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

**PERIOD: June 14 - June 18, 2021** 

Date of Report: June 22, 2021

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Prepared by

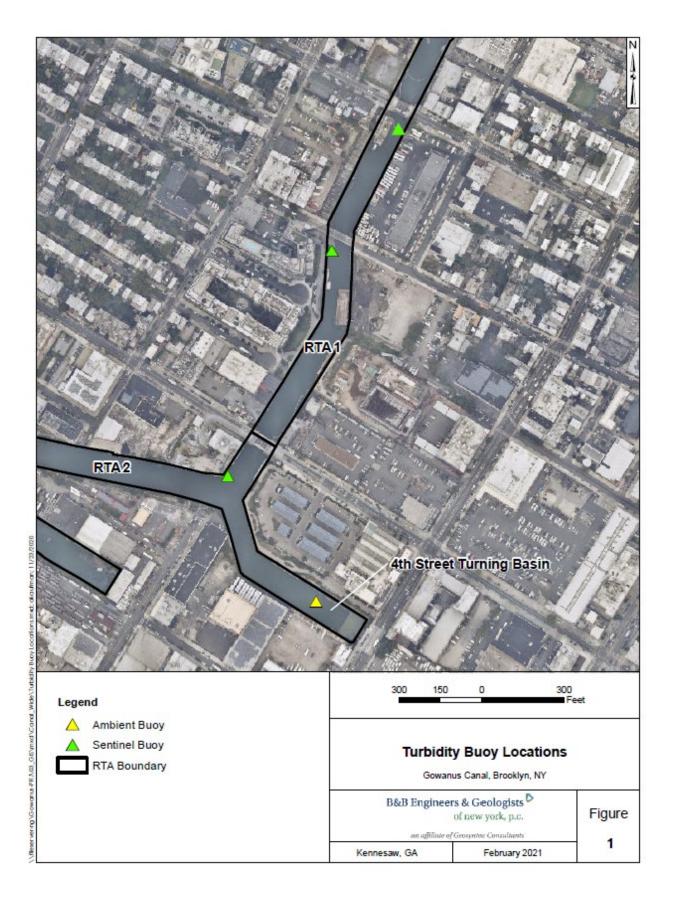
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#### 1. SCOPE OF MONITORING

The following report summarizes water quality monitoring data collected during the week of June 14, 2021. In accordance with the Water Quality Monitoring Plan for In-waterway Construction Activities (WQMP) three turbidity buoys were deployed to monitor turbidity at the start of dredging between Carroll Street Bridge and 3rd Street Bridge. 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 was deployed just south of the Carroll Street Bridge and is 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. Prior to dredging north of the Union Street Bridge, on January 22, 2021 a fourth turbidity buoy was deployed just south of the Union Street Bridge and is referred to as the Union Street Sentinel Buoy. A map indicating the approximate locations of the turbidity buoys is provided in Figure 1. 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. This report presents a summary of turbidity data collected from the ambient and sentinel buoys between 7 AM and 6 PM each day during the week of June 14. Daily turbidity data tables are provided in Appendix A. No handheld measurements were collected during this reporting period. Visual observations of turbidity and sheen are summarized in Section 4.



#### 2. REPORT OF EXCEEDANCES

No exceedances of the action criteria or trigger 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 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.

No exceedances to the quantitative trigger or action level criteria were observed during this reporting period. No exceedances to the qualitative trigger or action criteria were observed during this 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 June 14 - June 18, 2021. No exceedances of the action or trigger level criteria occurred during this reporting period. The 3<sup>rd</sup> Street buoy ceased operating June 16, 2021 at 1 PM and therefore, data gaps exist for turbidity at that buoy for the remainder of the week. B&B is working to bring the buoy back online.

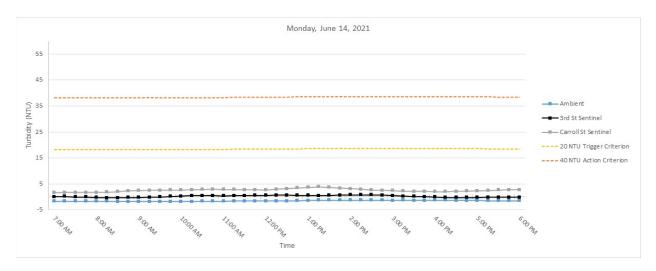
Section 2.1 contains further information on these exceedances. **Table 1** below provides a summary of the turbidity data for the reporting period.

|                          | Average Rolling Ave | rage Difference (NTU) | Maximum Rolling Average Difference (NTU) |                      |  |
|--------------------------|---------------------|-----------------------|------------------------------------------|----------------------|--|
| Date                     | 3rd St - Ambient    | Carroll St - Ambient  | 3rd St - Ambient                         | Carroll St - Ambient |  |
| Monday, June 14, 2021    | 1.75                | 4.10                  | 2.23                                     | 5.17                 |  |
| Tuesday, June 15, 2021   | 1.85                | 3.74                  | 3.38                                     | 4.91                 |  |
| Wednesday, June 16, 2021 | 2.46                | 3.17                  | 6.65                                     | 4.39                 |  |
| Thursday, June 17, 2021  | #DIV/0!             | 2.45                  | 0.00                                     | 3.40                 |  |
| Friday, June 18, 2021    | #DIV/0!             | 3.35                  | 0.00                                     | 3.90                 |  |

**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, June 14, 2021**

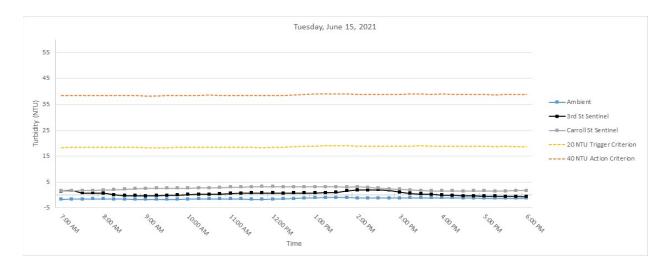
**Figure 2.** Hourly rolling average turbidity readings on Monday, June 14, 2021 from 7 AM to 6 PM.



