

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

PERIOD: January 2 – January 5, 2024

Date of Report: January 9, 2024

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1. SCOPE OF MONITORING

1.1 Initial Buoy Locations

In accordance with the Water Quality Monitoring Plan for In-waterway Construction Activities (WQMP) three 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 was referred to as the 3rd Street Sentinel Buoy. A second turbidity buoy was deployed just south of Carroll St Bridge to monitor dredging activities north of Carroll Street Bridge and was referred to as the Carroll Street Sentinel Buoy. The third turbidity buoy was deployed in the Fourth Street Turning Basin (TB4) in order to monitor background turbidity unaffected by in-water construction activities and was 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.

1.2 Summary of Monitoring Adjustments during Construction

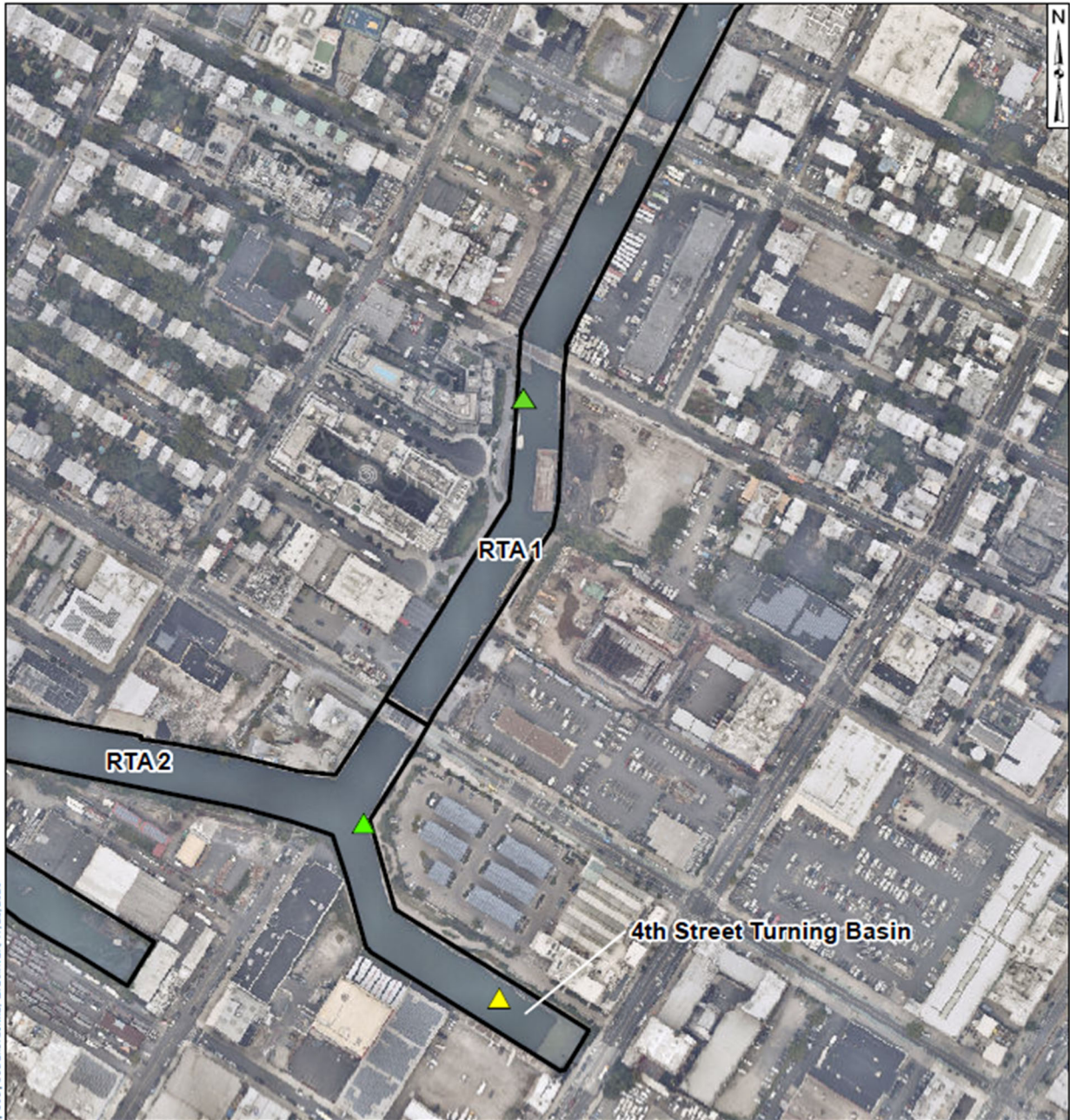
- On January 22, 2021, prior to dredging north of the Union Street Bridge, a fourth turbidity buoy was deployed just south of the Union Street Bridge and was referred to as the Union Street Sentinel Buoy. This fourth turbidity buoy was removed prior to the start of pipe pile installation.
- On Wednesday, 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 sentinel buoy was re-deployed just south of the Carroll Street Bridge.
- Since December 8, 2021, the sentinel buoy deployed at the northern-most portion of the canal has alternated positioning between the Union Street Bridge and Carroll Street Bridge locations based on the in-canal construction activities being conducted at any given time.
- On January 9, 2023, the Carroll Street Sentinel Buoy was moved to the Third Street Bridge location and renamed the Third Street Sentinel Buoy. Additionally, the former Third Street Sentinel Buoy was removed from the canal for servicing.

