

Water Quality Monitoring Plan
Annual Monitoring Report
2015 Monitoring Activities
for the
New NY Bridge Project

Revision 2
May, 2016

Prepared by
Tappan Zee Constructors, LLC
555 White Plains Road, Suite 400
Tarrytown, NY 10591



Document History			
Issue Date	Description	By	Revision
02/03/2016	Submitted for Review	JLC	0
03/18/2016	Revised per NYSTA comments	JLC	1
05/13/2016	Revised per NYSTA comments	JLC	2

Table of Contents

1.0 Introduction..... 2
2.0 Monitored Construction Activities..... 3
3.0 Water Quality Monitoring Activities 7
4.0 Results..... 8

List of Attachments

- Attachment 1 - Summary of Cofferdam Removal Water Quality Monitoring
- Attachment 2 - Summary of Barge Decanting Water Quality Monitoring
- Attachment 3 - Summary of Stage II Dredging Water Quality Monitoring
- Attachment 4 - Summary of Access Area Dredging Water Quality Monitoring
- Attachment 5 - Summary of East Sediment Mound 3 Dredging Water Quality Monitoring
- Attachment 6 - Summary of Stage I Dredging Water Quality Monitoring
- Attachment 7 - Summary of Dredged Material Decanting Water Quality Monitoring
- Attachment 8 - Summary of Dredged Material Decanting Barge Water and Sediment Sampling
- Attachment 9 - Summary of Profiling of Dredged Areas Water Quality Monitoring
- Attachment 10 - Summary of Dredged Channel Armoring Water Quality Monitoring
- Attachment 11 – Summary of Visual Observations of Turbidity

1.0 Introduction

This report summarizes the results of water quality monitoring in 2015 for the following operations:

- Non-dredging barge decanting;
- Cofferdam removal;
- Armoring;
- Dredging of Stage 2 Area;
- Dredging of the Access Area;
- Dredging of East Sediment Mound #3;
- Dredged Material Decanting;
- Armoring of the Stage 2 Area;
- Profiling of the Stage 2 Area; and
- Profiling of the Access Area

This report summarizes the visual observations of turbidity for activities listed below in accordance with New York State Department of Environmental Conservation (NYSDEC) Permit DEC ID 3-9903-00043/00013 (Permit) Condition 65.

- Non-dredging barge decanting;
- Cofferdam removal;
- Armoring;
- Dredging of Stage 2 Area;
- Dredging of the Access Area;
- Dredging of East Sediment Mound #3;
- Dredged Material Decanting
- Armoring of the Stage 2 Area;
- Profiling of the Stage 2 Area; and
- Profiling of the Access Area
- Pile dewatering;
- Pile excavations;
- Temporary pile removal;
- Production pile driving outside zone C;
- Falsework pile driving;
- Concrete placement

1.1 Permit Modifications

The New York State Thruway Authority (NYSTA) and Tappan Zee Constructors, LLC (TZC) received the following modifications to the NYSDEC Permit during 2015:

- A reduced monitoring request for the collection of whole water quality samples related to cofferdam removal activities was submitted to the NYSDEC on May 29, 2015. Following the approval on June 2, 2015 monitoring was reduced to twice weekly TSS sampling in accordance with permit condition 64.
- A reduced monitoring request for the collection of whole water quality samples related to non-dredging barge decanting was submitted to the NYSDEC on June 15, 2015. Following the approval on June 18, 2015 monitoring was reduced to daily visual turbidity monitoring in accordance with permit condition 64.
- A reduced monitoring request for the collection of whole water quality samples related to dredging of the Stage II area was submitted to the NYSDEC on August 10, 2015. Following the approval on August 13, 2015 monitoring was reduced to twice weekly TSS monitoring in accordance with permit condition 64.
- A reduced monitoring request for the collection of whole water quality samples related to armoring of the Stage II dredge area was submitted to the NYSDEC on November 25, 2015. Following the approval on December 4, 2015 monitoring was reduced to daily visual turbidity monitoring in accordance with permit condition 64.

1.1 Plan Revisions

The Water Quality Monitoring Plan (WQMP) was not revised in 2015. Revision 6 of the WQMP was approved by NYSDEC on August 8, 2014.

2.0 Monitored Construction Activities

The following construction activities were monitored by TZC in 2015 per the Water Quality Monitoring Plan.

2.1 Cofferdam Removal

Cofferdam removal commenced on April 20, 2015 and ended on July 07, 2015. Cofferdam removal was scheduled for 5 days a week, 8 hours per day during this period. A vibratory hammer and a crane were used to remove cofferdams about the footprints of Piers [REDACTED]. Once extracted from the bottom excess sediment was removed from the individual sheet piles by scraping with shovels and rinsing with a hose.