Note: No spikes in turbidity were observed above 10 NTU.

#### 3.2 <u>Tuesday, June 15, 2021</u>

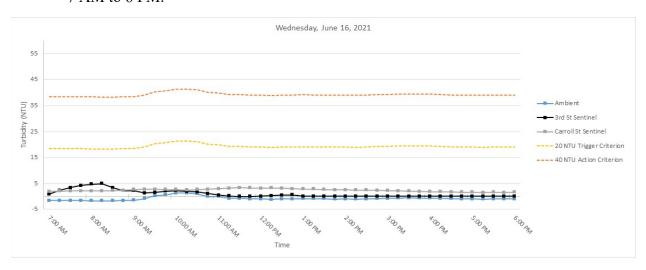
**Figure 3.** Hourly rolling average turbidity readings on Tuesday, June 15, 2021 from 7 AM to 6 PM.



Note: No spikes in turbidity were observed above 10 NTU.

## 3.3 <u>Wednesday, June 16, 2021</u>

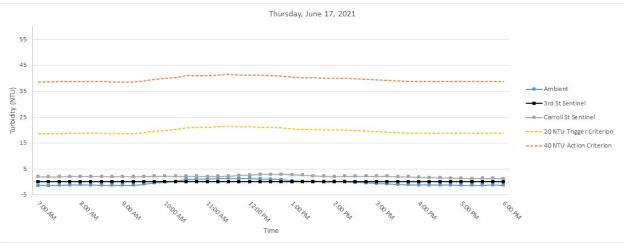
**Figure 4.** Hourly rolling average turbidity readings on Wednesday, June 16, 2021 from 7 AM to 6 PM.



Note: No spikes in turbidity were observed above 10 NTU. 3<sup>rd</sup> Street buoy offline starting June 16, 2021 at 1 PM.

## 3.4 **Thursday, June 17, 2021**

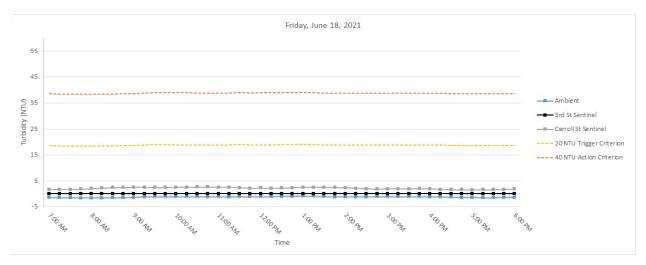
**Figure 5.** Hourly rolling average turbidity readings on Thursday, June 17, 2021 from 7 AM to 6 PM.



Note: No spikes in turbidity were observed above 10 NTU. 3<sup>rd</sup> Street buoy offline starting June 16, 2021 at 1 PM.

## 3.5 Friday, June 18, 2021

**Figure 6.** Hourly rolling average turbidity readings on Friday, June 18, 2021 from 7 AM to 6 PM.



Note: No spikes in turbidity were observed above 10 NTU. 3<sup>rd</sup> Street buoy offline starting June 16, 2021 at 1 PM.

#### SUMMARY OF VISUAL OBSERVATIONS

No sheen above background conditions was observed during this reporting period.

