GOWANUS CANAL SUPERFUND SITE RTA1 REMEDIAL CONSTRUCTION Water Quality Monitoring Weekly Data Summary

PERIOD: November 14 - November 18, 2022

Date of Report: November 22, 2022

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1. SCOPE OF MONITORING

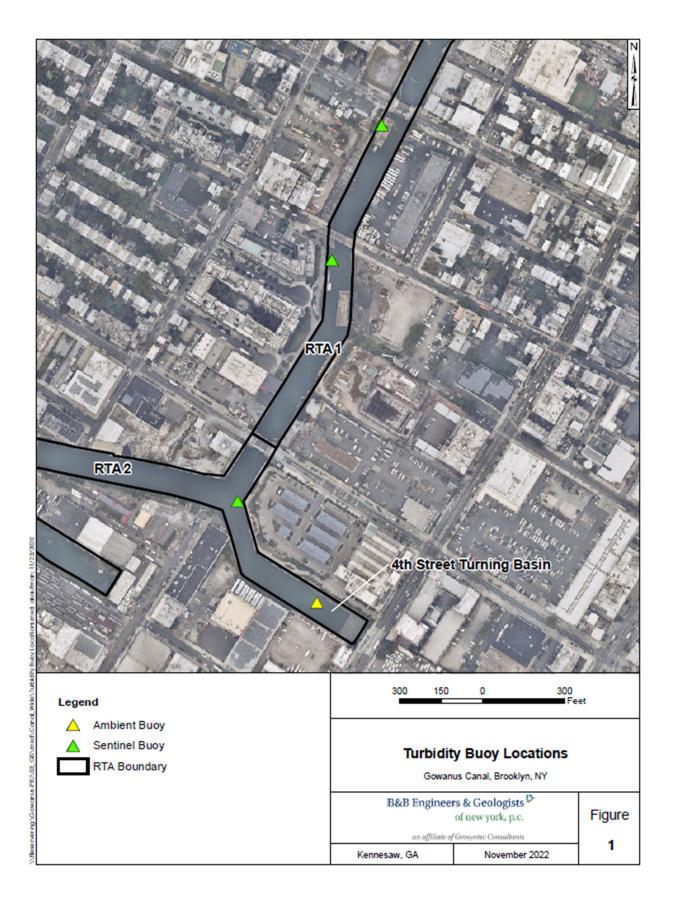
1.1 Current Buoy Locations

The following report summarizes water quality monitoring data collected during the week of November 14, 2022. In accordance with the Water Quality Monitoring Plan for In-waterway Construction Activities (WQMP) two turbidity buoys were deployed to monitor turbidity related to dredging activities. One turbidity buoy was deployed just south of the 3rd Street Bridge outside of the air curtain and traditional turbidity curtain and is referred to as the 3rd Street Sentinel Buoy. A second turbidity buoy was deployed just south of Union St Bridge to monitor dredging activities north of Union Street Bridge and is referred to as the Union Street Sentinel Buoy. The third turbidity buoy was deployed in the Fourth Street Turning Basin in order to monitor background turbidity unaffected by in-water construction activities and is referred to as the Ambient Buoy.

Each turbidity buoy was equipped with a YSI EXO3 water quality meter with optical turbidity sensor. The buoys were field calibrated and programmed such that readings were collected every 15 minutes. After each measurement, the turbidity data were transmitted to a File Transfer Portal (FTP) site via telemetry. No handheld measurements were collected during this reporting period. Visual observations of turbidity and sheen are summarized in Section 4.

