

Municipality Of Huron East
2014 Operations Report
Seaforth Wastewater Facilities
Reporting Period Jan-Dec 2014

1. Introduction

The treatment system consists of a mechanical extended aeration plant and three lagoon cells that operate as a 'Sutton System'. Wastewater flows from the Town of Seaforth wastewater collection system are directed by gravity flow to the Seaforth Pump Station located on Oak Street. Flows from this pump station are directed via force main to the treatment works. The Certificate of Approval was updated in October 2003 to permit the installation of a direct discharge line to the disinfection chamber, bypassing the lagoon system. This bypass line was to avoid instances of the production of hydrogen sulfide gas and elevated suspended solids in the lagoons during the winter months. The plant is normally operated in the 'the direct discharge mode' where flows from the mechanical plant are routed directly to the UV disinfection chamber and then to the outfall. During certain high flow conditions, excess flows from the treatment plant, are routed to lagoon cells #2 and #3. Lagoon cell #1 is used for the storage of waste activated sludge from the treatment plant. The final effluent is treated by UV disinfection before discharging to the Crozier Drain and then to the Bayfield River which is approximately 1.5 kms away.

Following is a list the facilities main treatment components.

- An inlet works consisting of a centrifuge grit removal system and a grit comminutor
- Two aeration tanks equipped with two surface aerators per tank.
- Two secondary clarifiers
- A return sludge pump station.
- Three facultative lagoon cells.
- An UV system rated for a total flow of 2,400 m³/day
- A weir and ultrasonic flow measurement device in the outlet channel.
- An alum storage tank and two metering pumps.

The sewage works, including the Oak Street pump station, are owned by the Corporation of the Municipality of Huron East and operated by CH2MHill . The waste water collection System is both owned and operated by the municipality of Huron East.

2. Regulatory Issues

CH2MHILL has made every effort during the reporting period to operate this wastewater system in accordance with applicable laws, certificates and regulations. To the best of our knowledge, the following report truthfully and accurately reflects any and all matters of non-compliance regarding the ownership and operation of the wastewater treatment plant during the reporting period.

During this period, the plant was operated in full compliance with applicable laws, regulations and the WWTP'S Certificate of Approval, save and except the following:

1	One during this period
---	------------------------

Or

Requirement	Date of Failure	Measures to Correct the Failure
Total Suspended Solids	July	Shut off Cell #3 Discharge/ Re sample

3. Compliance with Quality/Quantity Criteria

Month	Average Volume/Day m ³ /d	Plant Utilization (based on Avg. Day)	Max Volume/Day m ³ /d
Jan	2310	121%	2744
Feb	1796	94%	2544
Mar	1876	98%	2641
April	3006	158%	3599
May	2899	152%	3559
June	2283	120%	2791
July	2352	123%	2447
Aug	1978	104%	2740
Sept	1863	98%	2660
Oct	1690	88%	2748
Nov	1776	93%	2930
Dec	1825	96%	2612

Plant Average Day Design Capacity is 1900 m³/d

4. Quality Assurance/Quality Control

- Maxxam Analytics Inc. conducts the required physical, chemical and biological testing of influent and effluent from each WWTP.

5. Maintenance Summary

Seaforth Pump Station

- Air release valve on force main was taken off line and rebuilt
- Replace U joint on drive shaft # 2 pump
- Block heater was replaced on the generator

Seaforth WPCP

- Completed skirting for Aerators
- Drain, clean, inspect and repair West clarifier sludge collector chains
- Overhead door on the inlet works building repaired
- East/West clarifier sludge collector motors and gearboxes rebuilt

General

- Maintained Aerators, return pumps and sewage pumps and UV equipment
- Yearly inspections and test run all diesel generators monthly.
- Maintained all chemical pumps and injection systems.

6. Environmental/Operating Problems

- There were no unusual environmental/operating problems during 2014

7. Proposed Alterations, Extensions or Replacements

- None during this period

8. Calibration Procedures

- Flow meters and in house laboratory equipment were calibrated in 2014

9. Health & Safety Items

- Lifting equipment, Fire extinguishers, Gas monitors Monthly/Yearly inspections. Weekly Safety meeting along with Quarterly walk through completed for 2014

10. Status of Capital Projects

- Phase one of the Seaforth WWTP/Seaforth SPS were completed in March of 2014. Wastewater Pump Station upgrades and Wastewater Treatment Plant upgrades included standby generation, new Ultra Violet system, new centrifuge grit removal system, SCADA upgrades and larger control building.

