

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

**PERIOD: September 19 – September 23, 2022**

**Date of Report: September 27, 2022**

## **Report Contents**

- Scope of Monitoring
- Report of Exceedances
- Turbidity Buoy Data
- Summary of Visual Observations

*Prepared by*

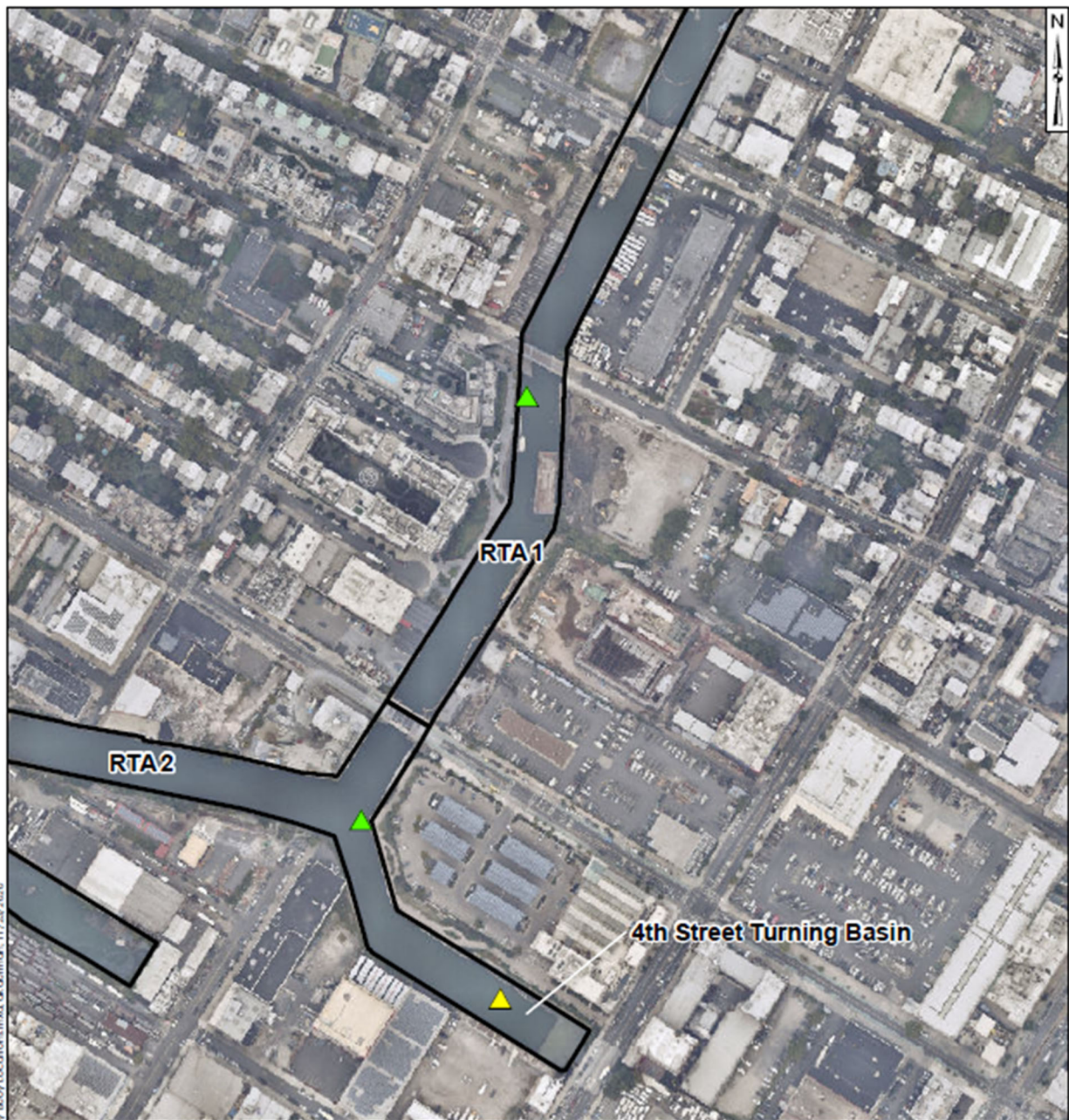
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of new york, p.c.