1.2 **Previous Buoy Locations**

- On January 22, 2021, prior to dredging north of the Union Street Bridge, a fourth turbidity buoy was deployed just south of the Union Street Bridge and was referred to as the Union Street Sentinel Buoy. This fourth turbidity buoy was removed prior to the start of pipe pile installation.
- On Wednesday, September 22, 2021, the Carroll Street Sentinel Buoy was relocated to the
 west side of the canal where Degraw Street intersects the canal to monitor cofferdam
 removal activities conducted in the vicinity of the Flushing Tunnel. This buoy was renamed
 the Degraw Street Sentinel Buoy during cofferdam removal activities.
- On October 14, 2021, the Degraw Street Sentinel Buoy was removed from the canal for servicing. On October 20, 2021, the Degraw Street Sentinel Buoy was redeployed to its position south of the Carroll Street Bridge and was renamed to the Carroll Street Sentinel Buoy.
- On November 15, 2021, the Carroll Street Sentinel Buoy was moved to the Union Street Bridge and renamed the Union Street Sentinel Buoy. On December 3, 2021, the Union Street Buoy was removed from the canal for servicing and re-deployed at 3rd Street Bridge in preparation for the resumption of ISS operations. On December 8, 2021, a third sentinel buoy was deployed just south of the Carroll Street Bridge.
- On April 21, 2022, the buoy deployed at the Carroll Street Bridge was relocated to the Union Street Bridge. On July 14, 2022, the Union Street Sentinel Buoy was removed from the canal for servicing, re-deployed on July 21, 2022, moved to the Carroll Street Bridge location on September 22, 2022, and then back to the Union Street Bridge location on November 18, 2022.



2. REPORT OF EXCEEDANCES

No exceedances to the quantitative trigger or action criteria were observed during the reporting period. Data from the Ambient Buoy was not reported between November 16 and 17, 2022, due to a faulty sensor causing erroneous readings. All sensors were temporarily removed from the buoy locations for servicing and calibration between 8:00 AM and 1:00 PM on November 18, 2022. On Wednesday, November 16, 2022, an exceedance to the qualitative trigger criterion occurred due to observation of sheen from due to dredging activities migrating south of the Union Street Bridge. In response, the contractor placed additional absorbent booms at the Union Street Bridge to contain the sheen between Union Street Bridge and the head of the canal.

Trigger criterion – Any of the following:

- The rolling average of the relevant sentinel buoy turbidity measurements over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 20 NTU excluding any eliminated outlier measurements and in-waterway construction activities cannot be immediately excluded as the source following consultation with EPA; or
- Either an oil sheen or a turbidity plume is visually observed at the relevant sentinel buoy and in-waterway construction activities are readily identified as the source.

• **Action criterion** – Any of the following:

- The rolling average of the turbidity measurements of the sentinel buoy outside of RTA1 over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 40 NTU excluding any eliminated outlier measurements and inwaterway construction activities cannot be immediately excluded as the source following consultation with EPA; or
- Either an oil sheen or a turbidity plume is visually observed outside of RTA1 and any deployed engineering controls and in-waterway construction activities are readily identified as the source.

An outlier is defined as a reading that is outside the range of 50 to 200 percent of the average of the three previous readings. In addition, to be considered an outlier, the subsequent reading must return to a range of 75 to 133 percent of the average of the three readings preceding the outlier.

2.1 Response to Criteria Exceedances

The trigger level criterion serves to provide early notification to the contractor of construction activities that may lead to an exceedance of the action level criterion. In the event of an exceedance to the trigger criterion, the contractor will not be stopped, and the contractor will be directed to investigate the source of the exceedance and evaluate Best Management Practices (BMPs). In the event of an exceedance to the action level criterion, in-waterway construction activities may be slowed or temporarily suspended as necessary while the contractor investigates the source of the exceedance and appropriate mitigation and corrective measures are determined. A more detailed description of responses to exceedances of the trigger and action level criteria is provided in Section 4.2 of the WQMP.

On Wednesday, November 16, 2022, an exceedance to the qualitative trigger criterion occurred due to observation of sheen from due to dredging activities migrating south of the Union Street Bridge. In response, the contractor placed additional absorbent booms at the Union Street Bridge to contain the sheen between Union Street Bridge and the head of the canal. No exceedances to quantitative trigger or action criteria were observed during the reporting period. Data from the Ambient Buoy was not reported between November 16 and 17, 2022, due to a faulty sensor causing erroneous readings. All sensors were temporarily removed from the buoy locations for servicing and calibration between 8:00 AM and 1:00 PM on November 18, 2022.

