.88	7.30	0.00
Raw: # of samples of TP - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Nitrogen Series																
Raw: Avg TKN - Raw mg/L	40.40	28.60	28.70	40.30	41.40	20.70	36.50	26.80	21.80	25.10	21.80	46.00		31.51	46.00	0.00
Raw: # of samples of TKN - Raw mg/L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg NO3-N - Effluent mg/L	0.00	0.00	0.00	0.00	6.22	0.00	0.00	0.00	2.41	1.17	2.82	0.00		3.16	6.22	0.00
Eff: # of samples of NO3-N - Effluent mg/L	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	4.00			0.00
Eff: Avg NO2-N - Effluent mg/L	0.00	0.00	0.00	0.00	< 0.03	0.00	0.00	0.00	< 0.03	< 0.03	< 0.03	0.00		< 0.03	<	0.00
Eff: # of samples of NO2-N - Effluent mg/L	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	4.00			0.00
Disinfection																
Eff: GMD E. Coli - Effluent cfu/100mL	0.00	0.00	0.00	1.00	4.00	0.00	0.00	0.00	100.00	2.00	28.00	0.00				
Eff: # of samples of E. Coli - Effluent cfu/100mL	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	5.00			0.00