# **APPENDIX A Turbidity Data Tables**

## **Monday, June 14, 2021**

| Time     |         | Turbidity (NTU) |                | Ro      | 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  | -1.82   | -0.1            | 1.9            | -1.73   | 0.03                        | 1.57             | 1.76             | 3.30                 |
| 7:15:00  | -1.51   | -0.23           | 1.65           | -1.71   | 0.11                        | 1.66             | 1.82             | 3.37                 |
| 7:30:00  | -1.71   | -0.39           | 1.49           | -1.71   | -0.10                       | 1.68             | 1.61             | 3.39                 |
| 7:45:00  | -1.87   | -0.19           | 1.84           | -1.73   | -0.10                       | 1.70             | 1.63             | 3.43                 |
| 8:00:00  | -1.7    | -0.48           | 1.79           | -1.72   | -0.28                       | 1.73             | 1.44             | 3.46                 |
| 8:15:00  | -1.95   | -0.33           | 2.34           | -1.75   | -0.32                       | 1.82             | 1.42             | 3.57                 |
| 8:30:00  | -1.84   | -0.31           | 2.64           | -1.81   | -0.34                       | 2.02             | 1.47             | 3.83                 |
| 8:45:00  | -1.81   | -0.29           | 2.68           | -1.83   | -0.32                       | 2.26             | 1.51             | 4.09                 |
| 9:00:00  | -1.79   | -0.14           | 2.6            | -1.82   | -0.31                       | 2.41             | 1.51             | 4.23                 |
| 9:15:00  | -1.84   | 0.21            | 2.3            | -1.85   | -0.17                       | 2.51             | 1.67             | 4.36                 |
| 9:30:00  | -1.71   | 0.38            | 2.56           | -1.80   | -0.03                       | 2.56             | 1.77             | 4.35                 |
| 9:45:00  | -1.73   | 0.62            | 2.82           | -1.78   | 0.16                        | 2.59             | 1.93             | 4.37                 |
| 10:00:00 | -1.91   | 0.34            | 2.85           | -1.80   | 0.28                        | 2.63             | 2.08             | 4.42                 |
| 10:15:00 | -1.67   | 0.75            | 2.85           | -1.77   | 0.46                        | 2.68             | 2.23             | 4.45                 |
| 10:30:00 | -1.72   | 0.27            | 2.84           | -1.75   | 0.47                        | 2.78             | 2.22             | 4.53                 |
| 10:45:00 | -1.57   | 0.27            | 3.08           | -1.72   | 0.45                        | 2.89             | 2.17             | 4.61                 |
| 11:00:00 | -1.7    | 0.35            | 2.42           | -1.71   | 0.40                        | 2.81             | 2.11             | 4.52                 |
| 11:15:00 | -1.51   | 0.67            | 3.04           | -1.63   | 0.46                        | 2.85             | 2.10             | 4.48                 |
| 11:30:00 | -1.58   | 0.78            | 2.43           | -1.62   | 0.47                        | 2.76             | 2.08             | 4.38                 |
| 11:45:00 | -1.59   | 0.62            | 2.61           | -1.59   | 0.54                        | 2.72             | 2.13             | 4.31                 |
| 12:00:00 | -1.68   | 0.58            | 2.7            | -1.61   | 0.60                        | 2.64             | 2.21             | 4.25                 |
| 12:15:00 | -1.52   | 0.49            | 4.05           | -1.58   | 0.63                        | 2.97             | 2.20             | 4.54                 |