3. TURBIDITY BUOY DATA

The following section provides turbidity data for the sentinel and ambient turbidity buoys from 7 AM to 6 PM from November 14 – November 18, 2022. No exceedances to trigger or action criteria were observed during the reporting period. Data from the Ambient Buoy was not reported between November 16 and 17, 2022, due to a faulty sensor causing erroneous readings. All sensors were temporarily removed from the buoy locations for servicing and calibration between 8:00 AM and 1:00 PM on November 18, 2022.

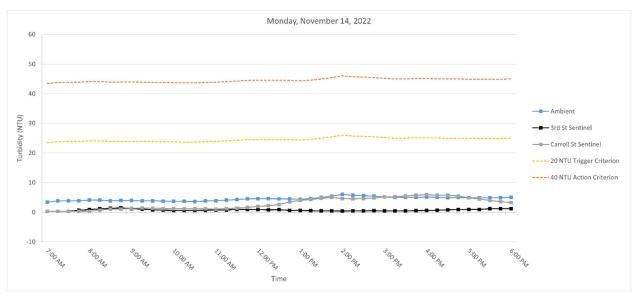
Table 1 below provides a summary of the turbidity data for the reporting period.

	Average	Rolling Average Differen	ce (NTU)	Maximum Rolling Average Difference (NTU)			
Date	3rd St - Ambient	Carroll St - Ambient	Union St - Ambient	3rd St - Ambient	Carroll St - Ambient	Union St - Ambient	
Monday, November 14, 2022	-3.76	-1.60		-2.48	0.82		
Tuesday, November 15, 2022	-6.73	-5.83		-4.61	-3.13		
Wednesday, November 16, 2022							
Thursday, November 17, 2022							
Friday, November 18, 2022	0.34		4.83	4.40		16.76	

Table 1. Daily average and maximum differences between the rolling average turbidity readings from RTA1 sentinel buoys and the ambient buoy between 7 AM and 6 PM.

3.1 **Monday, November 14, 2022**

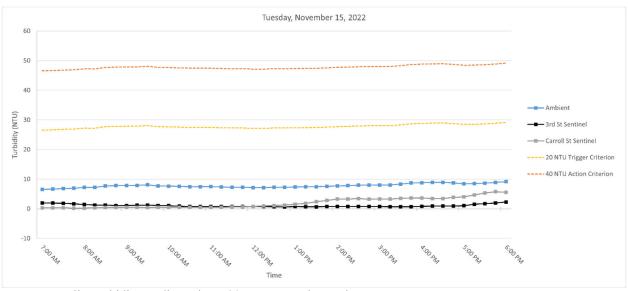
Figure 3. Hourly rolling average turbidity readings on Monday, November 14, 2022, from 7 AM to 6 PM.



Note: No outlier turbidity readings above 20 NTU were detected.

3.2 **Tuesday, November 15, 2022**

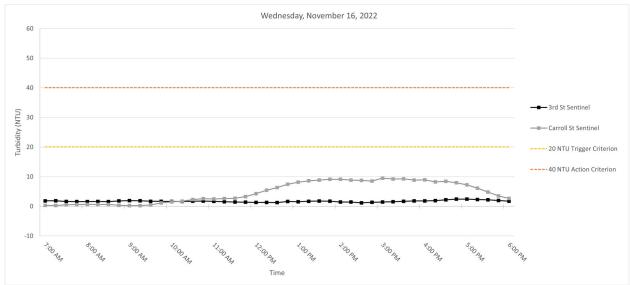
Figure 3. Hourly rolling average turbidity readings on Tuesday, November 15, 2022, from 7 AM to 6 PM.



Note: No outlier turbidity readings above 20 NTU were detected.