2.2 Falsework Pile Driving

The Rockland temporary north trestle and permanent platform construction were completed in 2014. Temporary finger piles were installed in spans ■ through ■ to support the erection of the steel girders. The installation of temporary piles commenced on May 29, 2015 and was completed on June 25, 2015. Once no longer necessary the temporary finger piles were cutoff above the waterline and will be removed at a later date.

2.3 Temporary Pile Removal

The Westchester temporary north trestle (platform) construction was completed in 2014. The removal of the temporary platform and piles commenced on August 14, 2015 and was completed on September 16, 2015. A vibratory hammer and a crane were used to remove the temporary piles. The removal of the temporary platform and piles was scheduled to occur 8 hours a day as equipment and crews were available.

2.4 Dredging

Dredging operations commenced on August 1, 2015 and were completed on September 17, 2015. Dredging activities were scheduled to occur seven (7) days a week, twenty-four (24) hours a day. All dredging operations were completed by Weeks Marine Inc. (WMI) as subcontractor to TZC.

2.4.1 Dredging Stage II Area

Dredging operations in the Stage II Area commenced on August 1, 2015 and were completed on September 13, 2015. The WMI 506 dredge (506) and WMI 549 dredge (549) were used to complete dredging activities in the Stage II Area.

2.4.2 Dredging Access Area

Dredging operations in the Access Area commenced on August 28, 2015 and were completed on September 16, 2015. The 506 and 549 were used to complete dredging activities in the Access Area.

2.4.3 Dredging East Sediment Mound 3

Dredging operations in the East Sediment Mound 3 Area commenced and were completed on September 15, 2015. The 549 was used to complete dredging activities in the East Sediment Mound 3 Dredge Area.

2.4.4 Dredging Stage I Area

Dredging operations in the Stage I Area commenced and were completed on September 17, 2015. The 549 was used to complete dredging activities in the Stage I Area.

2.5 Dredged Material Decanting

Decanting of dredged material prior to transport to upland placement facilities commenced on August 4, 2015 and was completed on December 11, 2015. Crane barge WMI 534 (534), armoring barge WMI A263 (A263), and an assortment of barge mounted suction pumps were used for decanting operations. Decanting activities were scheduled to occur when necessary during dredging operations. The 534 was used for all decanting activities during the dredging window. Decanting operations during dredging were completed on September 18, 2015. WMI elected to leave the scows used for decanting, the Weeks 70 and Weeks 74 barges, on location as a temporary mooring for armoring material. These barges contained settled solids from dredged decant water. From September 18, 2015 to December 2015 these scows were un-used for additional sediment storage but did collect rain water. The Weeks 70 and Weeks 74 were decanted on December 10, 2015 and December 11, 2015 by the A263 prior to removal from the site.

2.6 Profiling of the Stage II Area

Profiling of the Stage II Area commenced on September 13, 2015 and was completed on September 16, 2015. The WMI tug boat Kathleen (Kathleen) was used to pull an approximately 35-ton steel beam along the bottom of the dredged area. Profiling activities were scheduled to occur as needed during dredging operations.

2.7 Profiling of the Access Area

Profiling of the Access Area commenced on September 13, 2015 and was completed on September 16, 2015. The Kathleen was used to pull an approximately 35-ton steel beam along the bottom of the dredged area. Profiling activities were scheduled to occur as needed during dredging operations.

2.8 Dredged Channel Armoring

Stage II Dredged Area Armoring (armoring) commenced on November 12, 2015 and was completed on December 9, 2015. Armoring was scheduled to occur intermittently 6 days a week (Monday through Saturday), 10 hours per day during this period. Armoring was performed by WMI.

2.9 Production Pile Driving Outside of Zone C

Production Pile Driving outside of Zone C (pile driving outside zone C) commenced in 2013, continued in 2014, resumed January 2, 2015, and was completed June 5, 2015. Pile driving was scheduled to occur intermittently between 7AM to 7PM from Monday through Friday and from 12PM to 7PM on Saturday during this period. Pile driving was performed by TZC using barge-based cranes. [REDACTED] piles were driven at [REDACTED] and [REDACTED] piles were driven at Piers [REDACTED].

2.10 Concrete Placement

2.10.1 Tremie Concrete

TZC placed tremie concrete in Piers [REDACTED] to seal the annular space between the pile and pre-cast pile cap. The placement of tremie concrete commenced in 2014, continued in 2015 starting on March 28, 2015, and was completed on August 27, 2015. The placement of tremie concrete was monitored for observations of turbidity extending outside of the pile cap during the pour.

2.10.2 Non-Tremie Concrete

TZC placed concrete at Piers [REDACTED] in 2015. Concrete placements included pile plugs, cast-in-place pile caps, pre-cast pile cap infill, columns, cast-in-place pier caps, pre-cast pile cap infill, pedestals, and tower pylons. Concrete placement was monitored for observations of turbidity in the Hudson River.