| 12:30:00 | -1.42   | 0.6             | 3.97           | -1.56   | 0.61                        | 3.15             | 2.17             | 4.71                 |
| 12:45:00 | -1.23   | 0.63            | 3.72           | -1.49   | 0.58                        | 3.41             | 2.07             | 4.90                 |
| 13:00:00 | -1.14   | 0.5             | 3.73           | -1.40   | 0.56                        | 3.63             | 1.96             | 5.03                 |
| 13:15:00 | -1.39   | 0.24            | 3.68           | -1.34   | 0.49                        | 3.83             | 1.83             | 5.17                 |
| 13:30:00 | -1.33   | 0.58            | 2.93           | -1.30   | 0.51                        | 3.61             | 1.81             | 4.91                 |
| 13:45:00 | -1.4    | 1.2             | 2.64           | -1.30   | 0.63                        | 3.34             | 1.93             | 4.64                 |
| 14:00:00 | -1.35   | 1.04            | 2.88           | -1.32   | 0.71                        | 3.17             | 2.03             | 4.49                 |
| 14:15:00 | -1.29   | 0.59            | 2.55           | -1.35   | 0.73                        | 2.94             | 2.08             | 4.29                 |
| 14:30:00 | -1.3    | 0.44            | 2.16           | -1.33   | 0.77                        | 2.63             | 2.10             | 3.97                 |
| 14:45:00 | -1.41   | 0.04            | 2.17           | -1.35   | 0.66                        | 2.48             | 2.01             | 3.83                 |
| 15:00:00 | -1.47   | 0.38            | 2.28           | -1.36   | 0.50                        | 2.41             | 1.86             | 3.77                 |
| 15:15:00 | -1.14   | -0.03           | 1.95           | -1.32   | 0.28                        | 2.22             | 1.61             | 3.54                 |
| 15:30:00 | -1.46   | -0.2            | 1.97           | -1.36   | 0.13                        | 2.11             | 1.48             | 3.46                 |
| 15:45:00 | -1.33   | -0.26           | 2              | -1.36   | -0.01                       | 2.07             | 1.35             | 3.44                 |
| 16:00:00 | -1.33   | -0.32           | 1.96           | -1.35   | -0.09                       | 2.03             | 1.26             | 3.38                 |
| 16:15:00 | -1.4    | -0.35           | 2.07           | -1.33   | -0.23                       | 1.99             | 1.10             | 3.32                 |
| 16:30:00 | -1.41   | -0.02           | 2.31           | -1.39   | -0.23                       | 2.06             | 1.16             | 3.45                 |
| 16:45:00 | -1.44   | -0.43           | 2.54           | -1.38   | -0.28                       | 2.18             | 1.11             | 3.56                 |
| 17:00:00 | -1.66   | -0.07           | 2.66           | -1.45   | -0.24                       | 2.31             | 1.21             | 3.76                 |
| 17:15:00 | -1.56   | -0.13           | 2.68           | -1.49   | -0.20                       | 2.45             | 1.29             | 3.95                 |
| 17:30:00 | -1.53   | 0.04            | 2.82           | -1.52   | -0.12                       | 2.60             | 1.40             | 4.12                 |
| 17:45:00 | -1.44   | -0.15           | 2.64           | -1.53   | -0.15                       | 2.67             | 1.38             | 4.19                 |
| 18:00:00 | -1.45   | -0.31           | 2.69           | -1.53   | -0.12                       | 2.70             | 1.40             | 4.23                 |