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Project Number JR0289A




## **1. SCOPE OF MONITORING**

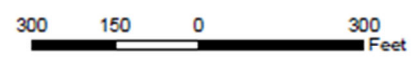
The following report summarizes water quality monitoring data collected during the week of September 12, 2022. In accordance with the Water Quality Monitoring Plan for In-waterway Construction Activities (WQMP) one turbidity buoy was deployed to monitor turbidity at the start of dredging between 3<sup>rd</sup> Street Bridge and the head of the canal. One turbidity buoy was deployed just south of the 3<sup>rd</sup> Street Bridge outside of the air curtain and traditional turbidity curtain. This buoy is referred to as the 3<sup>rd</sup> Street Sentinel Buoy. A second turbidity buoy is usually deployed just south of the Union Street Bridge and referred to as the Union Street Sentinel Buoy, however this buoy was moved at 12:00 PM on September 12, 2022 to replace the 3<sup>rd</sup> Street Sentinel Buoy, which was removed from the canal for maintenance. This buoy was moved again on September 22, 2022 to a location south of Carroll St Bridge to better monitor dredging activities north of Carroll Street Bridge. This buoy will hereby be referred to as the Carroll 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. This turbidity buoy is referred to as the Ambient Buoy. On July 14, 2022, the Union Street Buoy was removed from the canal for servicing before being re-deployed on July 21, 2022. 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 3<sup>rd</sup> 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. 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.



\\Reservoir\Gowanus\RTA\03\_CED\mid\Canal\W\k\Turbidity\_BuoyLocations.mxd of 11/23/2020

**Legend**

-  Ambient Buoy
-  Sentinel Buoy
-  RTA Boundary



**Turbidity Buoy Locations**

Gowanus Canal, Brooklyn, NY

B&B Engineers & Geologists  
of new york, p.c.

*an affiliate of Geosyntec Consultants*

Kennesaw, GA

September 2022

Figure

**1**

## 2. REPORT OF EXCEEDANCES

No exceedances to trigger or action criteria were observed during the reporting period.

- **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 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 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.

No exceedances to trigger or action criteria were observed during the reporting period.

### 3. TURBIDITY BUOY DATA

The following section provides turbidity data for the sentinel and ambient turbidity buoys from 7 AM to 6 PM from September 19 – September 23, 2022. No exceedances to trigger or action criteria were observed during the reporting period. Due to the Ambient Buoy being removed for maintenance it was inactive until 4:45PM on Wednesday, September 21, 2022. During this period the active sentinel buoy at 3<sup>rd</sup> Street and subsequently at Carroll Street were monitored to ensure no readings greater than 20 NTU were recorded. Due to maintenance activities, one sentinel buoy was active during the September 19 – September 23, 2022 reporting period. On Thursday, September 22, 2022, at 11:00 AM, the 3<sup>rd</sup> Street Sentinel Buoy was repositioned to the Carroll Street Sentinel Buoy location when construction activities moved north of the Carroll Street Bridge. Consequently, data for the 3<sup>rd</sup> Street Sentinel Buoy location is available from Monday, September 19 to Thursday, September 22, 2022, and data for the Carroll Street Sentinel Buoy location is available from Thursday, September 22 to Friday, September 23, 2022.

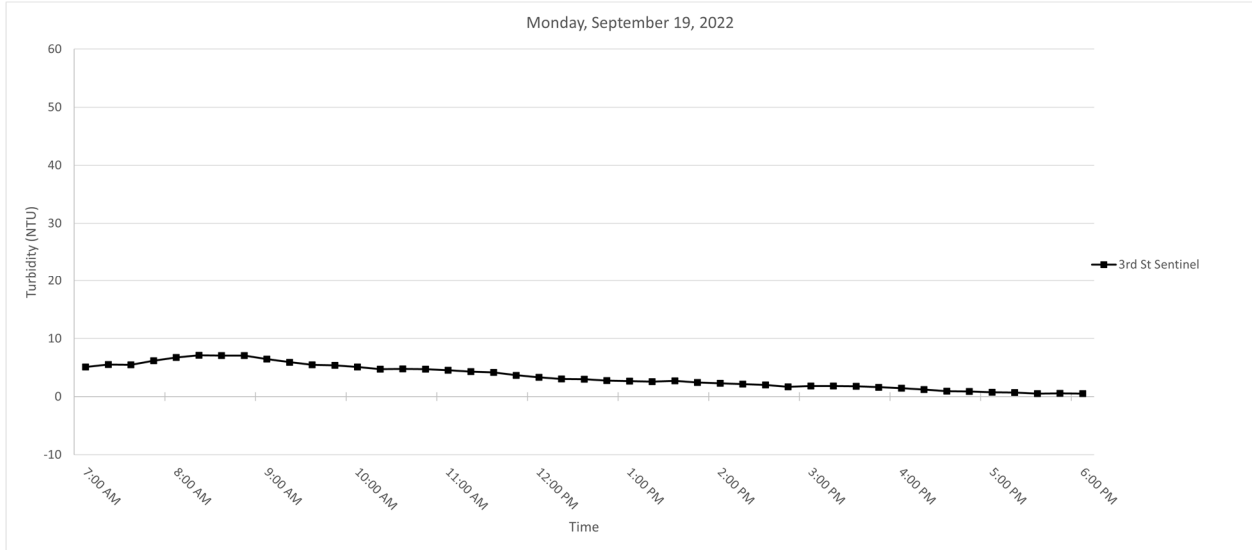
**Table 1** below provides a summary of the turbidity data for the reporting period.