- On February 6, 2023, the newly serviced Third Street Sentinel Buoy was reinstalled at Third Street Bridge, and the former Carroll Street Sentinel Buoy was reinstalled at Carroll Street Bridge.
- The Ambient Buoy was removed from service on Friday, February 17, 2023, due to a faulty communications system. Following investigation into the cause of the fault and the appropriate repairs made, the Ambient Buoy was returned to service on Thursday, April 13, 2023. Due to similar issues, the Ambient Buoy was removed from service again on Monday, April 24, 2023, before being redeployed on Friday, May 12, 2023, and again removed from service on Monday, May 15, 2023, before being redeployed on Monday, June 12, 2023.
- On Thursday April 13, 2023, the Carroll Street Sentinel Buoy was assessed to be within 100ft of in-canal construction activities being conducted at Carroll Street Bridge, and consequently was repositioned to the North Third Street Sentinel Buoy location.
- Data from the Third Street Sentinel Buoy was not reported from Thursday June 1, 2023 to June 2, 2023 due to a power failure and/or faulty communications system preventing transmission of readings. The Third Street Sentinel Buoy was returned to service with data collection resuming on June 5, 2023.
- On Wednesday, July 26, 2023, a fourth monitoring buoy was deployed just north of the Union Street Bridge to monitor dissolved oxygen (DO) in RTA1.
- On Tuesday, September 19, 2023, the fourth monitoring buoy (originally deployed north of the Union Street Bridge to monitor DO) was moved to just south of the Carroll Street Bridge due to ongoing in-waterway construction activities within 100 feet. In addition to dissolved oxygen, this served as an additional sentinel buoy and was referred to as the South Carroll Street Bridge Sentinel Buoy.
- On Thursday, November 2, 2023, the monitoring buoy deployed just south of the Third Street Bridge was removed from the canal to conduct maintenance and necessary repairs.
- On Monday, November 13, 2023, the monitoring buoy most recently deployed south of the Carroll Street Bridge was moved to just south of the Union Street Bridge due to ongoing in-waterway construction activities within 100 feet. In addition to dissolved oxygen, this served as an additional sentinel buoy and was referred to as the South Union Street Bridge Sentinel Buoy.
- On Tuesday, December 19, 2023, the monitoring buoy most recently deployed south of the Union Street Bridge was moved back to just south of the Carroll Street Bridge due to ongoing in-waterway construction activities within 100 feet of Union Street Bridge. This will again be referred to as the South Carroll Street Bridge Sentinel Buoy, and in addition to turbidity, will continue to monitor dissolved oxygen.