2.11 Pile Dewatering

Pile dewatering commenced in 2014, continued in 2015 beginning on February 24, 2014, and was completed on November 2, 2015. Pile dewatering was performed by TZC using suction and/or hydraulically driven submersible pumps.

2.12 Pile Excavation

Pile excavation commenced in 2014, continued in 2015 beginning on February 26, 2015, and was completed on June 26, 2015. Pile excavation was completed by TZC using a crane mounted, cable-actuated spherical grab.

2.13 Non Dredge Barge Decanting

Barge decanting commenced on May 7, 2015 and was completed on June 17, 2015. The sediment scow associated with the pile excavation operation was decanted as necessary during the operation. A suction pump was used in this operation.

2.14 Pier and Cofferdam Dewatering

Pier dewatering commenced in 2014, continued on a daily basis throughout 2015, and was completed on December 17, 2015 when the foundation at pier [REDACTED] was filled with concrete. Pier dewatering was performed by TZC using suction and submersible pumps. Cofferdam dewatering commenced in 2014, continued on a daily basis throughout 2015 until it was completed in mid-June 2015 prior to the removal of cofferdams at piers [REDACTED]. Cofferdam dewatering was performed by TZC using suction pumps and submersible pumps.

3.0 Water Quality Monitoring Activities

Water quality monitoring was performed in accordance with the Water Quality Monitoring Plan (Plan) throughout 2015. Visual observations of activities were conducted and documented by a barge-based or vessel-based observer during the activities identified in Table 1 of the Water Quality Monitoring Plan, Revision 6.

Due to logistical (e.g., equipment availability), construction schedule, and equipment mechanical issues, there were multiple days or tides when construction activities did not occur such that water quality samples were not collected.

A total of three samples required by the Plan were missed as described below:

- On August 4, 2015 the water quality monitoring vessel failed to collect a sample while decanting operations were active between sunrise and sunset. The sample was missed due to an unanticipated problem with communication between the decanting and water quality monitoring crews. The two hour notification prior decanting was given at approximately 03:00 with decanting starting at approximately 05:00. Decanting had concluded before the water quality monitoring crew was able to collect a sample. The 2 hour notification system provided insufficient time for water quality monitoring crews to arrive on site. To prevent additional missed samples, decanting crews were instructed to provide notification 12 hours prior to the start of decanting. A 12 hour notification period allows sufficient time for water quality monitoring crews to be scheduled and arrive on site. No additional decanting samples were missed.
- On September 1, 2015 the water quality monitoring vessel failed to collect a sample while dredging operations were occurring in the Access Area. The sample was missed due to an unanticipated mechanical failure on the 506 dredge that occurred shortly before the water quality monitoring vessel arrived on site at a typical time on the morning of September 1, 2015. Approximately 50 minutes of dredging occurred before the mechanical failure. The water quality monitoring vessel remained on standby for the rest of the day, however dredging activities did not resume before sunset. To prevent additional missed samples dredging superintendents were contacted the day before a sampling event regarding the anticipated start time. Water quality monitoring crews arrived on site earlier than the anticipated start time. No additional dredging samples were missed.
- On September 14, 2015 a sample was not collected during profiling operations. The sample was missed due to the lack of notification from WMI that profiling operations would be occurring. No additional profiling samples were missed.

4.0 Results

Analytical results of whole water quality samples collected for 2015 are summarized in Table 1 and described below. There were no exceedances of the permit standards for dissolved nickel, dissolved copper, dissolved lead, dissolved zinc, PBCs, naphthalene, and benzo(a)pyrene. During the 2015 water quality monitoring program, 93% of the 215 samples collected were reported at concentrations below the water quality limits as set forth in NYSDEC Permit Condition 61 (Table 1.)

Table 1. Construction Activity Whole Water Sample Exceedances

Construction Activity	No. of Sample Events	No. of Sample Exceedances	Percent of Samples Under Permit Limits
Dredged Material Decanting	100	11 ¹	89%
Dredging Stage II	31	0	100%
Dredging Access Area	6	2 ²	67%
Dredging Sediment Mound 3	2	0	100%
Dredging Stage I	2	0	100%
Armoring	27	1	96%
Profiling	6	0	100%
Cofferdam Removal	25	0	100%
Non-Dredge Barge Decanting	16	0	100%
Total	215	14	93%

¹ On August 10, 2015 exceedances were measured for both TSS and Total Mercury in the same sampling event, see attachment 7 for details.

² On August 28, 2015 exceedances were measured for both TSS and Total mercury in the same sampling event, see attachment 4 for details

TZC also monitored construction operations through daily visual monitoring for turbidity that results in a substantial visible contrast to the ambient conditions of the Hudson River. Visual monitoring was documented through environmental checklists, visual inspection forms, and/or field compliance reports. For a summary of where visible turbidity was observed by activity, date, location, and monitoring method see Attachment 11.

Table 2 below summarizes the visual monitoring completed for construction operations per the plan.