Date	Average Rolling Average Difference (NTU)		Maximum Rolling Average Difference (NTU)	
	3rd St - Ambient	Carroll St - Ambient	3rd St - Ambient	Carroll St - Ambient
Monday, September 19, 2022	3.44	N/A	7.13	N/A
Tuesday, September 20, 2022	5.12	N/A	9.96	N/A
Wednesday, September 21, 2022	3.49	N/A	11.01	N/A
Thursday, September 2, 2022	0.83	11.12	4.46	17.03
Friday, September 23, 2022	N/A	4.27	N/A	18.64

**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, September 19, 2022

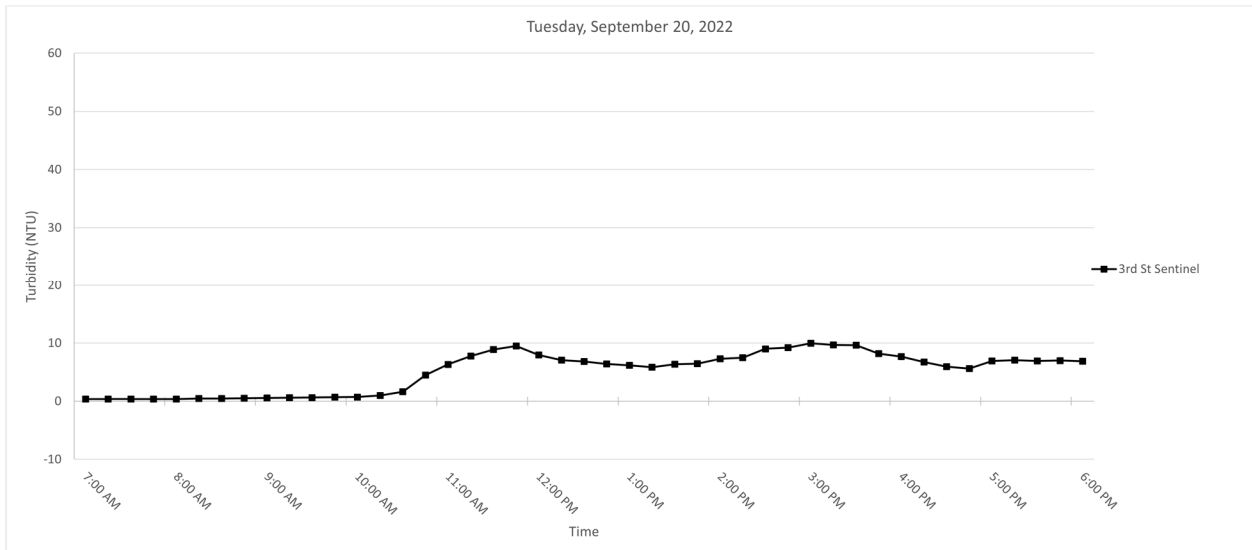
**Figure 3.** Hourly rolling average turbidity readings on Monday, September 19, 2022, from 7 AM to 6 PM.



**Note:** No outlier turbidity readings above 20 NTU were detected. Both the Ambient Buoy and Carroll Street Sentinel Buoy were out of service on Monday, September 19, 2022.