1.3 Current Reporting Period Scope of Monitoring

For the week of January 2, 2024, three turbidity buoys were deployed consisting of the Ambient Turbidity Buoy located in the eastern end of TB4, the West TB4 Sentinel Buoy located just outside of any sediment and floatables controls at the southern end of RTA1, and the South Carroll Street Bridge Sentinel Buoy located just south of the Carroll Street Bridge.

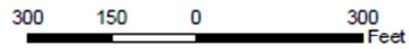
Due to software issues with the equipment, service disruptions resulted in no data (turbidity or dissolved oxygen) being recorded at any of the buoy locations during the reporting period. Based on conversations with the equipment provider, investigations into the cause of the problem are actively underway but a timeline for when service may be restored remains unavailable. In the meantime, attempts are underway by Geosyntec personnel to setup the equipment for manual upload of data for the next reporting period (i.e. the week of January 8, 2024).



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Legend

- ▲ Ambient Buoy
- ▲ Sentinel Buoy
- RTA Boundary



**Water Quality Monitoring
Buoy Locations**

Gowanus Canal, Brooklyn, NY

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Figure

1

Brooklyn, NY

November 2023

2. REPORT OF EXCEEDANCES

During the reporting period, due to the technical issues discussed in Section 1, no turbidity data was available for analysis. No exceedances due to visual observations 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 due to visual observations were observed during the reporting period.

3. TURBIDITY BUOY DATA

As discussed in Section 1, no turbidity data was available for the reporting period. No remedial construction-related activities occurred on January 1, 2024 due to the union holiday.

Remedial construction-related activities during the reporting period were typical of those in recent reporting periods. No exceedances were reported during the recent reporting periods, and therefore it is considered unlikely for any to have occurred during this reporting period either.

4. DISSOLVED OXYGEN MONITORING DATA

No dissolved oxygen data was available for this reporting period as discussed in Section 1.

SUMMARY OF VISUAL OBSERVATIONS

Visual indications of elevated turbidity were periodically observed during the reporting period attributable to capping activities, typically due to temporarily suspended sediment from passing vessels. No sheens attributable to in-canal work operations were observed above background conditions. A sheen with unknown origins was observed at the southeast corner of Carroll Street Bridge at approximately 8:15 AM on January 4, 2024.

Photographs depicting conditions relevant to these events are shown below.