11. Other Items

None

2014

MONTH: Jan

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 6-Jan	2834	2210	95	140	27.0	3.5	370	2.0	1.0	0.26	250	1.90	1	7.58	6.38
2 13-Jan	2162	2073	38	42	14.0	1.5	340	2.0	3.0	0.06	270	2.40	2700	7.56	8.04
3 20-Jan	2449	2763	58	79	19.0	0.5	360	2.0	2.0	0.06	280	1.80	36	7.58	6.02
4 28-Jan	2675	2454	94	140	28.0	3.8	380	2.0	2.0	0.18	280	1.80	10	7.62	9.54
5															
6															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			71	100	22.0	2.3	363	2.0	2.0	0.14	270	1.98	31	7.59	7.50
Monthly Averages kg/d								4.6	4.6	0.32		4.57			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Feb

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Feb	3154	3197	95	140	33.0	4.0	380	2.0	2.0	0.19	280	2.00	3	7.43	8.86
2 10-Feb	2859	3032	100	94	32.0	3.4	370	2.0	3.0	0.31	280	2.10	2	7.49	7.32
3 18-Feb	3053	3253	56	68	24.0	3.0	370	2.0	2.0	0.33	280	2.60	13	7.32	7.7
4 24-Feb	3065	3245	68	89	31.0	3.2	370	2.0	5.0	0.72	260	0.65	31	6.74	12.33
5															
6															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			80	98	30.0	3.4	373	2.0	3.0	0.39	275	1.84	7	7.25	9.05
Monthly Averages kg/d								3.6	5.4	0.7		3.3			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Mar

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Mar	3400	3146	91	100	38.0	3.5	380	2.0	4.0	0.78	260	0.18	2	8.01	12.71
2 10-Mar	3297	3370	46	77	21.0	2.1	330	2.0	5.0	0.77	250	0.21	1	7.88	12.73
3 17-Mar	2006	2155	49	73	21.0	2.3	350	2.0	5.0	0.44	270	0.18	10	7.84	11.41
4 24-Mar	2145	2272	45	62	16.0	1.9	340	3.0	10.0	0.38	270	0.11	1	7.79	12.60
5 31-Mar	2793	2595	40	61	10.0	1.3	320	2.0	4.0	0.39	280	0.14	4	8	14.29
6															
Number of tests			5	5	5	5	5	5	5	5	5	5	5	5	5
Monthly Averages mg/l			54	75	21.2	2.2	344	2.2	5.6	0.55	266	0.16	2	7.83	12.75
Monthly Averages kg/d								4.1	10.5	1.03		0.30			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Apr

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 7-Apr	2234	2328	19	44	11.0	1.2	320	2.0	4.0	0.29	280	0.15	1	7.78	11.64
2 14-Apr	2567	2668	32	42	7.1	0.8	310	2.0	6.0	0.28	250	0.17	5	7.97	12.88
3 22-Apr	3308	3347	44	62	20.0	2.4	350	2.0	4.0	0.48	250	0.10	3	8.08	11.68
4 28-Apr	2815	2742	87	96	23.0	2.8	360	5.0	9.0	0.48	230	0.08	4	8.24	9.52
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			46	61	15.3	1.8	335	2.8	5.8	0.4	253	0.13	3	8.02	11.43
Monthly Averages kg/d								8.4	17.4	1.2		0.39			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times

Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: May

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-May	3079	2938	42	64	16.0	1.7	350	2.0	3.0	0.40	230	0.13	3	8.09	9.11
2 12-May	3100	3100	95	53	24.0	3.5	370	2.0	2.0	0.31	210	0.09	5	8.24	9.5
3 20-May	4499	3061	58	77	26.0	2.4	360	2.0	3.0	0.14	220	0.25	9	8.60	11.8
4 26-May	4698	2914	58	100	26.0	2.4	360	2.0	2.0	0.22	200	0.05	5	8.66	9.25
5															
/															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			63	74	23.0	2.5	360	2.0	2.5	0.27	215	0.13	5	8.40	9.92
Monthly Averages kg/d								5.8	7.3	0.78		0.38			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Jun

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Jun	2950	3145	99	120	31.0	3.3	370	2.0	2.0	0.28	180	0.15	9	8.20	9.68
2 9-Jun	2247	2257	100	180	25.0	3.4	370	2.0	6.0	0.38	170	0.06	61	8.13	9.8
3 16-Jun	2475	2823	74	120	33.0	3.7	380	2.0	1.0	0.36	150	0.05	4	8.18	9.06
4 23-Jun	2569	2674	61	64	25.0	3.0	380	2.0	3.0	0.54	160	0.19	40	7.72	6.53
5															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			84	121	28.5	3.4	375	2.0	3.0	0.39	165	0.11	17	8.06	8.77
Monthly Averages kg/d								4.4	6.7	0.87		0.24			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weekly grab