### 3.1 Tuesday, September 20, 2022

**Figure 3.** Hourly rolling average turbidity readings on Tuesday, September 20, 2022, from 7 AM to 6 PM.

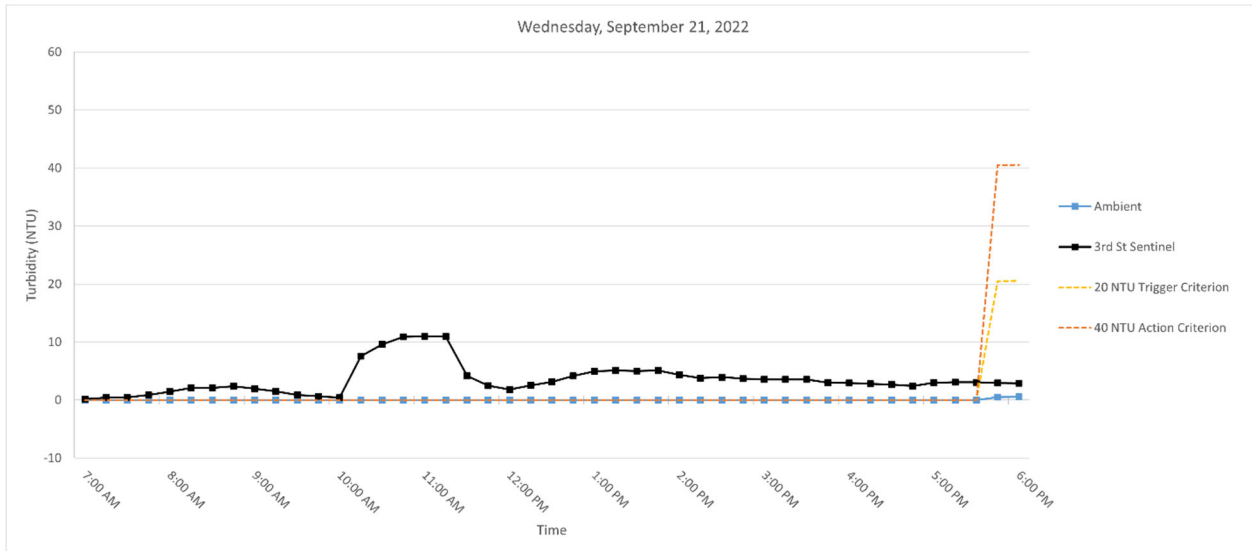


**Note:** A turbidity reading from the 3<sup>rd</sup> Street Sentinel Buoy of 21.72 NTU at 12:30 PM was removed as an outlier in accordance with the water quality monitoring plan.



### 3.2 Wednesday, September 21, 2022

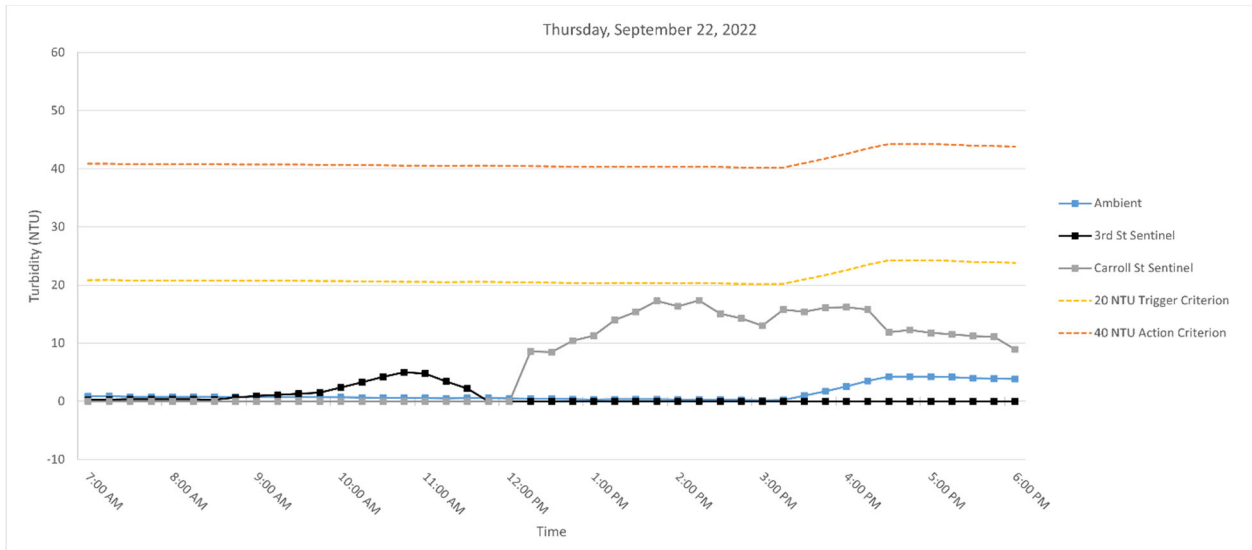
**Figure 4.** Hourly rolling average turbidity readings on Wednesday, September 21, 2022, from 7 AM to 6 PM.



**Note:** No outlier turbidity readings above 20 NTU were detected. Both the Ambient Buoy and Carroll Street Sentinel Buoy were out of service on Wednesday, September 21, 2022. The Ambient Buoy was brought back online at 5:30 PM.