# Tuesday, June 15, 2021

| 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  | -1.53           | 2.54       | (44)           | -1.70   | 1.49                       | 1.61             | 3.20             | 3.32                 |
| 7:15:00  | -1.59           | 1          | 1.61           | -1.64   | 1.73                       | 1.63             | 3.38             | 3.27                 |
| 7:30:00  | -1.53           | -0.18      | 1.71           | -1.60   | 0.78                       | 1.64             | 2.38             | 3.23                 |
| 7:45:00  | -1.43           | 0.1        | 2.01           | -1.53   | 0.74                       | 1.73             | 2.27             | 3.26                 |
| 8:00:00  | -1.51           | -0.35      | 2.07           | -1.52   | 0.62                       | 1.85             | 2.14             | 3.37                 |
| 8:15:00  | -1.78           | -0.56      | 2.47           | -1.57   | 0.00                       | 1.97             | 1.57             | 3.54                 |
| 8:30:00  | -1.92           | -0.42      | 2.75           | -1.63   | -0.28                      | 2.20             | 1.35             | 3.84                 |
| 8:45:00  | -1.7            | -0.35      | 2.83           | -1.67   | -0.32                      | 2.43             | 1.35             | 4.09                 |
| 9:00:00  | -1.69           | -0.18      | 2.39           | -1.72   | -0.37                      | 2.50             | 1.35             | 4.22                 |
| 9:15:00  | -1.62           | 0.1        | 2.6            | -1.74   | -0.28                      | 2.61             | 1.46             | 4.35                 |
| 9:30:00  | -1.57           | -0.07      | 2.66           | -1.70   | -0.18                      | 2.65             | 1.52             | 4.35                 |
| 9:45:00  | -1.79           | 0.2        | 2.65           | -1.67   | -0.06                      | 2.63             | 1.61             | 4.30                 |
| 10:00:00 | -1.48           | 0.41       | 2.98           | -1.63   | 0.09                       | 2.66             | 1.72             | 4.29                 |
| 10:15:00 | -1.17           | 0.33       | 2.54           | -1.53   | 0.19                       | 2.69             | 1.72             | 4.21                 |
| 10:30:00 | -1.46           | 0.41       | 2.85           | -1.49   | 0.26                       | 2.74             | 1.75             | 4.23                 |
| 10:45:00 | -1.71           | 0.49       | 3.04           | -1.52   | 0.37                       | 2.81             | 1.89             | 4.33                 |
| 11:00:00 | -1.76           | 1.35       | 3.71           | -1.52   | 0.60                       | 3.02             | 2.11             | 4.54                 |
| 11:15:00 | -1.66           | 0.86       | 2.85           | -1.55   | 0.69                       | 3.00             | 2.24             | 4.55                 |
| 11:30:00 | -1.73           | 0.55       | 3.08           | -1.66   | 0.73                       | 3.11             | 2.40             | 4.77                 |
| 11:45:00 | -1.66           | 0.71       | 3.22           | -1.70   | 0.79                       | 3.18             | 2.50             | 4.88                 |
| 12:00:00 | -1.47           | 0.55       | 3.43           | -1.66   | 0.80                       | 3.26             | 2.46             | 4.91                 |
| 12:15:00 | -1.02           | 0.68       | 3.24           | -1.51   | 0.67                       | 3.16             | 2.18             | 4.67                 |
| 12:30:00 | -1.23           | 1.09       | 2.92           | -1.42   | 0.72                       | 3.18             | 2.14             | 4.60                 |
| 12:45:00 | -0.84           | 0.77       | 2.64           | -1.24   | 0.76                       | 3.09             | 2.00             | 4.33                 |
| 13:00:00 | -0.88           | 0.87       | 3.34           | -1.09   | 0.79                       | 3.11             | 1.88             | 4.20                 |
| 13:15:00 | -1.05           | 0.66       | 3.51           | -1.00   | 0.81                       | 3.13             | 1.82             | 4.13                 |
| 13:30:00 | -1.15           | 1.43       | 3.14           | -1.03   | 0.96                       | 3.11             | 1.99             | 4.14                 |
| 13:45:00 | -1.22           | 4.12       | 2.69           | -1.03   | 1.57                       | 3.06             | 2.60             | 4.09                 |
| 14:00:00 | -1.44           | 2.47       | 2.76           | -1.15   | 1.91                       | 3.09             | 3.06             | 4.24                 |
| 14:15:00 | -1.02           | 0.87       | 2.36           | -1.18   | 1.91                       | 2.89             | 3.09             | 4.07                 |
| 14:30:00 | -1.02           | 0.83       | 1.96           | -1.17   | 1.94                       | 2.58             | 3.11             | 3.75                 |
| 14:45:00 | -1.19           | 0.59       | 1.94           | -1.18   | 1.78                       | 2.34             | 2.95             | 3.52                 |
| 15:00:00 | -1.11           | 0.5        | 1.73           | -1.16   | 1.05                       | 2.15             | 2.21             | 3.31                 |
| 15:15:00 | -1.02           | 0.16       | 1.43           | -1.07   | 0.59                       | 1.88             | 1.66             | 2.96                 |
| 15:30:00 | -0.97           | -0.18      | 1.57           | -1.06   | 0.38                       | 1.73             | 1.44             | 2.79                 |
| 15:45:00 | -1.16           | 0          | 1.48           | -1.09   | 0.21                       | 1.63             | 1.30             | 2.72                 |
| 16:00:00 | -1.18           | -0.6       | 1.5            | -1.09   | -0.02                      | 1.54             | 1.06             | 2.63                 |
| 16:15:00 | -1.39           | -0.35      | 1.71           | -1.14   | -0.19                      | 1.54             | 0.95             | 2.68                 |
| 16:30:00 | -1.19           | -0.58      | 1.33           | -1.18   | -0.34                      | 1.52             | 0.84             | 2.70                 |
| 16:45:00 | -1.21           | -0.41      | 1.65           | -1.23   | -0.39                      | 1.53             | 0.84             | 2.76                 |
| 17:00:00 | -1.31           | -0.65      | 1.5            | -1.26   | -0.52                      | 1.54             | 0.74             | 2.79                 |
| 17:15:00 | -1.39           | -0.46      | 1.3            | -1.30   | -0.49                      | 1.50             | 0.81             | 2.80                 |
| 17:30:00 | -1.2            | -0.68      | 1.51           | -1.26   | -0.56                      | 1.46             | 0.70             | 2.72                 |
| 17:45:00 | -1.27           | -0.79      | 2.33           | -1.28   | -0.60                      | 1.66             | 0.68             | 2.93                 |
| 18:00:00 | -1.21           | -0.69      | 1.7            | -1.28   | -0.65                      | 1.67             | 0.62             | 2.94                 |