Table 2. Summary of Visual Monitoring for Turbidity from
January 1, 2015 to December 31, 2015

Construction Activity	No. of Observations	No. of Observations with Visible Turbidity¹	Percent of Observations Free of Visible Turbidity¹
Dredging ²	53	0	100%
Dredged Material Decanting	45	3	93%
Armoring Stage II	18	0	100%
Barge Decanting, Non Dredging	6	0	100%
Profiling of Dredged Area	4	0	100%
Pile Driving, Outside Zone C	62	0	100%
Pile Dewatering	95	5	95%
Pile Removal	7	0	100%
Cofferdam Removal	27	0	100%
Pier and Cofferdam Dewatering	23	2	91%
Concrete Placement	288	20	93%
General Construction Work ³	212	1	99%
Total	840	31	96%

¹Turbidity observations and compliance monitoring can be found in Table 1 of the WQMP.

²Includes Dredging performed in: Stage II, Access, Sediment Mound 3, and Stage I areas.

³General construction work includes, but is not limited to, the following activities: pile excavation, formwork, pile splicing, installation of piles under self-weight, rebar installation, or other above water construction.

4.1 Cofferdam Removal

Attachment 1 provides a summary of samples collected for cofferdam removal. TZC collected 25 whole water quality samples during 24 days of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 1). Visual monitoring for turbidity was conducted for each day that cofferdam removal occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.2 Barge Decanting, Non-Dredging

Attachment 2 provides a summary of samples collected for barge decanting. TZC collected 16 whole water quality samples during eight days of monitoring. Water quality results indicate there were no exceedances on monitored days (Attachment 2). Visual monitoring for turbidity was conducted on days that barge decanting occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.3 Dredging

4.3.1 Stage II Dredging

Attachment 3 provides a summary of samples collected for dredging in the Stage II Area. TZC collected 31 whole water quality samples during 21 days of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 3). Visual monitoring for turbidity was conducted for each day that dredging occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.3.2 Access Area Dredging

Attachment 4 provides a summary of samples collected for dredging in the Access Area. TZC collected six whole water quality samples during six days of monitoring. Water quality results indicate there were two Mercury exceedances and one TSS exceedance while dredging occurred in the Access Area (Attachment 4). Table 3 and 4 below provide a summary of the exceedances. Visual monitoring for turbidity was conducted for each day that dredging occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

Table 3. Mercury Exceedances during 2015 Access Area Dredging

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (ppb)	Down-current concentration¹ (ppb)
8/28/15	Ebb	Mid	ND	0.2
8/31/15	Flood	Mid	ND	0.2

ND= Not Detected

¹ Permit limit is 0.0007 ppb. Detection limit is 0.050 ppb.

Table 4. TSS Exceedances during 2015 Dredging

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (mg/L)	Down-current concentration¹ (mg/L)
08/28/15	Ebb	Mid	23.0	145.0

¹ Permit limit is 100 mg/L above up-current or ambient.

4.3.3 East Sediment Mound 3 Dredging

Attachment 5 provides a summary of samples collected for dredging in the East Sediment Mound 3 Dredging Area. TZC collected two whole water quality samples during one day of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 5). Visual monitoring for turbidity was conducted for each day that dredging occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.3.4 Stage I Dredging

Attachment 6 provides a summary of samples collected for dredging in the Stage I Dredging Area. TZC collected two whole water quality samples during one day of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 6). Visual monitoring for turbidity was conducted for each day that dredging occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.4 Dredged Material Decanting

Attachment 7 provides a summary of samples collected for decanting related to dredging operations. TZC collected 100 whole water quality samples during 40 days of monitoring. Water quality results indicate there were no exceedances on 32 of the 40 monitored days (Attachment 7). There were 11 Mercury exceedances and one TSS exceedance during decanting activities. Table 6 and 7 below provide a summary of the exceedances.

The 11 samples that exceeded Permit Condition 61 standards for total Mercury were collected on eight days during decanting; samples from multiple depths on September 4, 2015 and September 11, 2015 exceeded the Mercury standard. The majority of the exceedances (8 of 11) were observed in the bottom sample; the other three exceedances were observed in surface samples. Mercury exceedances (down-current) ranged from 0.06 to 0.6 parts per billion (ppb) above up-current or background concentrations.

Table 5. Mercury Exceedances during 2015 Decanting

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (ppb)	Down-current concentration¹ (ppb)
08/07/15	Flood	Bottom	ND	0.1
08/10/15	Flood	Bottom	ND	0.1
08/14/15	Flood	Bottom	ND	0.1
08/20/15	Ebb	Bottom	ND	0.1
08/22/15	Ebb	Bottom	ND	0.5
09/04/15	Ebb	Surface	ND	0.1
09/04/15	Ebb	Bottom	0.2	0.6
09/04/15	Flood	Surface	ND	0.06
09/11/15	Ebb	Surface	ND	0.2
09/11/15	Ebb	Bottom	0.06	0.3
09/13/15	Flood	Bottom	ND	0.6

ND= Not Detected

¹ Permit limit is 0.0007 ppb. Detection limit is 0.050 ppb.