### 3.3 Thursday, September 22, 2022

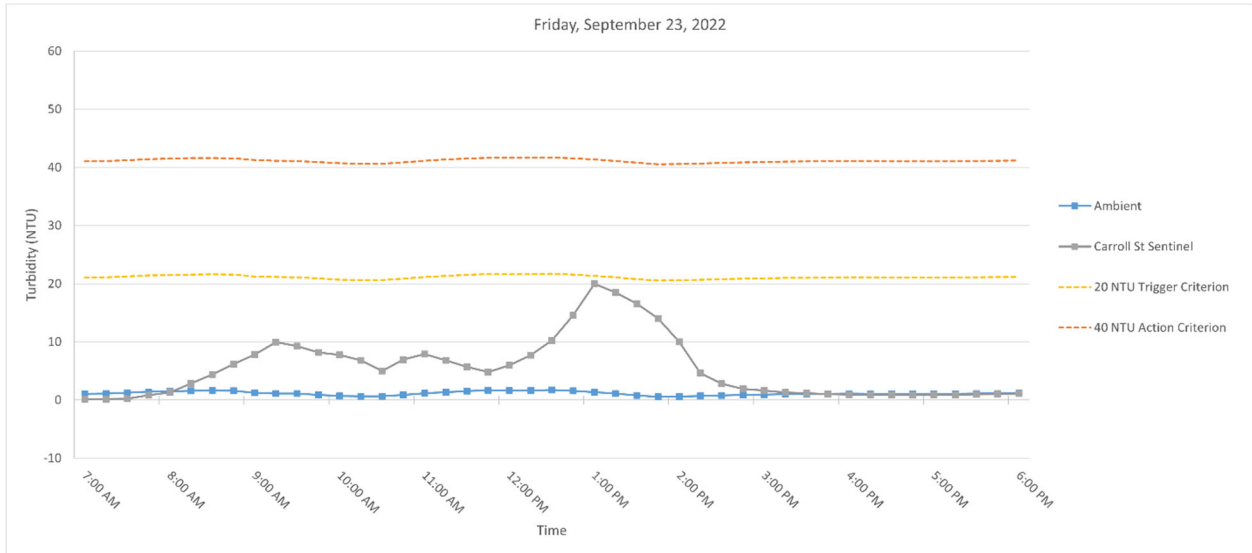
**Figure 5.** Hourly rolling average turbidity readings on Thursday, September 22, 2022, from 7 AM to 6 PM.



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

### 3.4 Friday, September 23, 2022

**Figure 6.** Hourly rolling average turbidity readings on Friday, September 23, 2022, from 7 AM to 6 PM.



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



## **SUMMARY OF VISUAL OBSERVATIONS**

Sheen was observed above background conditions during work operations. These sheens were contained within RTA1 by the air curtain deployed south of the 3<sup>rd</sup> Street Bridge. Absorbent booms were also deployed south of dredging activities to contain sheens north of the 3<sup>rd</sup> Street Bridge.

**APPENDIX A**  
**Turbidity Data Tables**

## Monday, September 19, 2022

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	--	5.24	--	--	5.13	--	--	--
7:15:00	--	5.83	--	--	5.51	--	--	--
7:30:00	--	5.88	--	--	5.50	--	--	--
7:45:00	--	9.16	--	--	6.18	--	--	--
8:00:00	--	7.63	--	--	6.75	--	--	--
8:15:00	--	7.14	--	--	7.13	--	--	--
8:30:00	--	5.53	--	--	7.07	--	--	--
8:45:00	--	5.93	--	--	7.08	--	--	--
9:00:00	--	6.12	--	--	6.47	--	--	--
9:15:00	--	4.9	--	--	5.92	--	--	--
9:30:00	--	4.93	--	--	5.48	--	--	--
9:45:00	--	5.15	--	--	5.41	--	--	--
10:00:00	--	4.37	--	--	5.09	--	--	--
10:15:00	--	4.27	--	--	4.72	--	--	--
10:30:00	--	5.12	--	--	4.77	--	--	--
10:45:00	--	4.82	--	--	4.75	--	--	--
11:00:00	--	4.09	--	--	4.53	--	--	--
11:15:00	--	3.32	--	--	4.32	--	--	--
11:30:00	--	3.4	--	--	4.15	--	--	--
11:45:00	--	2.76	--	--	3.68	--	--	--
12:00:00	--	3.15	--	--	3.34	--	--	--
12:15:00	--	2.49	--	--	3.02	--	--	--
12:30:00	--	3.19	--	--	3.00	--	--	--
12:45:00	--	2.32	--	--	2.78	--	--	--
13:00:00	--	2.26	--	--	2.68	--	--	--
13:15:00	--	2.71	--	--	2.59	--	--	--
13:30:00	--	3.12	--	--	2.72	--	--	--
13:45:00	--	1.74	--	--	2.43	--	--	--
14:00:00	--	1.69	--	--	2.30	--	--	--
14:15:00	--	1.46	--	--	2.14	--	--	--
14:30:00	--	1.97	--	--	2.00	--	--	--
14:45:00	--	1.67	--	--	1.71	--	--	--
15:00:00	--	2.28	--	--	1.81	--	--	--
15:15:00	--	1.85	--	--	1.85	--	--	--
15:30:00	--	1.04	--	--	1.76	--	--	--
15:45:00	--	1.25	--	--	1.62	--	--	--
16:00:00	--	0.78	--	--	1.44	--	--	--
16:15:00	--	1.27	--	--	1.24	--	--	--
16:30:00	--	0.45	--	--	0.96	--	--	--
16:45:00	--	0.71	--	--	0.89	--	--	--
17:00:00	--	0.53	--	--	0.75	--	--	--
17:15:00	--	0.49	--	--	0.69	--	--	--
17:30:00	--	0.51	--	--	0.54	--	--	--
17:45:00	--	0.51	--	--	0.55	--	--	--
18:00:00	--	0.44	--	--	0.50	--	--	--