2014

MONTH: Jul

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Jul	3007	2733	73	92	24.0	3.2	380	6.0	10.0	0.90	200	0.20	64	7.04	5.08
2 7-Jul	1188	1252	30	53	16.0	1.5	270	3.0	18.0	0.72	190	0.05	280	6.81	6.57
3 14-Jul	1161	1498	53	100	18.0	2.7	360	3.0	17.0	0.63	210	0.20	53	6.62	4.53
4 21-Jul	2743	2653	85	150	25.0	3.2	360	3.0	18.0	0.67	210	0.09	1	6.85	6.83
5 28-Jul	1844	2107	24	43	8.7	0.99	300	3.0	20.0	0.96	200	0.12	15	7.34	7.87
6															
Number of tests			5	5	5	5	5	5	5	5	5	5	5	5	5
Monthly Averages mg/l			53	88	18.3	2.3	334	3.6	16.6	0.78	202	0.13	27	6.93	6.18
Monthly Averages kg/d								8.4	39.0	1.8		0.3			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Aug

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 5-Aug	1979	2237	89	140	32.0	3.2	380	2.0	8.0	0.80	240	0.27	9	7.90	5.45
2 11-Aug	1986	2094	42	60	17.0	2.2	370	4.0	5.0	0.91	220	0.40	1	8.13	4.88
3 18-Aug	2020	2152	35	43	15.0	1.6	360	3.0	7.0	0.88	230	0.64	21	7.34	5.98
4 25-Aug	2108	2518	82	130	26.0	3.3	380	6.0	11.0	1.10	230	0.53	36	6.83	6.72
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			62	93	22.5	2.6	373	3.8	7.8	0.92	230	0.46	9	7.55	5.76
Monthly Averages kg/d								7.5	15.0	1.8		0.91			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Sep

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 2-Sep	1896	2018	30	39	22.0	2.0	370	3.0	4.0	1.00	230	0.14	8	7.30	7.08
2 8-Sep	1650	1573	68	84	23.0	3.3	380	7.0	5.0	0.79	240	0.17	4	6.65	7.9
3 15-Sep	1481	1349	54	62	19.0	2.6	380	2.0	6.0	0.68	280	0.05	9	8.84	11.5
4 22-Sep	1491	1221	54	93	25.0	2.4	360	2.0	6.0	0.61	260	0.05	28	8.94	11.79
5 29-Sep	1327	1305	78	110	21.0	2.5	380	2.0	5.0	0.72	250	0.25	10	8.88	10.5
6															
Number of tests			5	5	5	5	5	5	5	5	5	5	5	5	5
Monthly Averages mg/l			57	78	22.0	2.6	374	3.2	5.2	0.76	252	0.13	10	8.12	9.76
Monthly Averages kg/d								6.0	9.7	1.42		0.24			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weekly grab

2014

MONTH: Oct

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 6-Oct	1550	1501	67	100	19.0	2.1	380	2.0	6.0	0.55	290	0.08	3	8.38	11.8
2 14-Oct	1761	1846	72	110	23.0	3.3	390	2.0	8.0	0.69	280	0.17	1	8.29	11.49
3 20-Oct	1414	1842	67	99	21.0	2.7	380	2.0	5.0	0.66	280	0.05	13	8.00	12.4
4 27-Oct	2102	1908	64	87	22.0	2.5	380	2.0	11.0	0.78	290	0.23	1	8.15	13.09
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			68	99	21.3	2.7	383	2.0	7.5	0.67	285	0.13	2	8.21	12.20
Monthly Averages kg/d								3.3	12.3	1.1		0.21			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

MONTH: Nov

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 3-Nov	2117	2202	63	90	28.0	3.0	400	2.0	5.0	0.77	270	0.74	54	7.59	13.88
2 10-Nov	2161	2233	53	72	19.0	2.1	370	2.0	3.0	0.97	290	0.16	16	7.80	13.6
3 17-Nov	2360	2334	85	110	24.0	3.2	390	2.0	5.0	1.10	290	0.24	16	7.69	10.38
4 24-Nov	1762	1807	34	50	4.6	0.7	290	3.0	15.0	0.75	260	0.05	360	7.99	10.1
5															
6 /															
Number of tests			4	4	4	4	4	4	4	4	4	4	4	4	4
Monthly Averages mg/l			59	81	18.9	2.3	363	2.3	7.0	0.90	278	0.30	47	7.77	11.99
Monthly Averages kg/d								4.1	12.4	1.59		0.53			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