3.3 Wednesday, November 16, 2022

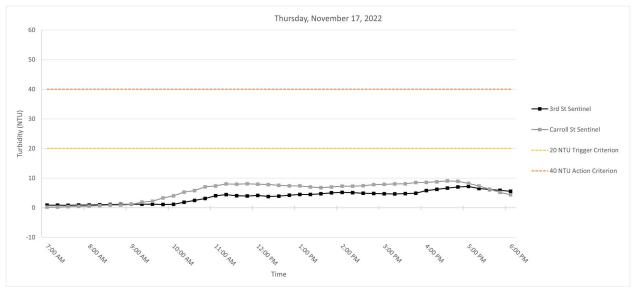
Figure 4. Hourly rolling average turbidity readings on Wednesday, November 16, 2022, from 7 AM to 6 PM.



Note: No outlier turbidity readings above 20 NTU were detected. Data from the Ambient Buoy was not reported due to a faulty sensor causing erroneous readings.

3.4 Thursday, November 17, 2022

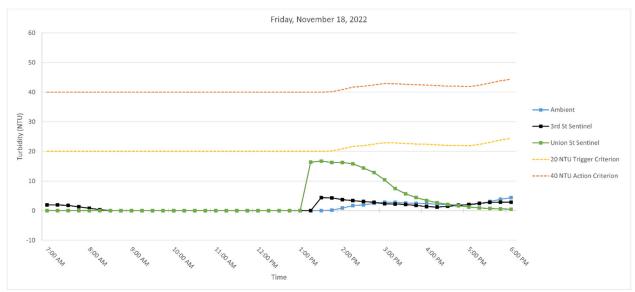
Figure 5. Hourly rolling average turbidity readings on Thursday, November 17, 2022, from 7 AM to 6 PM.



Note: No outlier turbidity readings above 20 NTU were detected. Data from the Ambient Buoy was not reported due to a faulty sensor causing erroneous readings.

3.5 <u>Friday, November 18, 2022</u>

Figure 6. Hourly rolling average turbidity readings on Friday, November 18, 2022, from 7 AM to 6 PM.



Note: No outlier turbidity readings above 20 NTU were detected. All sensors were temporarily removed from the buoy locations for servicing and calibration.

SUMMARY OF VISUAL OBSERVATIONS

Sheen was observed immediately down-canal of the dredging area on Wednesday November 21, 2022. In response, the contractor placed additional absorbent booms at the Union Street Bridge to contain the sheen between Union Street Bridge and the head of the canal.