Table 6. TSS Exceedances during 2015 Decanting

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (mg/L)	Down-current concentration¹ (mg/L)
08/10/15	Flood	Bottom	52.7	246.0

¹ Permit limit is 100 mg/L above up-current or ambient.

On September 3, 2015 and September 8, 2015 water and sediment samples were collected from the Weeks 74 settling barge (Attachment 8). Mercury was detected in the sediment collected from the bottom of the settling barge; however, mercury was not detected in the scow water (Attachment 8). As shown in Attachment 8, TSS and Mercury samples on September 3, 2015 and September 8, 2015 were within permit conditions indicating that best management practices (BMPs) regarding sediment resuspension were adequately implemented.

Visual monitoring for turbidity was conducted each day that decanting occurred. There were three exceedances of turbidity observed extending beyond the 500-foot mixing zone. In all three

instances the decanting superintendent was notified and as a corrective action the pump intake was lifted higher above the sediments at the bottom of the settling barge. This was done to minimize the resuspension and discharge of sediments that had settled during the 12 hour settling period. The corrective actions were effective at preventing the observation of visible turbidity extending beyond the 500-foot mixing zone.

4.5 Profiling of Dredged Areas

Attachment 9 provides a summary of samples collected for profiling activities. TZC collected six water quality samples during three days of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 9). Visual monitoring for turbidity was conducted for each day that profiling occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

4.6 Dredged Channel Armoring

Attachment 10 provides a summary of samples collected for armoring. TZC collected 27 whole water quality samples during 17 days of monitoring. Water quality results indicate there were no exceedances on 16 of the 17 days monitored (Attachment 10). There was one Mercury exceedance during the armoring operation in 2015. Table 7 below provides a summary of the exceedance.

Table 7. Mercury Exceedances during the 2015 Armoring

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (ppb)	Down-current concentration¹ (ppb)
11/21/15	Ebb	Surface	ND	0.06

ND= Not Detected

¹ Permit limit is 0.0007 ppb. Detection limit is 0.050 ppb.

Visual monitoring for turbidity was conducted for each day that armoring occurred. There were no exceedances of turbidity observed extending beyond the 500-foot mixing zone.

Attachment 1

Summary of Cofferdam Removal Water Quality Monitoring

Cofferdam Removal Water Quality Monitoring
New NY Bridge Project
5/8/2015 - 7/7/2014



Date (mm/dd/yyyy)	Pier Number (PXXYY)	Tidal Cycle (Flood or Ebb)	Sample Depth ¹ (S, M, B)	Upcurrent Samples													Downcurrent Samples													Sample Status ² (Exceedances and other observations)	
				Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene		
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260				
5/8/2015		Ebb	M	19:02	49.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18:44	49.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/11/2015		Ebb	M	8:53	108	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8:30	75.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/12/2015		Ebb	M	8:56	63.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8:32	54.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/13/2015		Flood	M	8:10	51.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:53	55.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/13/2015		Ebb	M	10:08	89.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:45	63.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/8/2015		Flood	M	13:42	38.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13:26	79.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/9/2015		Ebb	M	9:52	32.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:32	55.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/10/2015		Ebb	M	9:26	21.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:10	34.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/11/2015		Ebb	M	8:58	21.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8:33	14.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/12/2015		Ebb	M	13:27	21.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13:15	62.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/15/2015		Ebb	M	14:54	36.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	14:42	47.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/16/2015		Flood	M	9:46	20.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:27	25.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/17/2015		Ebb	M	8:42	35.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8:29	31.5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/18/2015		Flood	M	9:30	39.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:11	45.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/19/2015		Flood	M	12:54	23.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	12:40	21.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/23/2015		Flood	M	18:33	11.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	18:22	21.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/24/2015		Ebb	M	9:19	57.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:06	47.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/26/2015		Ebb	M	11:22	15.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	11:11	67.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/29/2015		Ebb	M	12:37	8.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	12:20	23.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
6/30/2015		Flood	M	11:23	9.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	10:56	11.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
7/1/2015		Flood	M	9:49	13.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:30	11.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
7/2/2015		Flood	M	9:47	15.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:25	33.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
7/3/2015		Flood	M	9:33	25.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	9:50	24.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
7/6/2015		Ebb	M	9:05	49.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8:47	66.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance
7/7/2015		Ebb	M	9:00	26.7	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	8:40	58.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	No exceedance

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

NR = Not Required for these parameters, due to approval of reduced monitoring of cofferdam removal as of 6/2/2015, pursuant to Condition 64 of NYSDEC Permit Facility ID 3-9903-00043/00012-14.