## Tuesday, September 20, 2022

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	--	0.43	--	--	0.37	--	--	--
7:15:00	--	--	--	--	0.35	--	--	--
7:30:00	--	0.41	--	--	0.35	--	--	--
7:45:00	--	0.27	--	--	0.36	--	--	--
8:00:00	--	0.4	--	--	0.38	--	--	--
8:15:00	--	0.76	--	--	0.46	--	--	--
8:30:00	--	--	--	--	0.46	--	--	--
8:45:00	--	0.57	--	--	0.50	--	--	--
9:00:00	--	0.56	--	--	0.57	--	--	--
9:15:00	--	0.57	--	--	0.61	--	--	--
9:30:00	--	0.79	--	--	0.62	--	--	--
9:45:00	--	0.91	--	--	0.68	--	--	--
10:00:00	--	0.75	--	--	0.72	--	--	--
10:15:00	--	1.78	--	--	0.96	--	--	--
10:30:00	--	3.81	--	--	1.61	--	--	--
10:45:00	--	15.25	--	--	4.50	--	--	--
11:00:00	--	10.08	--	--	6.33	--	--	--
11:15:00	--	7.98	--	--	7.78	--	--	--
11:30:00	--	7.3	--	--	8.88	--	--	--
11:45:00	--	6.94	--	--	9.51	--	--	--
12:00:00	--	7.41	--	--	7.94	--	--	--
12:15:00	--	5.73	--	--	7.07	--	--	--
12:30:00	--	--	--	--	6.85	--	--	--
12:45:00	--	5.49	--	--	6.39	--	--	--
13:00:00	--	6.05	--	--	6.17	--	--	--
13:15:00	--	6.11	--	--	5.85	--	--	--
13:30:00	--	7.72	--	--	6.34	--	--	--
13:45:00	--	6.84	--	--	6.44	--	--	--
14:00:00	--	9.78	--	--	7.30	--	--	--
14:15:00	--	7.06	--	--	7.50	--	--	--
14:30:00	--	13.62	--	--	9.00	--	--	--
14:45:00	--	8.83	--	--	9.23	--	--	--
15:00:00	--	10.49	--	--	9.96	--	--	--
15:15:00	--	8.41	--	--	9.68	--	--	--
15:30:00	--	6.76	--	--	9.62	--	--	--
15:45:00	--	6.37	--	--	8.17	--	--	--
16:00:00	--	6.4	--	--	7.69	--	--	--
16:15:00	--	5.76	--	--	6.74	--	--	--
16:30:00	--	4.46	--	--	5.95	--	--	--
16:45:00	--	5.1	--	--	5.62	--	--	--
17:00:00	--	12.9	--	--	6.92	--	--	--
17:15:00	--	7.03	--	--	7.05	--	--	--
17:30:00	--	5.09	--	--	6.92	--	--	--
17:45:00	--	4.83	--	--	6.99	--	--	--
18:00:00	--	4.46	--	--	6.86	--	--	--