APPENDIX A Turbidity Data Tables

Monday, November 14, 2022

Time		Turbidity (NTU)		Re	olling Average Turbidity (I	Difference (NTU)		
-	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	3.66	0.4	0.38	3.43	0.33	0.34	-3.10	-3.09
7:15:00	5.23	0.33	0.35	3.81	0.30	0.32	-3.51	-3.48
7:30:00	3.6	0.55		3.84	0.32	0.32	-3.52	-3.52
7:45:00	3.66	1.81	0.36	3.89	0.68	0.33	-3.21	-3.56
8:00:00	4.38	1.59	0.37	4.11	0.94	0.36	-3.17	-3.74
8:15:00	3.65	1.55	1.6	4.10	1.17	0.67	-2.94	-3.43
8:30:00	4.13	1.21	2.1	3.88	1.34	1.11	-2.54	-2.78
8:45:00	3.89	1.17	1.15	3.94	1.47	1.12	-2.48	-2.83
9:00:00	3.69	0.76	1.35	3.95	1.26	1.31	-2.69	-2.63
9:15:00	4.05	0.52	1	3.88	1.04	1.44	-2.84	-2.44
9:30:00	3.44	0.47	1.19	3.84	0.83	1.36	-3.01	-2.48
9:45:00	3.84	0.8	1.5	3.78	0.74	1.24	-3.04	-2.54
10:00:00	3.68	0.6	1	3.74	0.63	1.21	-3.11	-2.53
10:15:00	3.43	0.68	1.05	3.69	0.61	1.15	-3.07	-2.54
10:30:00	3.85	0.61	1.09	3.65	0.63	1.17	-3.02	-2.48
10:45:00	4.2	0.74	0.99	3.80	0.69	1.13	-3.11	-2.67
11:00:00	4.27	1.23	1.11	3.89	0.77	1.05	-3.11	-2.84
11:15:00	4.65	0.71	1.65	4.08	0.79	1.18	-3.29	-2.90
11:30:00	4.42	1.5	1.97	4.28	0.96	1.36	-3.32	-2.92
11:45:00	5.07	0.61	2.47	4.52	0.96	1.64	-3.56	-2.88
12:00:00	4.33	0.56	2.65	4.55	0.92	1.97	-3.63	-2.58
12:15:00	4.36	0.82	2.38	4.57	0.84	2.22	-3.73	-2.34
12:30:00	4.47		3.53	4.53	0.87	2.60	-3.66	-1.93
12:45:00	4.35	0.62	6.49	4.52	0.65	3.50	-3.86	-1.01
13:00:00		0.42	4.97	4.38	0.61	4.00	-3.77	-0.37
13:15:00	5.28	0.35	4.25	4.62	0.55	4.32	-4.06	-0.29
13:30:00	5.8	0.34	4.26	4.98	0.43	4.70	-4.54	-0.28
13:45:00	6.3	0.57	4.98	5.43	0.46	4.99	-4.97	-0.44
14:00:00	6.77	0.42	4.66	6.04	0.42	4.62	-5.62	-1.41
14:15:00	4.51	0.61	-	5.73	0.46	4.54	-5.27	-1.19
14:30:00	4.69	0.49	4.58	5.61	0.49	4.62	-5.13	-0.99
14:45:00	4.98		5.09	5.45	0.52	4.83	-4.93	-0.62
15:00:00	5.03	0.34	6.27	5.20	0.47	5.15	-4.73	-0.05
15:15:00	5.65	0.43	5.08	4.97	0.47	5.26	-4.50	0.28
15:30:00	4.77	0.63	6.23	5.02	0.47	5.45	-4.55	0.43
15:45:00	5.08	0.8	6.29	5.10	0.55	5.79	-4.55	0.69
16:00:00	5	0.74	5.74	5.11	0.59	5.92	-4.52	0.82
16:15:00	4.89	0.9	5.45	5.08	0.70	5.76	-4.38	0.68
16:30:00	5	1.11	5.14	4.95	0.84	5.77	-4.11	0.82
16:45:00	4.86	1.06	4.62	4.97	0.92	5.45	-4.04	0.48
17:00:00	4.82	1.08	3.58	4.91	0.98	4.91	-3.94	-0.01
17:15:00	4.95	0.74	3.56	4.90	0.98	4.47	-3.93	-0.43
17:30:00	4.87	1.9	3.21	4.90	1.18	4.02	-3.72	-0.88
17:45:00	4.97	1.13	3.03	4.89	1.18	3.60	-3.71	-1.29
18:00:00	5.45	1.46	3.07	5.01	1.26	3.29	-3.75	-1.72