Dec MONTH: Dec

Seaforth S.T.P.
 Operating Number 110001177
 Operating Authority: CH2MHILL
 Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Test # Date	MLSS		RAW INFLUENT					FINAL EFFLUENT							
	East Aeration S.S.	West Aeration S.S.	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH	D.O.
1 1-Dec	2735	2748	20	38	11.0	1.2	370	2.0	6.0	0.26	270	0.50	3	8.20	11.02
2 8-Dec	3147	3251	38	61	16.0	1.8	370	2.0	5.0	0.16	250	0.37	2	8.18	11.0
3 15-Dec	3856	3543	63	84	27.0	2.7	390	2.0	9.0	0.06	220	0.05	1	8.11	10.83
4 22-Dec	3760	4244	13	23	7.1	0.8	350	2.0	14.0	0.14	210	0.10	18	7.15	11.4
5 29-Dec	2986	2925	19	37	12.0	1.5	370	2.0	9.0	0.27	310	0.05	16	8	11.18
6 /															
Number of tests			5	5	5	5	5	5	5	5	5	5	5	5	5
Monthly Averages mg/l			31	49	14.6	1.6	370	2.0	8.6	0.18	252	0.21	4	7.95	11.08
Monthly Averages kg/d								3.7	15.5	0.29		0.47			
Monthly Objectives								10.0/19	10.0/19	0.8/1.5		2.0/3.8	0		
Monthly Limits mg/l/kg/d								15.0/28.5	15.0/28.5	1.0/1.9		4.0/7.6	150		

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
 Hydrogen Sulfide (if odour is present) weelky grab

2014

BYPASS STP

Bypass Events

Seaforth Seaforth Treatment Plant
Operating Number 110001177
Operating Authority: CH2MHILL
Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Date	Time/Volume of Event				Notification		Sampled		Results of Analyst							
	Day Month	Start	Finish	Duration Hrs	Volume M3	Yes	No	Yes	No	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH
1																
2																
3																
4																
5																
6																
7																
8																

Comments: Events in 2014

2014

BYPASS SPS

Bypass Events

Seaforth Sewage Pump Station
Operating Number 110001177
Operating Authority: CH2MHILL
Municipality of Huron East

YEAR 2014

ANALYST Maxxam

Date	Time/Volume of Event				Notification		Sampled		Results of Analyst							
	Day Month	Start	Finish	Duration Hrs	Volume M3	Yes	No	Yes	No	BOD5 mg/L	S. S. mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	Ammonia NH3 mg/L	E-Coli Per 100ml	pH
1																
2																
3																
4																
5																
6																
7																
8																