## Wednesday, June 16, 2021

| Time     | Turbidity (NTU) |            |                | R       | 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  | -1.67           | 1.24       | 2.02           | -1.66   | 0.82                        | 1.94             | 2.48             | 3.60                 |
| 7:15:00  | -1.56           | 7.08       | 1.96           | -1.60   | 2.28                        | 2.03             | 3.88             | 3.63                 |
| 7:30:00  | -1.7            | 5.18       | 1.74           | -1.63   | 3.37                        | 2.05             | 5.01             | 3.68                 |
| 7:45:00  | -1.77           | 553        | 2.21           | -1.60   | 4.13                        | 2.07             | 5.73             | 3.67                 |
| 8:00:00  | -1.78           | 5.02       | 2.33           | -1.70   | 4.63                        | 2.05             | 6.33             | 3.75                 |
| 8:15:00  | -1.85           | 2.39       | 2.28           | -1.73   | 4.92                        | 2.10             | 6.65             | 3.84                 |
| 8:30:00  | -1.51           | 0.56       | 2.51           | -1.72   | 3.29                        | 2.21             | 5.01             | 3.94                 |
| 8:45:00  | -0.95           | 0.65       | 2.43           | -1.57   | 2.16                        | 2.35             | 3.73             | 3.92                 |
| 9:00:00  | -1.49           |            | 3.7            | -1.52   | 2.16                        | 2.65             | 3.67             | 4.17                 |
| 9:15:00  | 1.21            | 1.39       | 2.64           | -0.92   | 1.25                        | 2.71             | 2.17             | 3.63                 |
| 9:30:00  | 4.18            | 3.18       | 2.3            | 0.29    | 1.45                        | 2.72             | 1.16             | 2.43                 |
| 9:45:00  | 0.05            | 2.74       | 2.08           | 0.60    | 1.99                        | 2.63             | 1.39             | 2.03                 |
| 10:00:00 | 2.2             | 1.44       | 2.16           | 1.23    | 2.19                        | 2.58             | 0.96             | 1.35                 |
| 10:15:00 | -1.26           | 0.7        | 2.63           | 1.28    | 1.89                        | 2.36             | 0.61             | 1.09                 |
| 10:30:00 | -0.14           | 0.28       | 3.82           | 1.01    | 1.67                        | 2.60             | 0.66             | 1.59                 |
| 10:45:00 | -0.95           | -0.08      | 3.06           | -0.02   | 1.02                        | 2.75             | 1.04             | 2.77                 |
| 11:00:00 | -0.28           | -0.13      | 3.04           | -0.09   | 0.44                        | 2.94             | 0.53             | 3.03                 |
| 11:15:00 | -1.14           | -0.15      | 3.21           | -0.75   | 0.12                        | 3.15             | 0.88             | 3.91                 |
| 11:30:00 | -1.43           | -0.04      | 3.65           | -0.79   | -0.02                       | 3.36             | 0.76             | 4.14                 |
| 11:45:00 | -1.24           | 0.1        | 3.28           | -1.01   | -0.06                       | 3.25             | 0.95             | 4.26                 |
| 12:00:00 | -1.02           | 0.52       | 2.65           | -1.02   | 0.06                        | 3.17             | 1.08             | 4.19                 |
| 12:15:00 | -1.22           | 0.63       | 3.13           | -1.21   | 0.21                        | 3.18             | 1.42             | 4.39                 |
| 12:30:00 | -0.02           | 0.93       | 2.78           | -0.99   | 0.43                        | 3.10             | 1.41             | 4.08                 |
| 12:45:00 | -1.29           | 0.77       | 2.84           | -0.96   | 0.59                        | 2.94             | 1.55             | 3.89                 |
| 13:00:00 | -0.8            | #VALUE!    | 2.57           | -0.87   |                             | 2.79             | (220)            | 3.66                 |
| 13:15:00 | -1.1            | #VALUE!    | 2.65           | -0.89   | 20                          | 2.79             | 1221             | 3.68                 |
| 13:30:00 | -1.3            | #VALUE!    | 2.21           | -0.90   |                             | 2.61             | 120              | 3.51                 |
| 13:45:00 | -0.84           | #VALUE!    | 2.47           | -1.07   |                             | 2.55             | 1553             | 3.61                 |
| 14:00:00 | -1.05           | #VALUE!    | 2.6            | -1.02   |                             | 2.50             | 1551             | 3.52                 |
| 14:15:00 | -1.11           | #VALUE!    | 2.27           | -1.08   |                             | 2.44             | 88               | 3.52                 |
| 14:30:00 | -0.58           | #VALUE!    | 2.26           | -0.98   |                             | 2.36             | 1                | 3.34                 |
| 14:45:00 | -0.71           | #VALUE!    | 1.99           | -0.86   |                             | 2.32             | 1241             | 3.18                 |
| 15:00:00 | -0.35           | #VALUE!    | 1.84           | -0.76   |                             | 2.19             | (220)            | 2.95                 |
| 15:15:00 | -0.45           | #VALUE!    | 1.89           | -0.64   | 20                          | 2.05             | 1221             | 2.69                 |
| 15:30:00 | -0.67           | #VALUE!    | 1.84           | -0.55   | 42                          | 1.96             | 7 <u>-11</u>     | 2.52                 |
| 15:45:00 | -1.03           | #VALUE!    | 1.84           | -0.64   |                             | 1.88             | 5553             | 2.52                 |
| 16:00:00 | -0.72           | #VALUE!    | 1.65           | -0.64   |                             | 1.81             | 8774             | 2.46                 |
| 16:15:00 | -1.16           | #VALUE!    | 1.61           | -0.81   |                             | 1.77             | 8,558            | 2.57                 |
| 16:30:00 | -1.09           | #VALUE!    | 1.54           | -0.93   |                             | 1.70             | 1.00             | 2.63                 |
| 16:45:00 | -0.95           | #VALUE!    | 1.25           | -0.99   |                             | 1.58             |                  | 2.57                 |
| 17:00:00 | -1.11           | #VALUE!    | 1.63           | -1.01   |                             | 1.54             |                  | 2.54                 |
| 17:15:00 | -1.06           | #VALUE!    | 1.39           | -1.07   |                             | 1.48             |                  | 2.56                 |
| 17:30:00 | -0.83           | #VALUE!    | 1.9            | -1.01   |                             | 1.54             |                  | 2.55                 |
| 17:45:00 | -0.86           | #VALUE!    | 1.4            | -0.96   | <del></del>                 | 1.51             | 1551             | 2.48                 |
| 18:00:00 | -1.16           |            | 1.44           | -1.00   |                             | 1.55             | 8771             | 2.56                 |