### Wednesday, September 21, 2022

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	--	0.11	--	--	0.16	--	--	--
7:15:00	--	1.5	--	--	0.42	--	--	--
7:30:00	--	0.25	--	--	0.45	--	--	--
7:45:00	--	2.48	--	--	0.89	--	--	--
8:00:00	--	2.82	--	--	1.43	--	--	--
8:15:00	--	3.48	--	--	2.11	--	--	--
8:30:00	--	1.42	--	--	2.09	--	--	--
8:45:00	--	1.68	--	--	2.38	--	--	--
9:00:00	--	0.33	--	--	1.95	--	--	--
9:15:00	--	0.45	--	--	1.47	--	--	--
9:30:00	--	0.43	--	--	0.86	--	--	--
9:45:00	--	0.41	--	--	0.66	--	--	--
10:00:00	--	0.47	--	--	0.42	--	--	--
10:15:00	--	36.13	--	--	7.58	--	--	--
10:30:00	--	10.43	--	--	9.57	--	--	--
10:45:00	--	7.07	--	--	10.90	--	--	--
11:00:00	--	0.97	--	--	11.01	--	--	--
11:15:00	--	0.13	--	--	10.95	--	--	--
11:30:00	--	2.12	--	--	4.14	--	--	--
11:45:00	--	2.09	--	--	2.48	--	--	--
12:00:00	--	3.82	--	--	1.83	--	--	--
12:15:00	--	4.47	--	--	2.53	--	--	--
12:30:00	--	3.17	--	--	3.13	--	--	--
12:45:00	--	7.17	--	--	4.14	--	--	--
13:00:00	--	6.06	--	--	4.94	--	--	--
13:15:00	--	4.61	--	--	5.10	--	--	--
13:30:00	--	4.1	--	--	5.02	--	--	--
13:45:00	--	3.64	--	--	5.12	--	--	--
14:00:00	--	3.3	--	--	4.34	--	--	--
14:15:00	--	3.22	--	--	3.77	--	--	--
14:30:00	--	5.48	--	--	3.95	--	--	--
14:45:00	--	2.83	--	--	3.69	--	--	--
15:00:00	--	2.92	--	--	3.55	--	--	--
15:15:00	--	3.22	--	--	3.53	--	--	--
15:30:00	--	3.24	--	--	3.54	--	--	--
15:45:00	--	2.75	--	--	2.99	--	--	--
16:00:00	--	2.62	--	--	2.95	--	--	--
16:15:00	--	2.19	--	--	2.80	--	--	--
16:30:00	--	2.42	--	--	2.64	--	--	--
16:45:00	0.35	2.22	--	0.35	2.44	--	2.09	--
17:00:00	--	5.42	--	0.35	2.97	--	2.62	--
17:15:00	0.34	--	--	0.35	3.06	--	2.72	--
17:30:00	0.72	2.17	--	0.47	3.06	--	2.59	--
17:45:00	0.55	2	--	0.49	2.95	--	2.46	--
18:00:00	0.62	2.05	--	0.56	2.91	--	2.35	--

## Thursday, September 22, 2022

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	0.78	0.28	--	0.84	0.24	--	-0.61	--
7:15:00	0.77	0.68	--	0.86	0.31	--	-0.55	--
7:30:00	0.81	0.36	--	0.79	0.34	--	-0.45	--
7:45:00	0.78	0.34	--	0.79	0.36	--	-0.43	--
8:00:00	0.79	0.1	--	0.79	0.35	--	-0.43	--
8:15:00	0.65	0.23	--	0.76	0.34	--	-0.42	--
8:30:00	0.75	0.22	--	0.76	0.25	--	-0.51	--
8:45:00	0.74	2.4	--	0.74	0.66	--	-0.08	--
9:00:00	0.72	1.65	--	0.73	0.92	--	0.19	--
9:15:00	0.71	1.01	--	0.71	1.10	--	0.39	--
9:30:00	0.66	1.29	--	0.72	1.31	--	0.60	--
9:45:00	0.57	1.12	--	0.68	1.49	--	0.81	--
10:00:00	0.69	6.84	--	0.67	2.38	--	1.71	--
10:15:00	0.45	6.14	--	0.62	3.28	--	2.66	--
10:30:00	0.55	5.55	--	0.58	4.19	--	3.60	--
10:45:00	0.42	5.31	--	0.54	4.99	--	4.46	--
11:00:00	0.59	0	--	0.54	4.77	--	4.23	--
11:15:00	0.53	0	8.62	0.51	3.40	8.62	2.89	8.11
11:30:00	0.59	0	9.25	0.54	2.17	8.94	1.64	8.40
11:45:00	0.53	--	9.07	0.53	1.33	8.98	0.80	8.45
12:00:00	0.29	--	9.05	0.51	0.00	9.00	-0.51	8.49
12:15:00	0.37	--	6.82	0.46	0.00	8.56	-0.46	8.10
12:30:00	0.24	--	8.05	0.40	0.00	8.45	-0.40	8.04
12:45:00	0.32	--	19.04	0.35	--	10.41	--	10.06
13:00:00	0.24	--	13.29	0.29	--	11.25	--	10.96
13:15:00	0.5	--	22.69	0.33	--	13.98	--	13.64
13:30:00	0.4	--	13.82	0.34	--	15.38	--	15.04
13:45:00	0.26	--	17.53	0.34	--	17.27	--	16.93
14:00:00	0.19	--	14.37	0.32	--	16.34	--	16.02
14:15:00	0.31	--	18.42	0.33	--	17.37	--	17.03
14:30:00	0.23	--	11.07	0.28	--	15.04	--	14.76
14:45:00	0.05	--	9.99	0.21	--	14.28	--	14.07
15:00:00	0.01	--	11.22	0.16	--	13.01	--	12.86
15:15:00	0.39	--	28.01	0.20	--	15.74	--	15.54
15:30:00	4.06	--	16.65	0.95	--	15.39	--	14.44
15:45:00	4.13	--	14.57	1.73	--	16.09	--	14.36
16:00:00	4.26	--	10.39	2.57	--	16.17	--	13.60
16:15:00	4.59	--	9.26	3.49	--	15.78	--	12.29
16:30:00	4.11	--	8.53	4.23	--	11.88	--	7.65
16:45:00	4.16	--	18.55	4.25	--	12.26	--	8.01
17:00:00	4.16	--	12.07	4.26	--	11.76	--	7.50
17:15:00	3.63	--	9.07	4.13	--	11.50	--	7.37
17:30:00	3.65	--	7.96	3.94	--	11.24	--	7.29
17:45:00	3.97	--	7.73	3.91	--	11.08	--	7.16
18:00:00	3.6	--	7.74	3.80	--	8.91	--	5.11