Tuesday, November 15, 2022

Time	Turbidity (NTU)			Ro	olling Average Turbidity (Difference (NTU)		
-	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	6.92	1.69	0.24	6.55	1.94	0.30	-4.61	-6.26
7:15:00	6.93		0.09	6.63	1.93	0.30	-4.70	-6.33
7:30:00	7.19	1.97		6.81	1.88	0.36	-4.94	-6.46
7:45:00	7.21	1.1	0.22	6.92	1.66	0.19	-5.26	-6.72
8:00:00	7.83	0.97	0.37	7.22	1.43	0.23	-5.78	-6.99
8:15:00	6.78	0.95	0.73	7.19	1.25	0.35	-5.94	-6.84
8:30:00	9.46	1.2	0.35	7.69	1.24	0.42	-6.46	-7.28
8:45:00	7.72	1.18	0.41	7.80	1.08	0.42	-6.72	-7.38
9:00:00	7.55	1.16	0.39	7.87	1.09	0.45	-6.78	-7.42
9:15:00	7.91	1.32	0.37	7.88	1.16	0.45	-6.72	-7.43
9:30:00	7.78		0.48	8.08	1.22	0.40	-6.87	-7.68
9:45:00	7.45	0.84	0.71	7.68	1.13	0.47	-6.56	-7.21
10:00:00	7.54	0.75	0.52	7.65	1.02	0.49	-6.63	-7.15
10:15:00	7.17	0.68	0.15	7.57	0.90	0.45	-6.67	-7.12
10:30:00	7.32	0.63	0.69	7.45	0.73	0.51	-6.73	-6.94
10:45:00	7.81	0.81	0.44	7.46	0.74	0.50	-6.72	-6.96
11:00:00	7.5	0.73	0.47	7.47	0.72	0.45	-6.75	-7.01
11:15:00	6.89	0.86	0.54	7.34	0.74	0.46	-6.60	-6.88
11:30:00	6.92	0.63	0.8	7.29	0.73	0.59	-6.56	-6.70
11:45:00	7.23	0.69	0.91	7.27	0.74	0.63	-6.53	-6.64
12:00:00	7.17	0.73	1.15	7.14	0.73	0.77	-6.41	-6.37
12:15:00	7.54	0.85	1.38	7.15	0.75	0.96	-6.40	-6.19
12:30:00	7.45	0.48	1.33	7.26	0.68	1.11	-6.59	-6.15
12:45:00	7.03	0.53	1.4	7.28	0.66	1.23	-6.63	-6.05
13:00:00	7.44	1.05	2.43	7.33	0.73	1.54	-6.60	-5.79
13:15:00	7.46	0.61	2.48	7.38	0.70	1.80	-6.68	-5.58
13:30:00	7.68	0.68	4.22	7.41	0.67	2.37	-6.74	-5.04
13:45:00	8.17	0.81	3.5	7.56	0.74	2.81	-6.82	-4.75
14:00:00	7.86	0.85	3.75	7.72	0.80	3.28	-6.92	-4.45
14:15:00	7.8	0.77	2.33	7.79	0.74	3.26	-7.05	-4.54
14:30:00	8.17	0.81	3.44	7.94	0.78	3.45	-7.15	-4.49
14:45:00	8.05	0.59	3.1	8.01	0.77	3.22	-7.24	-4.79
15:00:00	8.31	0.61	4.05	8.04	0.73	3.33	-7.31	-4.70
15:15:00	7.88	0.62	3.35	8.04	0.68	3.25	-7.36	-4.79
15:30:00	9.16	0.8	3.52	8.31	0.69	3.49	-7.63	-4.82
15:45:00	10.02	0.78	4.24	8.68	0.68	3.65	-8.00	-5.03
16:00:00	8.62	1.39	3	8.80	0.84	3.63	-7.96	-5.17
16:15:00	8.94	0.83	3.22	8.92	0.88	3.47	-8.04	-5.46
16:30:00	8.03	0.76	3.32	8.95	0.91	3.46	-8.04	-5.49
16:45:00	8.12	0.9	5.45	8.75	0.93	3.85	-7.81	-4.90
17:00:00	8.48	1.26	5.18	8.44	1.03	4.03	-7.41	-4.40
17:15:00	8.97	3.89	6.27	8.51	1.53	4.69	-6.98	-3.82
17:30:00	9.62	1.87	6.44	8.64	1.74	5.33	-6.91	-3.31
17:45:00	9.22	1.78	5.4	8.88	1.94	5.75	-6.94	-3.13
18:00:00	9.46	2.55	4.44	9.15	2.27	5.55	-6.88	-3.60