## Thursday, June 17, 2021

| Time     | Turbidity (NTU) |            |                | Ro             | 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  | -0.88           | #VALUE!    | 2.02           | - <b>1</b> .36 |                             | 2.04             |                  | 3.40                 |
| 7:15:00  | -1.36           | #VALUE!    | 1.97           | -1.37          | 22                          | 2.02             | 1221             | 3.39                 |
| 7:30:00  | -1.04           | #VALUE!    | 2.11           | -1.28          |                             | 2.04             | -                | 3.31                 |
| 7:45:00  | -1.1            | #VALUE!    | 2.25           | -1.24          |                             | 2.08             | 1551             | 3.32                 |
| 8:00:00  | -1.31           | #VALUE!    | 2.27           | -1.14          |                             | 2.12             | 1551             | 3.26                 |
| 8:15:00  | -1.25           | #VALUE!    | 1.88           | -1.21          |                             | 2.10             | 1000             | 3.31                 |
| 8:30:00  | -1.62           | #VALUE!    | 1.76           | -1.26          |                             | 2.05             | 18-8             | 3.32                 |
| 8:45:00  | -1.4            | #VALUE!    | 12-1           | -1.34          |                             | 2.04             | 1000 N           | 3.38                 |
| 9:00:00  | -0.98           | #VALUE!    | 2.38           | -1.31          | 44                          | 2.07             | 1000             | 3.38                 |
| 9:15:00  | -1.26           | #VALUE!    | 1.81           | -1.30          | 9 22                        | 1.96             | 1000             | 3.26                 |
| 9:30:00  | 0.73            | #VALUE!    | 2.26           | -0.91          | 929                         | 2.05             | 1922             | 2.96                 |
| 9:45:00  | 0.99            | #VALUE!    | 2.26           | -0.38          |                             | 2.18             |                  | 2.56                 |
| 10:00:00 | 0.28            | #VALUE!    | 2.1            | -0.05          |                             | 2.16             | ,,               | 2.21                 |
| 10:15:00 | 0.66            | #VALUE!    | 2.49           | 0.28           |                             | 2.18             | (100)            | 1.90                 |
| 10:30:00 | 2.2             | #VALUE!    | 1.81           | 0.97           |                             | 2.18             |                  | 1.21                 |
| 10:45:00 | 344             | #VALUE!    | 2.36           | 1.03           |                             | 2.20             | (144)            | 1.17                 |
| 11:00:00 | 1.25            | #VALUE!    | 1.9            | 1.10           |                             | 2.13             | (944)            | 1.03                 |
| 11:15:00 | 0.87            | #VALUE!    | 2.37           | 1.25           | 22                          | 2.19             | SE21             | 0.94                 |
| 11:30:00 | 1.34            | #VALUE!    | 2.58           | 1.42           | 428                         | 2.20             | 1920             | 0.79                 |
| 11:45:00 | 1.7             | #VALUE!    | 3.26           | 1.29           |                             | 2.49             | ,,               | 1.20                 |
| 12:00:00 | 1.66            | #VALUE!    | 2.99           | 1.36           | -                           | 2.62             | j,               | 1.26                 |
| 12:15:00 | 0.35            | #VALUE!    | 3.5            | 1.18           | -                           | 2.94             | 1,1              | 1.76                 |
| 12:30:00 | 0.31            | #VALUE!    | 2.45           | 1.07           |                             | 2.96             |                  | 1.88                 |
| 12:45:00 | 0.2             | #VALUE!    | 2.52           | 0.84           |                             | 2.94             | 1941             | 2.10                 |
| 13:00:00 | -0.22           | #VALUE!    | 2.35           | 0.46           |                             | 2.76             | 1920             | 2.30                 |
| 13:15:00 | 0.58            | #VALUE!    | 2.02           | 0.24           | 22                          | 2.57             | 1021             | 2.32                 |
| 13:30:00 | 0.33            | #VALUE!    | 2.27           | 0.24           | -                           | 2.32             |                  | 2.08                 |
| 13:45:00 | -0.28           | #VALUE!    | 1.89           | 0.12           |                             | 2.21             | >                | 2.09                 |
| 14:00:00 | 0.06            | #VALUE!    | 2.02           | 0.09           |                             | 2.11             |                  | 2.02                 |
| 14:15:00 | -0.08           | #VALUE!    | 2.72           | 0.12           |                             | 2.18             |                  | 2.06                 |
| 14:30:00 | -0.63           | #VALUE!    | 2.16           | -0.12          | -                           | 2.21             |                  | 2.33                 |
| 14:45:00 | -0.94           | #VALUE!    | 2.24           | -0.37          |                             | 2.21             | 1-4              | 2.58                 |
| 15:00:00 | -1.1            | #VALUE!    | 2              | -0.54          |                             | 2.23             | 8220             | 2.77                 |
| 15:15:00 | -1.28           | #VALUE!    | 1.84           | -0.81          | 22                          | 2.19             | 1 122            | 3.00                 |
| 15:30:00 | -0.91           | #VALUE!    | 1.98           | -0.97          |                             | 2.04             | 10220            | 3.02                 |
| 15:45:00 | -1.4            | #VALUE!    | 1.77           | -1.13          |                             | 1.97             | , <del></del> ,  | 3.09                 |
| 16:00:00 | -1.27           | #VALUE!    | 1.27           | -1.19          |                             | 1.77             |                  | 2.96                 |
| 16:15:00 | -1.23           | #VALUE!    | 1.4            | -1.22          |                             | 1.65             |                  | 2.87                 |
| 16:30:00 | -1.14           | #VALUE!    | 1.42           | -1.19          |                             | 1.57             | 1                | 2.76                 |
| 16:45:00 | -1.02           | #VALUE!    | 1.46           | -1.21          |                             | 1.46             |                  | 2.68                 |
| 17:00:00 | -1.65           | #VALUE!    | 1.17           | -1.26          | 22                          | 1.34             |                  | 2.61                 |
| 17:15:00 | -1.22           | #VALUE!    | 1.06           | -1.25          |                             | 1.30             |                  | 2.55                 |
| 17:30:00 | -1.28           | #VALUE!    | 1.73           | -1.26          | 22                          | 1.37             |                  | 2.63                 |
| 17:45:00 | -1.01           | #VALUE!    | 1.46           | -1.24          |                             | 1.38             |                  | 2.61                 |
| 18:00:00 | -1.13           | #VALUE:    | 1.19           | -1.24          |                             | 1.32             | 1557.0           | 2.58                 |

