

**Woodward WWTP Bypass / Wastewater Pumping Station or CSO Tank Overflow Event Log
2019**

Event #	Start Date Time yyyy-mm-dd		Location (see below)	Stop Date Time yyyy-mm-dd		Duration Hours	Volume ML	Disinfection Yes / No	Reason Code	Sample Results					Final Effluent for all Bypass Events	
										Bypass or CSO Overflow Sample					pH	Total Cl mg/L
										TBOD mg/L	cBOD mg/L	TSS mg/L	TP mg/L	E.coli CFU/100ml		
1	2019-01-23	17:26	S	2019-01-24	05:26	12.00	112.068	No	1,2,7	72.0	n/a	116	2.01	n/a	7.49	n/a
2	2019-02-06	16:20	S	2019-02-06	20:32	4.20	24.089	No	1,2,7	68.0	n/a	95.5	1.54	n/a	7.02	n/a
3	2019-02-12	23:43	S	2019-02-13	02:34	2.86	28.050	No	1,2,7	62.0	n/a	73.2	1.54	n/a	7.27	n/a
4	2019-02-24	14:03	S	2019-02-24	21:10	7.12	21.111	No	1,2,7	39.0	n/a	89.0	1.62	n/a	7.19	n/a
5	2019-03-10	11:12	S	2019-03-10	23:28	12.26	100.792	No	1,2,7	54.0	n/a	67.0	1.54	n/a	6.97	n/a
6	2019-03-30	14:00	S	2019-04-01	00:33	34.55	375.967	No	1,2,7	33.0	n/a	73.4	1.56	n/a	7.09	n/a
7	2019-03-31	01:10	HCS01	2019-03-31	05:50	4.67	1.981	No	1,2,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8	2019-04-08	00:55	S	2019-04-08	04:06	3.18	17.428	No	1,7	59.0	n/a	87.0	1.97	n/a	7.21	n/a
9	2019-04-14	21:17	S	2019-04-15	10:46	13.48	107.730	No	1,7	42.0	n/a	76.1	1.27	n/a	7.09	n/a
10	2019-04-15	08:20	HCS01	2019-04-15	14:40	6.33	19.591	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
11	2019-04-19	22:13	S	2019-04-20	04:55	21.11	190.770	No	1,7	51.0	n/a	64.3	1.160	n/a	7.44	n/a
	2019-04-20	12:06		2019-04-21	02:30										7.56	n/a
12	2019-04-20	11:30	HCS01	2019-04-21	12:10	24.67	151.847	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
13	2019-04-20	13:20	HCS05	2019-04-21	05:10	15.83	25.241	No	1,7	n/a	16	23.1	0.969	1,070,000	n/a	n/a
14	2019-04-20	18:10	HCS04	2019-04-21	02:20	8.17	8.033	No	1,7	n/a	n/a*	n/a*	n/a*	n/a*	n/a	n/a
15	2019-04-26	07:14	S	2019-04-26	12:31	5.30	32.390	No	1,7	41.0	n/a	74.0	1.16	n/a	7.14	n/a
16	2019-05-01	06:28	S	2019-05-01	10:39	4.18	19.610	No	1,7	25.0	n/a	17.0	0.716	n/a	7.15	n/a
17	2019-05-03	03:05	S	2019-05-03	20:25	17.33	127.990	No	1,7	40.0	n/a	49.5	0.890	n/a	7.14	n/a
18	2019-05-03	05:10	HCS01	2019-05-04	00:50	19.00	97.821	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
19	2019-05-10	07:20	S	2019-05-10	12:18	4.97	27.850	No	1,7	27.0	n/a	39.0	0.841	n/a	7.10	n/a
20	2019-05-13	08:10	HCS05	2019-05-13	19:10	11.00	49.171	No	1,7	n/a	11	4.0	0.051	550	n/a	n/a
21	2019-05-14	04:00	HCS01	2019-05-15	01:00	21.00	48.702	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
22	2019-05-14	06:40	HCS05	2019-05-14	23:40	17.00	69.676	No	1,7	n/a	11	9.7	0.363	430,000	n/a	n/a
23	2019-05-25	09:21	S	2019-05-27	00:47	39.45	215.300	Yes	1,7	n/a	32	75.7	1.46	n/a	7.20	0.01
24	2019-05-25	18:40	HCS01	2019-05-27	02:10	31.50	85.306	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
25	2019-05-28	06:40	HCS01	2019-05-29	00:30	17.83	29.641	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
26	2019-05-28	08:05	S	2019-05-28	23:58	15.89	64.970	Yes	1,7	n/a	30	43.5	1.08	n/a	7.39	0.01
27	2019-06-05	14:39	S	2019-06-06	03:04	12.43	91.070	Yes	1,7	n/a	13	28.3	0.792	n/a	7.01	0.00
28	2019-06-10	18:02	S	2019-06-11	01:04	7.03	65.850	Yes	1,7	34.0	n/a	34.3	0.864	n/a	7.02	0.00
29	2019-06-13	11:02	S	2019-06-14	06:02	19.01	116.970	Yes	1,7	24.0	n/a	17.8	0.702	41,263	7.03	0.01
30	2019-06-20	21:47	S	2019-06-21	16:23	18.58	107.220	Yes	1,7	32.5	n/a	34.4	0.920	471,500	6.85	0.00
31	2019-06-25	00:46	S	2019-06-25	15:10	14.39	90.380	Yes	1,7	42.0	n/a	51.0	1.26	1,050,000	6.93	0.00
32	2019-07-06	13:59	S	2019-07-07	23:53	33.90	231.110	Yes	1,7	34.0	n/a	46.2	0.779	1,762,000	6.96	0.02
33	2019-07-06	15:30	HCS08	2019-07-08	01:10	33.67	76.851	No	1,7	n/a	6	212	0.418	64,000	n/a	n/a
34	2019-07-06	19:20	HCS04	2019-07-08	00:00	28.67	35.671	No	1,7	n/a	15	23.0	0.504	450,000	n/a	n/a
35	2019-07-06	19:30	HCS09	2019-07-06	21:00	1.50	10.562	No	1,7	n/a	11	77.7	0.495	850,000	n/a	n/a
36	2019-07-06	20:00	HCS01	2019-07-08	01:00	29.00	98.351	No	1,7	n/a	n/a	n/a	n/a	n/a	n/a	n/a
37	2019-07-17	11:19	S	2019-07-17	17:15	5.93	28.600	Yes	1,7	49.0	n/a	63.0	1.79	3,400,000	7.11	0.01
38	2019-07-20	22:52	S	2019-07-21	02:30	3.63	26.260	Yes	1,7	39.0	n/a	64.8	1.26	2,400,000	7.07	0.00
39	2019-07-30	07:38	S	2019-07-30	11:20	3.70	28.320	Yes	1,7	40.0	n/a	48.0	1.50	2,000,000	6.83	0.00
40	2019-08-08	16:00	S	2019-08-08	18:35	2.60	25.710	Yes	1,7	99.0	n/a	69.0	2.62	7,300,000	6.84	0.00
41	2019-08-18	06:37	S	2019-08-18	10:12	3.58	13.630	Yes	1,7	23.0	n/a	30.0	0.66	2,800,000	6.78	0.00
42	2019-09-11	21:11	S	2019-09-11	23:59	2.79	28.700	Yes	1,7	65.0	n/a	51.5	1.68	6,100,000	6.77	0.00