Comments: events in 2014

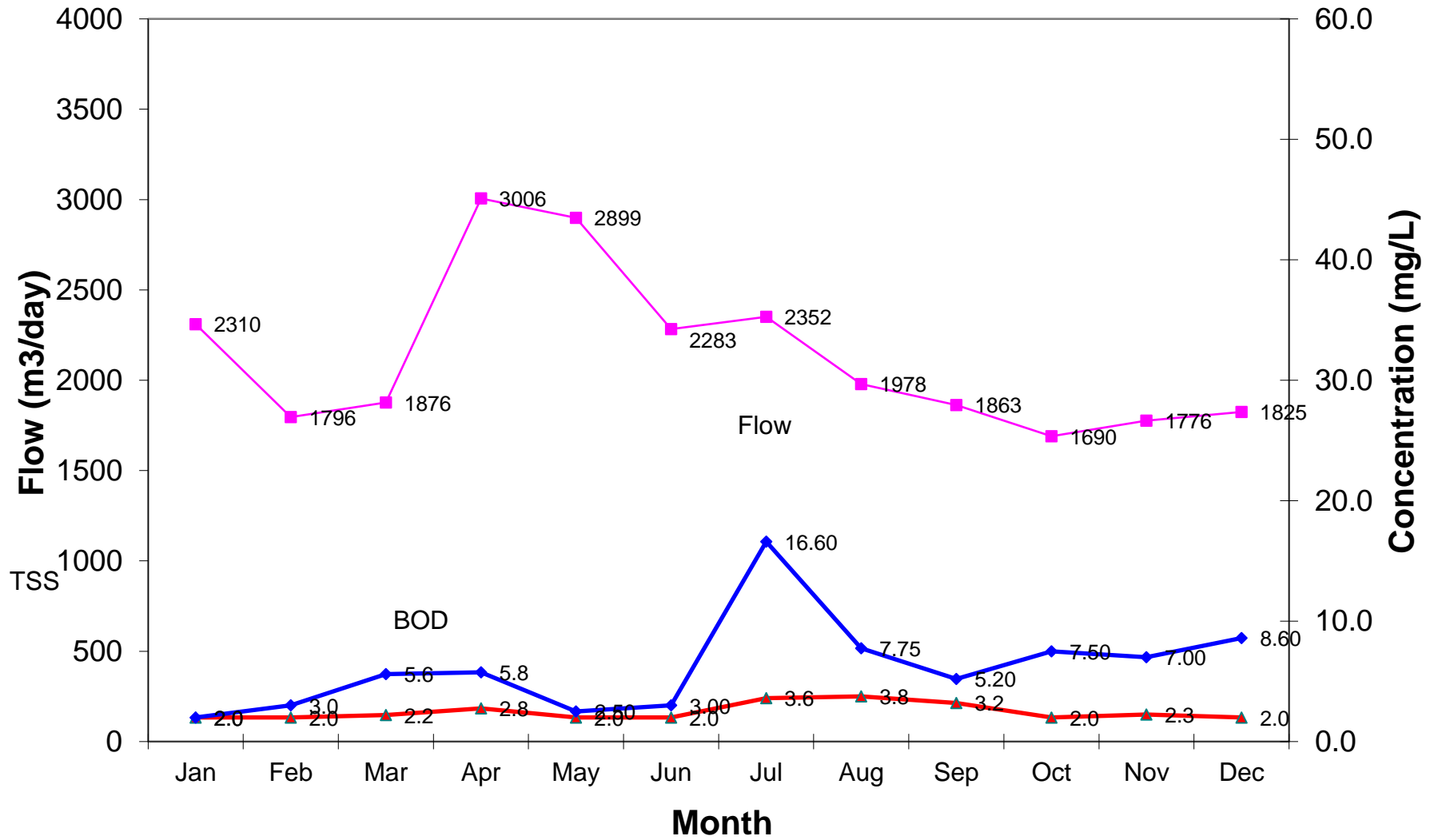
CH2MHILL Flow Reports Seaforth STP 2014

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2197	2544	1441	2392	3539	2345	2325	2650	1511	1641	1675	2311
2	2229	2519	1388	2473	3467	2458	2327	2740	1537	1544	1559	2087
3	2328	2468	1388	2511	3457	2465	2325	2582	1438	1436	1543	2077
4	2432	2340	1134	2466	3321	2408	2319	2415	1391	1984	1492	1922
5	2379	2387	1137	2437	3294	2379	2319	2410	1282	2450	1560	1834
6	2419	2417	1341	2478	3445	2318	2319	2397	2396	2478	1481	1789
7	2327	2309	1309	2425	3515	2242	2320	2354	2302	2147	1565	1710
8	2394	1235	1322	2353	3559	2113	2319	2210	1335	1922	1428	1688
9	2431	1006	1378	2374	3527	1977	2320	2060	1758	1755	1665	1573
10	2365	879	1402	2352	3514	1891	2318	1969	1671	1615	1754	1512
11	2308	988	464	2459	3488	1863	2324	1926	2660	1511	1742	1440
12	2263	1639	1456	2522	3521	1963	2336	1817	2391	1466	1628	1402
13	2289	2242	1693	2473	3546	2150	2367	1730	2217	1418	1499	1317
14	2250	2334	1728	3162	3460	2240	2420	1735	2197	1450	1498	1326
15	2291	1979	1953	3455	2947	2303	2439	2118	2056	1685	1466	1298
16	2347	1866	2221	3599	2475	2237	2218	1981	1993	1752	1466	1275
17	1722	1654	2348	3479	2427	2262	2204	2073	1847	1701	1519	1553
18	2302	1850	1932	3531	2463	2351	2347	1918	1754	1856	1514	1724
19	2456	1821	1789	3508	2474	2373	2351	1794	1619	1885	1463	1710
20	216	1739	2521	3522	2408	2343	2340	1659	1485	1854	1451	1615
21	2247	1784	2641	3487	2403	2362	2372	2275	1581	1817	1398	1623
22	2621	1311	2530	3492	2462	2310	2413	1941	2423	1665	1419	1608
23	2708	1365	2465	3341	2451	2225	2438	1773	2234	1581	2038	1605
24	2744	1469	2518	3317	2320	2461	2415	1714	2084	1415	2930	1883
25	2549	1658	2429	3432	2334	2257	2409	1686	1970	1516	2643	2612
26	2439	1589	2379	3387	2422	2312	2353	1653	1866	1486	2416	2528
27	2513	1482	2415	3365	2402	2791	2447	1601	1807	1387	2341	2355
28	2452	1413	2357	3412	2262	2443	2394	1599	1721	1371	2321	2299
29	2501		2340	3450	2225	2323	2370	1543	1664	1637	2326	2368
30	2278		2392	3521	2380	2323	2385	1506	1707	1486	2489	2254
31	2610		2349		2359		2344	1503		1479		2267
Total	71607	50287	58160	90175	89867	68488	72897	61332	55897	52390	53289	56565
Min.	216	879	464	2352	2225	1863	2204	1503	1282	1371	1398	1275
Max	2744	2544	2641	3599	3559	2791	2447	2740	2660	2478	2930	2612
Avg.	2310	1796	1876	3006	2899	2283	2352	1978	1863	1690	1776	1825