# Friday, June 18, 2021

| Time     | Turbidity (NTU) |            |                | Ro      | 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  | -1.46           | #VALUE!    | 1.74           | -1.44   |                             | 1.71             |                  | 3.15                 |
| 7:15:00  | -1.63           | #VALUE!    | 1.32           | -1.51   |                             | 1.64             |                  | 3.15                 |
| 7:30:00  | -1.54           | #VALUE!    | 2.11           | -1.55   |                             | 1.69             | 120              | 3.24                 |
| 7:45:00  | -1.56           | #VALUE!    | 2.32           | -1.58   |                             | 1.82             | 1,550            | 3.41                 |
| 8:00:00  | -1.91           | #VALUE!    | 2.38           | -1.62   |                             | 1.97             | 1551             | 3.59                 |
| 8:15:00  | -1.53           | #VALUE!    | 2.64           | -1.63   |                             | 2.15             | 88               | 3.79                 |
| 8:30:00  | -1.04           | #VALUE!    | 2.41           | -1.52   |                             | 2.37             | 1                | 3.89                 |
| 8:45:00  | -1.3            | #VALUE!    | 2.3            | -1.47   |                             | 2.41             | (24)             | 3.88                 |
| 9:00:00  | -1.3            | #VALUE!    | 2.68           | -1.42   | 22                          | 2.48             | (920)            | 3.90                 |
| 9:15:00  | -0.91           | #VALUE!    | 2.39           | -1.22   | 200                         | 2.48             | 1221             | 3.70                 |
| 9:30:00  | -0.72           | #VALUE!    | 2.44           | -1.05   | 929                         | 2.44             | 1221             | 3.50                 |
| 9:45:00  | -1              | #VALUE!    | 2.44           | -1.05   |                             | 2.45             | -                | 3.50                 |
| 10:00:00 | -1.41           | #VALUE!    | 2.35           | -1.07   |                             | 2.46             | 1000             | 3.53                 |
| 10:15:00 | -1.33           | #VALUE!    | 3.03           | -1.07   |                             | 2.53             | (100)            | 3.60                 |
| 10:30:00 | -1.04           | #VALUE!    | 2.88           | -1.10   |                             | 2.63             | 1                | 3.73                 |
| 10:45:00 | -0.98           | #VALUE!    | 2.28           | -1.15   |                             | 2.60             | (944)            | 3.75                 |
| 11:00:00 | -0.96           | #VALUE!    | 2.19           | -1.14   |                             | 2.55             | (92)             | 3.69                 |
| 11:15:00 | -1.48           | #VALUE!    | 2              | -1.16   |                             | 2.48             | 1227             | 3.63                 |
| 11:30:00 | -0.85           | #VALUE!    | 2.01           | -1.06   | 49                          | 2.27             | 122              | 3.33                 |
| 11:45:00 | -1.28           | #VALUE!    | 2.22           | -1.11   |                             | 2.14             | 1                | 3.25                 |
| 12:00:00 | -0.87           | #VALUE!    | 2.39           | -1.09   |                             | 2.16             | ,,               | 3.25                 |
| 12:15:00 | -0.88           | #VALUE!    | 2.12           | -1.07   |                             | 2.15             | (100)            | 3.22                 |
| 12:30:00 | -0.86           | #VALUE!    | 2.35           | -0.95   |                             | 2.22             | ()               | 3.17                 |
| 12:45:00 | -0.9            | #VALUE!    | 2.62           | -0.96   | -                           | 2.34             | (44)             | 3.30                 |
| 13:00:00 | -0.97           | #VALUE!    | 3.11           | -0.90   |                             | 2.52             | 0220             | 3.41                 |
| 13:15:00 | -1.08           | #VALUE!    | 2.14           | -0.94   | 22                          | 2.47             | 1221             | 3.41                 |
| 13:30:00 | -1.7            | #VALUE!    | 2.33           | -1.10   |                             | 2.51             | 1221             | 3.61                 |
| 13:45:00 | -1.15           | #VALUE!    | 2              | -1.16   |                             | 2.44             | 1000             | 3.60                 |
| 14:00:00 | -1.26           | #VALUE!    | 2.05           | -1.23   |                             | 2.33             | 8771             | 3.56                 |
| 14:15:00 | -1.01           | #VALUE!    | 1.85           | -1.24   |                             | 2.07             | 8003             | 3.31                 |
| 14:30:00 | -1.11           | #VALUE!    | 1.35           | -1.25   |                             | 1.92             | 1                | 3.16                 |
| 14:45:00 | -1.2            | #VALUE!    | 1.8            | -1.15   |                             | 1.81             | 1941             | 2.96                 |
| 15:00:00 | -1.1            | #VALUE!    | 2.32           | -1.14   | <u> </u>                    | 1.87             | 1920             | 3.01                 |
| 15:15:00 | -1.04           | #VALUE!    | 2.03           | -1.09   | 92                          | 1.87             | 1927             | 2.96                 |
| 15:30:00 | -1.22           | #VALUE!    | 1.81           | -1.13   | 42                          | 1.86             | 1221             | 3.00                 |
| 15:45:00 | -1.16           | #VALUE!    | 1.91           | -1.14   |                             | 1.97             | 1,550            | 3.12                 |
| 16:00:00 | -1.36           | #VALUE!    | 1.43           | -1.18   |                             | 1.90             | 8554             | 3.08                 |
| 16:15:00 | -1.44           | #VALUE!    | 1.5            | -1.24   |                             | 1.74             | (100)            | 2.98                 |
| 16:30:00 | -1.57           | #VALUE!    | 1.51           | -1.35   | -                           | 1.63             | 1                | 2.98                 |
| 16:45:00 | -1.33           | #VALUE!    | 1.42           | -1.37   |                             | 1.55             | (22)             | 2.93                 |
| 17:00:00 | -1.32           | #VALUE!    | 1.7            | -1.40   |                             | 1.51             | 14-1             | 2.92                 |
| 17:15:00 | -1.7            | #VALUE!    | 1.89           | -1.47   | 22                          | 1.60             |                  | 3.08                 |
| 17:30:00 | -1.42           | #VALUE!    | 1.58           | -1.47   |                             | 1.62             |                  | 3.09                 |
| 17:45:00 | -1.36           | #VALUE!    | 1.59           | -1.43   |                             | 1.64             | 1550             | 3.06                 |
| 18:00:00 | -1.36           |            | 2.17           | -1.43   |                             | 1.79             | 1                | 3.22                 |