Attachment 2

Summary of Barge Decanting Water Quality Monitoring

Barge Decanting Water Quality Monitoring
New NY Bridge Project
5/7/2015 - 6/17/2015



Date (mm/dd/yyyy)	Pier Number (PXX)	Tidal Cycle (Flood or Ebb)	Sample Depth ¹ (S, M, B)	Upcurrent Samples												Downcurrent Samples												Sample Status ² (Exceedances and other observations)				
				Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(e)pyrene	Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benzo(e)pyrene		
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260					
5/7/2015		Ebb	S	7:38	82.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:05	84.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/7/2015		Ebb	B	7:31	85.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:02	98.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/8/2015		Ebb	S	7:39	85.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:06	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/8/2015		Ebb	B	7:36	89.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:03	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/15/2015		Flood	S	6:55	67.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:13	64.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/15/2015		Flood	B	6:52	89.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:10	71.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/21/2015		Ebb	S	7:18	102	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6:58	95.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/21/2015		Ebb	B	7:16	106	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6:55	86.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/29/2015		Flood	S	7:39	22.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:11	22.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/29/2015		Flood	B	7:36	25.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:09	23.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/5/2015		Ebb	S	7:22	101	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:05	86.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/5/2015		Ebb	B	7:20	116	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:01	87.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/11/2015		Flood	S	7:38	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:29	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/11/2015		Flood	B	7:36	17.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:27	20.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/17/2015		Ebb	S	7:32	70.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:06	78.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/17/2015		Ebb	B	7:30	56.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7:02	83.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 3

Summary of Stage II Dredging Water Quality Monitoring

Attachment 4

Summary of Access Area Dredging Water Quality Monitoring

Access Area Dredging Water Quality Monitoring
New NY Bridge Project
8/28/2015 - 9/16/2015



Date	Dredge Number	Tidal Cycle	Sample Depth ¹	Upcurrent Samples													Downcurrent Samples											Sample Status ²		
				Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benzo(a)pyrene
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)						(ppb)												(ppb)						(Exceedances and other observations)	
8/28/2015	D506	Ebb	M	11:53	23.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 23.0 ppm, 145.0 ppm is an exceedance. Upcurrent Mercury was ND, 0.2 ppb is an exceedance.
8/30/2015	D506	Ebb	M	13:09	21.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/31/2015	D506	Flood	M	8:36	50.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.2 ppb is an exceedance.	
9/2/2015	D506	Flood	M	11:11	25.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/14/2015	D549	Ebb	M	18:02	62.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/16/2015	D549	Ebb	M	15:53	23.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 5

Summary of East Sediment Mound 3 Dredging Water Quality Monitoring

East Sediment Mound #3 Dredging Water Quality Monitoring
 New NY Bridge Project
 9/14/2015 - 9/15/2015



Date	Dredge Number	Tidal Cycle	Sample Depth ¹	Upcurrent Samples												Downcurrent Samples												Sample Status ²																
				Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(e)pyrene	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benzo(e)pyrene														
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260																	
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)																										(ppb)													(Exceedances and other observations)
9/15/2015	D549	Flood	S	13:27	22.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance		
9/15/2015	D549	Flood	B	13:25	64.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance			

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom
² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013
 Samples collected at the edge of the 500 ft mixing zone
 ND = Not Detected

Attachment 6

Summary of Stage I Dredging Water Quality Monitoring

Stage 1 East Area Dredging Water Quality Monitoring
 New NY Bridge Project
 9/16/2015 - 9/17/2015



Date	Dredge Number	Tidal Cycle	Sample Depth ¹	Sample Time	Upcurrent Samples											Downcurrent Samples											Sample Status ²				
					Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benzo(a)pyrene		
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260									Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260					
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)	(ppb)											(24:00)	(ppm)	(ppb)											(Exceedances and other observations)	
9/17/2015	D549	Flood	S	9:05	31.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
9/17/2015	D549	Flood	B	9:02	37.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance	

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom
² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013
 Samples collected at the edge of the 500 ft mixing zone
 ND = Not Detected

Attachment 7

Summary of Dredged Material Decanting Water Quality Monitoring

Dredged Sediment Decanting Water Quality Monitoring
New NY Bridge Project
8/04/2015 - 9/18/2015, 12/10/2015 - 12/11/2015