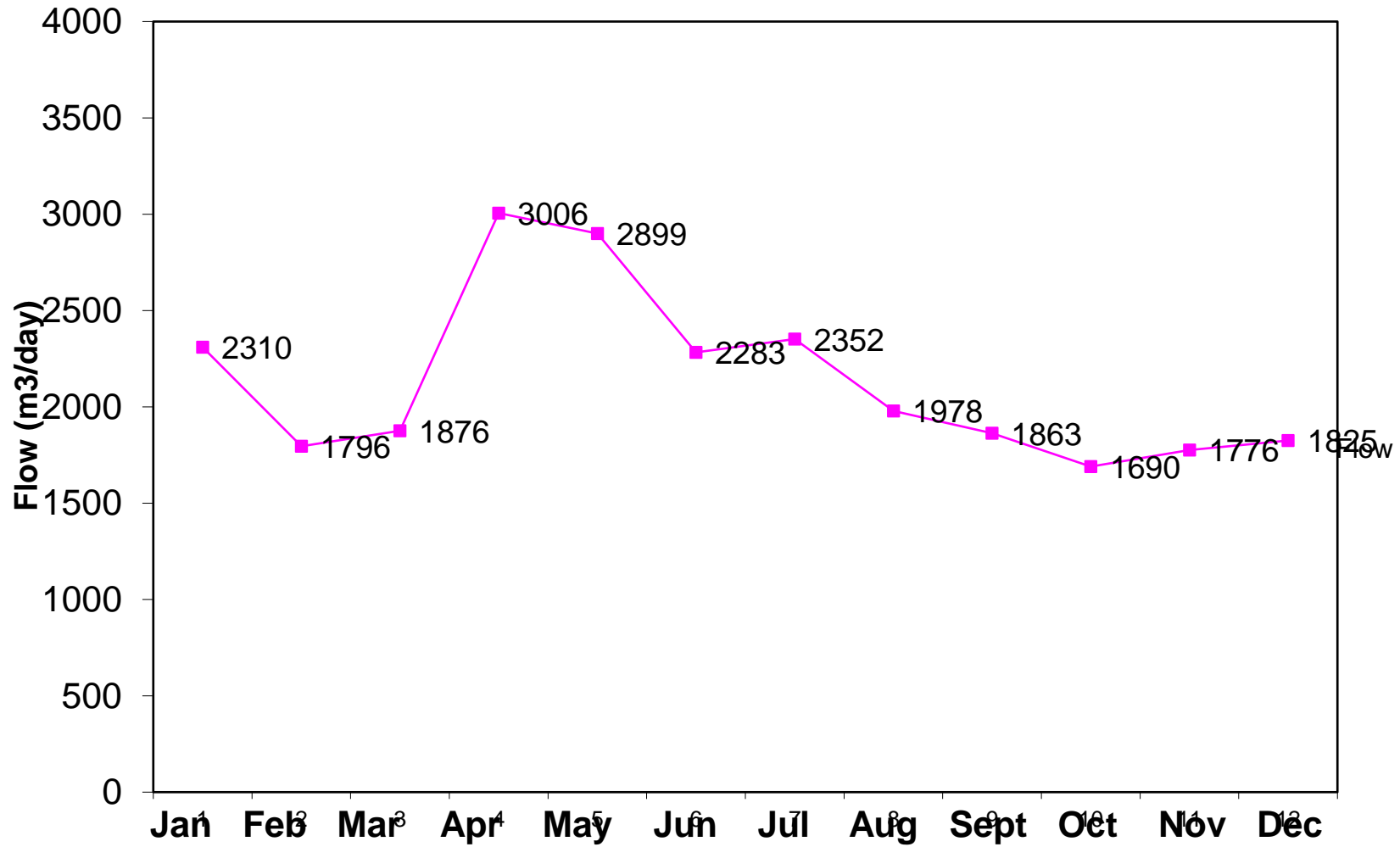
CH2MHILL Flow Reports Seaforth SPS 2014

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				5040	2719		1523	2285		1724	1724	7591
2	2403			6117	3113	5603	1521		5334	1614		2301
3	1908	4909	5032	5465		1737	1780		1280	1539	5792	2277
4		1378	1458	4793		1677	1183	5697	1393		1673	3992
5		1622	1412		9183	1894		1757	1209		1945	1955
6	5576	1463	1597		2624	1492		1788		7784	1709	
7		1430	1426	15607	2488		4806	1532		2514	1862	
8	3351			5380	2615		2661	1698	6479	2195		5891
9	1675			4940	2321	4572	3537		1678	2039		1918
10	1756	4246	4773	5029		1538	2377		1560	1948	5643	1601
11		1747	1630	4806		1490	2199	4349	3013			1700
12		969	2132		6320	1443		1688	2373		3886	1648
13	11721	1480	2083	10321	3311	1693		1718			1867	
14	3832	1510	2063	5711	4958		6541	1539		7149	1763	
15	3683			4737	5278		2497	1506	6918	1693		4787
16	3057			4328	7183	5821	1951		2071	2119		1488
17	2940		7566	4242		1496	2579		1809	1777	5260	1748
18		5453	2384			1228	2445	4344	1838		1820	1926
19		1281	2323	6156		1357		1343	1552		1624	2197
20	7592	1394	4614		14688	1259		1362		6495	1737	
21	2114	1713	3102		4289		5519	1886		1969	1647	
22	2123			8471	4266		1606	1679	6176	2040		5576
23	2065			2685	3773	3816	2037		2303	2027		1822
24	2047	6586	11469	2256		1272	1092		2132	1859	10309	2100
25		1776	2519	2430		2095	1602	4528	1964		6264	
26		1829	2602		8435	1914		1422	1939		4193	
27	5844	1891	2523		2357	1298		1494		5204	3216	12555
28	1560	1612	2955	6575	2286		5833	1385		1730	3269	
29	1749			2209	2204	2941	3940	1236	5124	1793		5664
30	1496			4457	1994	1790	2653		1642	1731		2422
31	1586		12275				2283			1724		2220
Total	70078	44289	77938	121755	96405	49426	64165	46236	59787	60667	67203	75379
Min.	1496	969	1412	2209	1994	1228	1092	1236	1209	1539	1624	1488
Max	11721	6586	12275	15607	14688	5821	6541	5697	6918	7784	10309	12555
Avg.	2260	1581	2514	4058	3109	1647	2069	1491	1992	1957	2240	2432