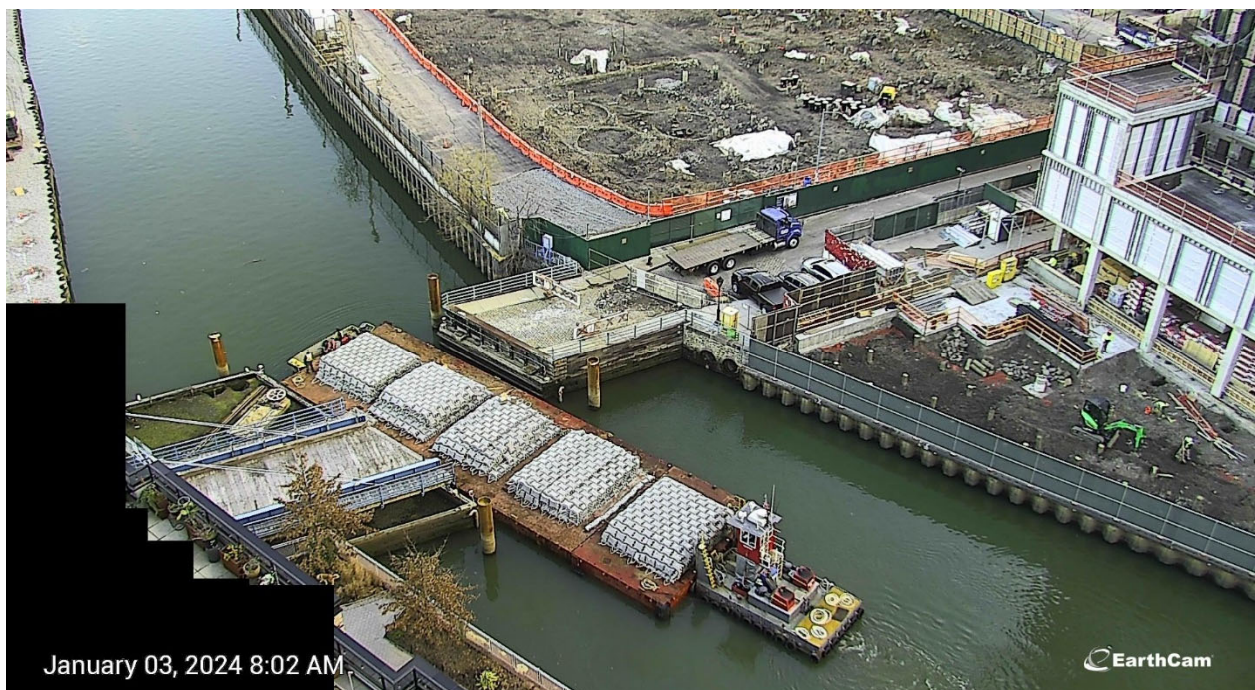


Figure 7. Vessel transporting a barge loaded with ACB Mats through Carroll Street Bridge on January 3, 2023 at 8:00 AM.

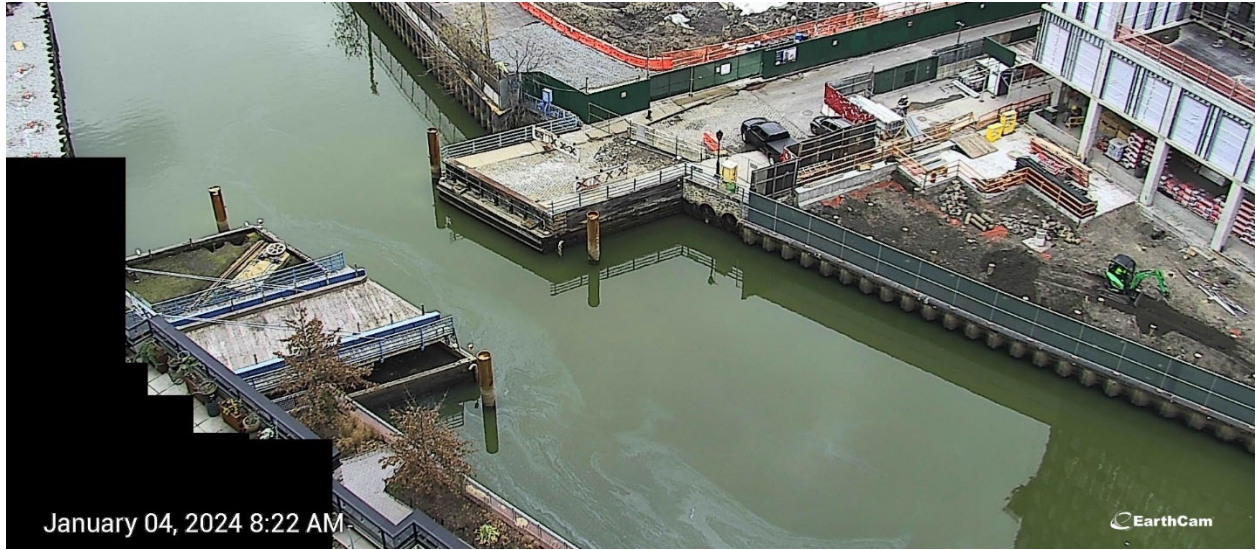


Figure 8. A sheen with unknown origins was observed at the southeast corner of Carroll Street Bridge at approximately 8:15 AM on January 4, 2024.