Wednesday, November 16, 2022

Time		Turbidity (NTU)		Re	olling Average Turbidity (N	Difference (NTU)		
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00		2.11	0.41		1.84	0.32		
7:15:00		2	0.16		1.86	0.26		-
7:30:00		0.98	1.69		1.64	0.53		-
7:45:00		1.37	0.77		1.58	0.61	-	-
8:00:00		1.56	0.11		1.60	0.63		
8:15:00		2.33	0.19		1.65	0.58		
8:30:00		1.63	0.35		1.57	0.62		
8:45:00		2.27	0.19		1.83	0.32		
9:00:00		1.7			1.90	0.21		
9:15:00		1.4	0.12		1.87	0.21		
9:30:00		1.5	1.16		1.70	0.46		-
9:45:00		1.54	2.93		1.68	1.10		
10:00:00		1.99	1.79	-	1.63	1.50		
10:15:00		1.73	2.59		1.63	1.72	-	
10:30:00		1.78	3.04		1.71	2.30		-
10:45:00		1.7	2.46		1.75	2.56		
11:00:00		1.18	2.48		1.68	2.47		-
11:15:00		1.33	2.44		1.54	2.60		-
11:30:00		1.18	3.13		1.43	2.71	-	-
11:45:00		1.58	5.93		1.39	3.29		
12:00:00			7.38		1.32	4.27		
12:15:00		1.07	8.26		1.29	5.43		
12:30:00		1.21	6.9		1.26	6.32		
12:45:00		2.66	8.73		1.63	7.44		-
13:00:00		1.18	9.37		1.53	8.13		
13:15:00		2.38	9.69		1.70	8.59		-
13:30:00		1.35	9.45		1.76	8.83		-
13:45:00		1.04	8.3		1.72	9.11		
14:00:00		1.2	8.77		1.43	9.12		
14:15:00		1.22	7.97		1.44	8.84		
14:30:00		1.08	9.21		1.18	8.74		-
14:45:00		2.17	8.35		1.34	8.52		
15:00:00		1.65	13.13		1.46	9.49		
15:15:00		1.66	7.46		1.56	9.22		
15:30:00		1.91	8.15		1.69	9.26		
15:45:00		1.67	7.12		1.81	8.84		
16:00:00		2.21	8.85		1.82	8.94		-
16:15:00		2.16	9.65		1.92	8.25		
16:30:00		2.98	8.33		2.19	8.42	-	
16:45:00		3.16	5.71		2.44	7.93		
17:00:00		1.6	3.69		2.42	7.25		-
17:15:00		1.48	3.16		2.28	6.11	-	-
17:30:00		1.66	3.25		2.18	4.83		-
17:45:00		1.97	1.63		1.97	3.49		
18:00:00		1.87	1.63		1.72	2.67		

Thursday, November 17, 2022

Time		Turbidity (NTU)		Re	olling Average Turbidity (Difference (NTU)		
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00		0.75	0.23		0.87	0.24		
7:15:00		0.95	0.01		0.89	0.20		
7:30:00		0.9	1.14		0.82	0.36		
7:45:00		1.13	0.74		0.90	0.45		
8:00:00		0.96	0.56		0.94	0.54		
8:15:00		1.12	1.22		1.01	0.73		
8:30:00		1.43	0.75		1.11	0.88		
8:45:00		1.06	1.3		1.14	0.91		
9:00:00		1.19	1.6		1.15	1.09		
9:15:00		1.21	4.72		1.20	1.92	**	
9:30:00		1.11	2.57		1.20	2.19		
9:45:00		0.97	6.34		1.11	3.31		
10:00:00		1.21	4.91		1.14	4.03		
10:15:00		4.78	7.93		1.86	5.29		
10:30:00		4.32	7.17		2.48	5.78		
10:45:00		4.35	8.9		3.13	7.05		
11:00:00		5.64	7.88		4.06	7.36		
11:15:00		3.12	8.24		4.44	8.02		
11:30:00		2.85	7.53		4.06	7.94	**	
11:45:00		3.89	7.88		3.97	8.09		
12:00:00		5.25	8.13		4.15	7.93		
12:15:00		3.89	7.36		3.80	7.83		
12:30:00		3.63	6.98		3.90	7.58		
12:45:00		4.65	6.59		4.26	7.39		
13:00:00		4.89	7.78		4.46	7.37		
13:15:00		5.26	6.25		4.46	6.99		
13:30:00		5.07	6.3		4.70	6.78		-
13:45:00		5.32	8.12		5.04	7.01		
14:00:00		5.27	8.02		5.16	7.29		
14:15:00		4.58	7.7		5.10	7.28		
14:30:00		4.29	6.95		4.91	7.42		
14:45:00		4.48	8.14		4.79	7.79		
15:00:00		5.01	8.58		4.73	7.88		
15:15:00	**	4.91	8.72		4.65	8.02	**	
15:30:00		5.02	7.93		4.74	8.06		
15:45:00		5.19	9.11		4.92	8.50		-
16:00:00		8.74	8.52		5.77	8.57		
16:15:00		7.24	9.54		6.22	8.76		
16:30:00		7.03	10.14		6.64	9.05		
16:45:00		6.78	7.39		7.00	8.94		
17:00:00		6.08	5.53		7.17	8.22	-	
17:15:00		5.36	4.17		6.50	7.35		-
17:30:00		5.6	4.03		6.17	6.25		-
17:45:00		5.5	4.88		5.86	5.20		
18:00:00		5.33	3.23		5.57	4.37		