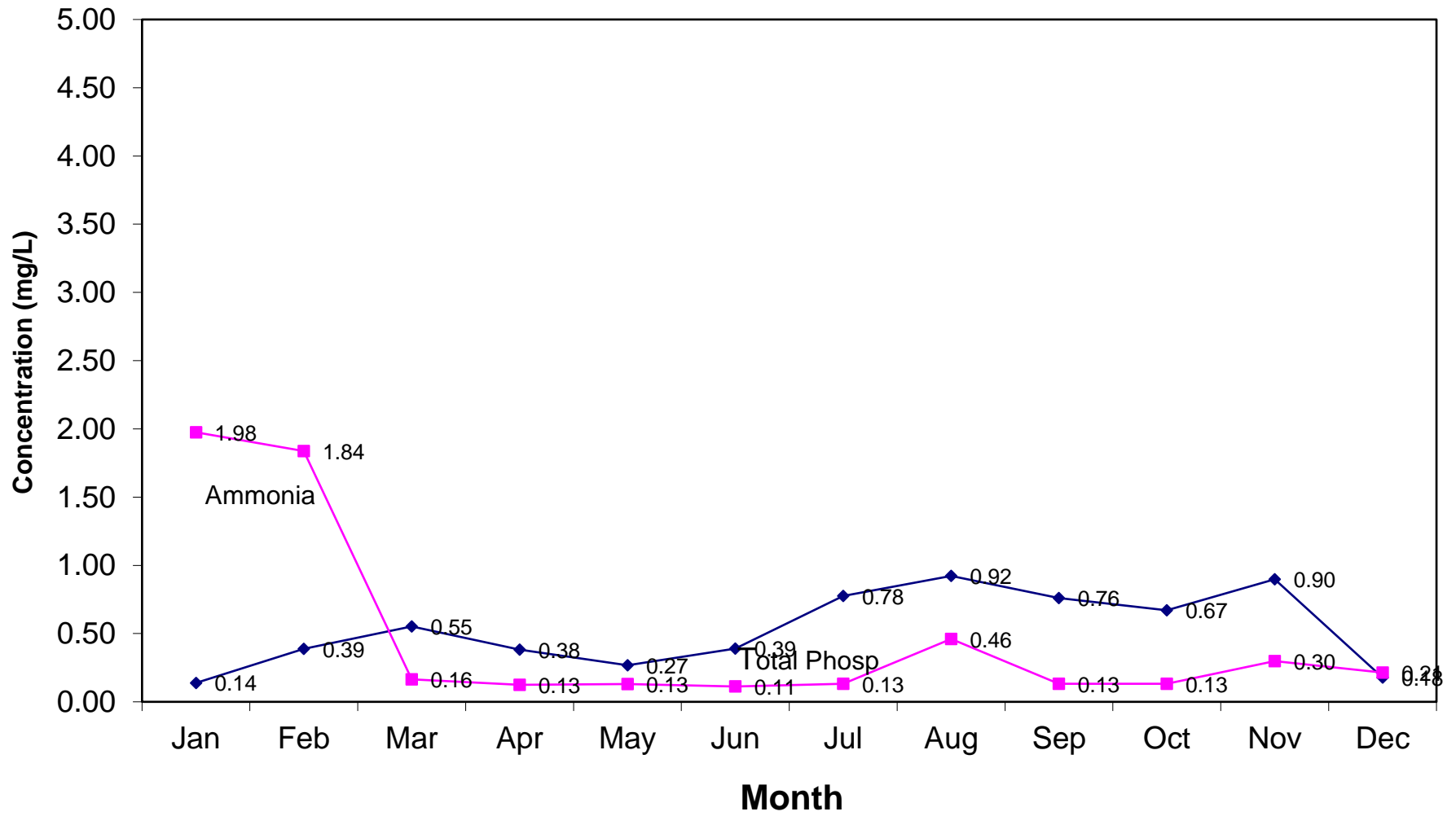
SEAFORTH STP BOD and TSS vs Flow



Seaforth STP. Average Monthly Flows



Seaforth STP Monthly Total Phosphorus and Ammonia



2014 Municipality of Huron East Seaforth STP Monthly Average Lab Results

RAW SEWAGE						Effluent Concentration mg/l								Effluent Loading kg/d				
Test Date	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	Alkalinity CaCO3 mg/L	BOD5 mg/L	S. S. mg/L	Total P mg/L	CaCO3 mg/L	NH3 mg/L	E-Coli Per 100ml	pH	D.O	BOD5 kg/d	S.S. kg/d	Total P kg/d	Ammonia NH3 kg/d	Avg Monthly Flow
Monthly																		
Jan	71	100	22.0	2.3	363	2.0	2.0	0.14	270	1.98	31	7.6	7.5	4.6	4.6	0.3	4.6	2310
Feb	80	98	30.0	3.4	373	2.0	3.0	0.39	275	1.84	7	7.2	9.0	3.6	5.4	0.7	3.3	1796
Mar	54	75	21.2	2.2	344	2.2	5.6	0.55	266	0.16	2	7.8	12.7	4.1	10.5	1.0	0.3	1876
Apr	46	61	15	1.8	335	2.8	5.8	0.38	253	0.13	3	8.0	11.4	8.4	17.4	1.2	0.4	3006
May	63	74	23	2.5	360	2.0	2.50	0.27	215	0.13	5	8.4	9.9	5.8	7.3	0.8	0.4	2899
Jun	84	121	29	3.4	375	2.0	3.00	0.39	165	0.11	17	8.1	8.8	4.4	6.7	0.9	0.2	2283
Jul	53	88	18	2.3	334	3.6	16.60	0.78	202	0.13	27	6.9	6.2	8.4	39.0	1.8	0.3	2352
Aug	62	93	23	2.6	373	3.8	7.75	0.92	230	0.46	9	7.6	5.8	7.5	15.0	1.8	0.9	1978