TAPPAN ZEE CONSTRUCTORS, LLC			Upcurrent Samples														Downcurrent Samples														Sample Status ²					
			Date	Barge Number	Tidal Cycle	Sample Depth ¹	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benz(a)pyrene	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benz(a)pyrene			
														Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260						
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)	(ppb)														(24:00)	(ppm)	(ppb)														(Exceedances and other observations)
8/5/2015	D534	Ebb	S	6:56	29.5	0.1 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/5/2015	D534	Ebb	B	6:53	28.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/5/2015	D534	Flood	S	13:39	12.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/5/2015	D534	Flood	B	13:25	75.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/7/2015	D534	Flood	S	17:27	18.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/7/2015	D534	Flood	M	17:30	19.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/7/2015	D534	Flood	B	17:34	78.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.1 ppb is an exceedance.	
8/8/2015	D534	Ebb	S	9:34	18.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/8/2015	D534	Ebb	B	9:31	34.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/9/2015	D534	Ebb	S	12:18	40.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/9/2015	D534	Ebb	B	12:13	92.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/10/2015	D534	Flood	S	8:14	11.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/10/2015	D534	Flood	M	8:11	42.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/10/2015	D534	Flood	B	8:08	52.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 52.7 ppm, 246 ppm is an exceedance. Upcurrent Mercury was ND, 0.1 ppb is an exceedance.	
8/11/2015	D534	Flood	S	8:02	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/11/2015	D534	Flood	B	7:59	22.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/12/2015	D534	Flood	S	7:38	13.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/12/2015	D534	Flood	B	7:35	80.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/13/2015	D534	Ebb	S	15:57	38.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/13/2015	D534	Ebb	B	15:55	85.7	0.1 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/14/2015	D534	Flood	S	10:08	15.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/14/2015	D534	Flood	M	10:06	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/14/2015	D534	Flood	B	10:03	75.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.1 ppb is an exceedance.
8/15/2015	D534	Flood	S	8:50	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/15/2015	D534	Flood	B	8:47	29.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/16/2015	D534	Flood	S	8:49	26.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/16/2015	D534	Flood	B	8:47	50.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/17/2015	D534	Flood	S	9:34	11.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/17/2015	D534	Flood	B	9:30	23.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/19/2015	D534	Ebb	S	7:52	29.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/19/2015	D534	Ebb	B	7:49	48.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/20/2015	D534	Ebb	S	9:41	14.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/20/2015	D534	Ebb	B	9:39	19.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.1 ppb is an exceedance.
8/21/2015	D534	Ebb	S	8:01	22.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/21/2015	D534	Ebb	B	7:59	37.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/22/2015	D534	Ebb	S	9:00	42.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/22/2015	D534	Ebb	B	8:56	75.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.5 ppb is an exceedance.
8/23/2015	D534	Ebb	S	8:39	8.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/23/2015	D534	Ebb	B	8:37	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/24/2015	D534	Ebb	S	11:03	14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/24/2015	D534	Ebb	B	11:01	28.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/25/2015	D534	Ebb	S	8:37	7.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/25/2015	D534	Ebb	M	8:34	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/25/2015	D534	Ebb	B	8:32	12.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/26/2015	D534	Flood	S	8:55	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/26/2015	D534	Flood	B	8:52	34.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/27/2015	D534	Flood	S	8:38	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/27/2015	D534	Flood	M	8:36	7.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
8/27/2015	D534	Flood	B	8:33	58.0	ND	ND	ND	ND	ND</																										

Dredged Sediment Decanting Water Quality Monitoring
New NY Bridge Project
8/04/2015 - 9/18/2015, 12/10/2015 - 12/11/2015



TAPPAN ZEE CONSTRUCTORS, LLC			Upcurrent Samples														Downcurrent Samples														Sample Status ²
Date	Barge Number	Tidal Cycle	Sample Depth ¹	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene		
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)						Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260			(24:00)	(ppm)						Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260				
9/10/2015	D534	Flood	M	10:48	16.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10:27	23.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/10/2015	D534	Flood	B	10:45	47.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10:26	53.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/11/2015	D534	Ebb	S	15:53	76.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15:39	80.0	0.2 ⁴	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.2 ppb is an exceedance
9/11/2015	D534	Ebb	B	15:50	89.3	0.06 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15:36	117.0	0.3 ⁴	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was 0.06 ppb, 0.3 ppb is an exceedance	
9/12/2015	D534	Ebb	S	12:58	8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:41	12.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/12/2015	D534	Ebb	M	12:55	24.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:38	23.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/12/2015	D534	Ebb	B	12:53	21.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:36	27.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/13/2015	D534	Flood	S	11:24	20.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:03	31.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/13/2015	D534	Flood	M	11:20	49.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:00	39.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/13/2015	D534	Flood	B	11:17	60.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10:58	111.0	0.6 ⁴	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.6 ppb is an exceedance	
9/14/2015	D534	Flood	S	9:48	16.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10:04	18.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/14/2015	D534	Flood	M	9:47	53.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10:02	62.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/14/2015	D534	Flood	B	9:44	95.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:59	74.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/15/2015	D534	Ebb	S	17:08	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16:47	48.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/15/2015	D534	Ebb	B	17:02	30.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16:45	69.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/16/2015	D534	Flood	S	12:54	14.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:35	25.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/16/2015	D534	Flood	M	12:52	26.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:32	74.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/16/2015	D534	Flood	B	12:50	213.0	0.4 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:28	166.0	0.2 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was 0.4 ppb, 0.2 ppb is not an exceedance	
9/17/2015	D534	Flood	S	14:51	14.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14:30	26.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/17/2015	D534	Flood	M	14:49	42.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14:28	39.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/17/2015	D534	Flood	B	14:47	52.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14:26	52.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/18/2015	D534	Ebb	S	9:43	15.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:29	21.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/18/2015	D534	Ebb	B	9:49	26.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:26	30.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/10/2015	A263	Ebb	S	12:00	11.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:41	15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/10/2015	A263	Ebb	M	11:57	15.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:37	20.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/10/2015	A263	Ebb	B	11:55	26.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:35	27.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/11/2015	A263	Flood	S	9:03	17.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8:40	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/11/2015	A263	Flood	M	9:00	57.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8:33	17.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/11/2015	A263	Flood	B	8:55	103.0	0.06 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8:30	78.7	ND ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013