Friday, November 18, 2022

Time		Turbidity (NTU)		F	tolling Average Turbidity (N	Difference (NTU)		
	Ambient	3rd Street	Union Street	Ambient	3rd Street	Union Street	3rd St - Ambient	Union St - Ambient
7:00:00		1.79			1.89			
7:15:00					1.97			
7:30:00		1.53			1.77			
7:45:00					1.76			
8:00:00					1.66			
8:15:00					1.53			
8:30:00					1.53			
8:45:00					-			
9:00:00								
9:15:00								
9:30:00								
9:45:00								
10:00:00								
10:15:00					-			
10:30:00	-				-	-		
10:45:00					-			
11:00:00					-			
11:15:00					-			
11:30:00					-			
11:45:00								
12:00:00					-			
12:15:00			13.25		-	13.25		
12:30:00		4.58	19.85		4.58	16.55		
12:45:00		4.76	18.98		4.67	17.36		
13:00:00		4.89	14.1		4.74	16.55		
13:15:00		4.21	15.8		4.61	16.40		
13:30:00	0.01	3.61	15.11	0.01	4.41	16.77	4.40	16.76
13:45:00	0.62	4.17	17.48	0.32	4.33	16.29	4.01	15.98
14:00:00	2.84	1.71	18.83	1.16	3.72	16.26	2.56	15.11
14:15:00	3.38		12.17	1.71	3.43	15.88	1.71	14.17
14:30:00	2.99	2.84	8.47	1.97	3.08	14.41	1.11	12.44
14:45:00	2.55	2.59	7.67	2.48	2.83	12.92	0.35	10.45
15:00:00	2.8	2.24	5.1	2.91	2.35	10.45	-0.57	7.54
15:15:00	2.59	1.46	4.08	2.86	2.28	7.50	-0.58	4.64
15:30:00	2.22	1.42	3.19	2.63	2.11	5.70	-0.52	3.07
15:45:00	2.31	1.14	2.21	2.49	1.77	4.45	-0.72	1.96
16:00:00	2.14	0.79	2.59	2.41	1.41	3.43	-1.00	1.02
16:15:00	1.8	1.15	1.46	2.21	1.19	2.71	-1.02	0.49
16:30:00	1.62	2.97	1.23	2.02	1.49	2.14	-0.52	0.12
16:45:00	2.22	2.8	0.84	2.02	1.77	1.67	-0.25	-0.35
17:00:00	1.67	2.66	0.09	1.89	2.07	1.24	0.18	-0.65
17:15:00	4.58	2.78	1.12	2.38	2.47	0.95	0.09	-1.43
17:30:00	5.29	2.8	0.46	3.08	2.80	0.75	-0.27	-2.33
17:45:00	5.5	3.43	0.59	3.85	2.89	0.62	-0.96	-3.23
18:00:00	4.93	2.78	0.21	4.39	2.89	0.49	-1.50	-3.90