## Friday, September 23, 2022

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	0.76	--	0.13	1.05	--	0.12	--	-0.93
7:15:00	1.25	--	0.3	1.11	--	0.16	--	-0.96
7:30:00	1.6	--	0.43	1.24	--	0.23	--	-1.01
7:45:00	2.28	--	3.21	1.42	--	0.84	--	-0.58
8:00:00	1.6	--	2.5	1.50	--	1.31	--	-0.18
8:15:00	1.21	--	7.73	1.59	--	2.83	--	1.25
8:30:00	1.46	--	8.16	1.63	--	4.41	--	2.78
8:45:00	1.34	--	9.2	1.58	--	6.16	--	4.58
9:00:00	0.7	--	11.48	1.26	--	7.81	--	6.55
9:15:00	0.93	--	13.16	1.13	--	9.95	--	8.82
9:30:00	--	--	4.31	1.11	--	9.26	--	8.15
9:45:00	0.61	--	2.87	0.90	--	8.20	--	7.31
10:00:00	0.55	--	7	0.70	--	7.76	--	7.07
10:15:00	0.47	--	--	0.64	--	6.84	--	6.20
10:30:00	0.92	--	5.87	0.64	--	5.01	--	4.38
10:45:00	1.82	--	12.03	0.87	--	6.94	--	6.07
11:00:00	1.98	--	6.73	1.15	--	7.91	--	6.76
11:15:00	1.58	--	2.64	1.35	--	6.82	--	5.46
11:30:00	1.38	--	1.19	1.54	--	5.69	--	4.16
11:45:00	1.59	--	1.41	1.67	--	4.80	--	3.13
12:00:00	1.67	--	18.02	1.64	--	6.00	--	4.36
12:15:00	2.02	--	15.38	1.65	--	7.73	--	6.08
12:30:00	1.94	--	15.15	1.72	--	10.23	--	8.51
12:45:00	0.59	--	22.71	1.56	--	14.53	--	12.97
13:00:00	0.55	--	28.73	1.35	--	20.00	--	18.64
13:15:00	0.41	--	10.5	1.10	--	18.49	--	17.39
13:30:00	0.49	--	5.74	0.80	--	16.57	--	15.77
13:45:00	0.73	--	2.4	0.55	--	14.02	--	13.46
14:00:00	0.71	--	2.64	0.58	--	10.00	--	9.42
14:15:00	1.05	--	1.74	0.68	--	4.60	--	3.93
14:30:00	0.88	--	1.53	0.77	--	2.81	--	2.04
14:45:00	1.01	--	1.18	0.88	--	1.90	--	1.02
15:00:00	0.99	--	0.98	0.93	--	1.61	--	0.69
15:15:00	1.08	--	1.01	1.00	--	1.29	--	0.29
15:30:00	1.18	--	1.14	1.03	--	1.17	--	0.14
15:45:00	1.14	--	0.72	1.08	--	1.01	--	-0.07
16:00:00	1.07	--	0.88	1.09	--	0.95	--	-0.15
16:15:00	0.95	--	0.76	1.08	--	0.90	--	-0.18
16:30:00	0.97	--	0.83	1.06	--	0.87	--	-0.20
16:45:00	1.13	--	0.91	1.05	--	0.82	--	-0.23
17:00:00	1.13	--	0.92	1.05	--	0.86	--	-0.19
17:15:00	1.14	--	1.04	1.06	--	0.89	--	-0.17
17:30:00	1.16	--	1.11	1.11	--	0.96	--	-0.14
17:45:00	1.13	--	1.21	1.14	--	1.04	--	-0.10
18:00:00	1.28	--	1.38	1.17	--	1.13	--	-0.04