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Legend / Notes

Bypass/Overflow Locations:

PH= Plant bypass
HW= Headworks bypass
PR= Primary bypass
S= Secondary bypass

HCS01=Greenhill CSO Tank
HCS02=Bayfront Strachan CSO Tank
HCS03=James St CSO Tank
HCS04=Main/King CSO Tank
HCS05=Eastwood CSO Tank
HCS07=Redhill CSO Tank
HCS08=Royal CSO Tank
HCS09=McMaster CSO Tank

HCG03=Wentworth CSO Outfall

Wastewater Pumping Stations: use station number

Treatment Levels:

Plant bypass (PH) - no treatment
Headworks bypass (HW) - receives preliminary treatment
Primary bypass (PR) - receives preliminary treatment
Secondary bypass (S) - receives preliminary and primary treatment
CSO tank overflows receive no treatment prior to discharge.

Notes:

* Sample could not be collected due to autosampler failure
** Sample could not be analysed within holding time

Sample Locations:

Plant: Headworks in front of the barscreens
Primary / Headworks: Inlet of the Primary Clarifiers
Secondary: Outlet of the Primary Clarifiers

Note: a Final Effluent Outfall sample must be collected for all bypass types

Volume Determination:

Bypass flow volumes at the Woodward WWTP are estimated.
CSO tank overflow volumes are measured.
Pumping stations overflow volumes are measured.

Reason Codes:

1. Heavy Precipitation
2. Snow Melt
3. Equipment Failure
4. Equipment Maintenance
5. Sewer Problems
6. Power Failure
7. Exceed Design
8. Other