Sep	57	78	22	2.6	374	3.2	5.20	0.76	252	0.13	10	8.1	9.8	6.0	9.7	1.4	0.2	1863
Oct	68	99	21	2.7	383	2.0	7.50	0.67	285	0.13	2	8.2	12.2	3.3	12.3	1.1	0.2	1690
Nov	59	81	19	2.3	363	2.3	7.00	0.90	278	0.30	47	7.8	12.0	4.1	12.4	1.6	0.5	1776
Dec	31	49	15	1.6	370	2.0	8.60	0.18	252	0.21	4	8.0	11.1	3.7	15.5	0.3	0.5	1825
Monthly Objectives						10.0	10.0	0.80		2.00	0			19.0	19.0	1.5	3.8	
Monthly Limits						15.0	15.0	1.00		4.00	150			28.5	28.5	1.9	7.6	
Yearly Averages/Min/Max																		
Average	61	85	21.5	2.5	362	2.5	6.2	0.53	245.2	0.48	9	7.80	9.70	5.3	13.0	1.1	1.0	2138
Minimum	31	49	14.6	1.6	334	2.0	2.0	0.14	165.0	0.11	2	6.93	5.76	3.3	4.6	0.3	0.2	1690
Maximum	84	121	30.0	3.4	383	3.8	16.6	0.92	285.0	1.98	47	8.40	12.75	8.4	39.0	1.8	4.6	3006

Comments: See C of A for singal cell concentration, pH is to be maintained in the range of 6.5 to 9.5 inclusive at all times
Hydrogen Sulfide (if odour is present) weelky grab

NOTE: January total ammonia higher than usual due to creamery shutdown/cleaning.
July total suspended solids exceeded ECA limit due to high lagoon solids concentration (summer discharge).
Late summer and fall total phosphorus higher than usual. Diagnosis revealed a faulty alum pump in service.