³ Upcurrent (ambient) concentrations exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.

⁴ Reported value exceeds the Water Quality Standards as stated in Condition 61 NYSDEC Permit Facility ID 3-9903-00043/00012-13

⁵ Upcurrent (ambient) concentrations exceeds the Water Quality Standard, Downcurrent concentration is more than 30% over background.

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 8

Summary of Dredged Material Decanting Barge Water and Sediment Sampling

Dredged Sediment Decanting and Associated Scow Water Quality Monitoring
New NY Bridge Project
9/3/2015, 9/8/2015



Date	Barge Number	Tidal Cycle	Sample Depth ¹	Upcurrent Samples			Downcurrent Samples			Scow Samples				Sample Status ²
				Sample Time	Total Suspended Solids	Mercury	Sample Time	Total Suspended Solids	Mercury	Scow Number	Decant Water Total Suspended Solids	Decant Water Mercury	Sediment Mercury	
(mm/dd/yyyy)	(DXXX)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)	(ppb)	(24:00)	(ppm)	(ppb)	(70 / 74)	ppm	ppb	mg/kg	(Exceedances and other observations)
9/3/2015	D534	Flood	S	11:30	14.7	ND	11:54	30.0	ND	74	46.7	ND	0.5	No exceedance
9/3/2015	D534	Flood	B	11:29	57.7	ND	11:52	68.0	ND	74				No exceedance
9/8/2015	D534	Flood	S	9:08	9.3	ND	8:51	12.7	ND	74	53.5	ND	0.327	No exceedance
9/8/2015	D534	Flood	M	9:07	9.0	ND	8:49	10.0	ND	74				No exceedance
9/8/2015	D534	Flood	B	9:04	20.0	ND	8:47	27.3	ND	74				No exceedance

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012
 Upcurrent and Downcurrent samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 9

Summary of Profiling of Dredged Areas Water Quality Monitoring

Dredge Profiling Water Quality Monitoring
New NY Bridge Project
9/13/2015 - 9/16/2015



Date	Dredge Area	Tidal Cycle	Sample Depth ¹	Upcurrent Samples													Downcurrent Samples													Sample Status ²
				Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(e)pyrene	Sample Time	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(e)pyrene	
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(Stage)	(Flood or Ebb)	(S, M, B)	(24:00)	(ppm)										(24:00)	(ppm)													(Exceedances and other observations)	
9/13/2015	Stage 2	Flood	S	12:17	37.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12:00	17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/13/2015	Stage 2	Flood	B	12:14	28.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:57	29.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/15/2015	Stage 2	Ebb	S	19:06	29.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18:44	24.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/15/2015	Stage 2	Ebb	M	19:04	38.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18:42	47.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/15/2015	Stage 2	Ebb	B	19:01	34.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18:39	57.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
9/16/2015	Stage 2	Flood	M	11:22	12.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11:34	13.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 10

Summary of Dredged Channel Armoring Water Quality Monitoring

Stage 2 Armoring Water Quality Summary
New NY Bridge Project
11/12/2015 - 12/9/2015

Date (mm/dd/yyyy)	Dredge Area (Stage 2)	Tidal Cycle (Flood or Ebb)	Sample Depth ¹ (S, M, B)	Upcurrent Samples													Downcurrent Samples													Sample Status ² (Exceedances and other observations)			
				Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Time (24:00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzo(a)pyrene				
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260						
11/12/2015	Stage 2	Ebb	M	14:38	23.7	0.05 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.05 ppb, downcurrent Hg ND is not an exceedance.
11/13/2015	Stage 2	Flood	S	9:41	17.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/13/2015	Stage 2	Flood	B	9:38	16.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/13/2015	Stage 2	Ebb	M	13:42	49.3	0.09 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.09 ppb, downcurrent Hg 0.09 ppb is not an exceedance.	
11/14/2015	Stage 2	Flood	M	8:04	27.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/16/2015	Stage 2	Ebb	M	8:03	54.0	0.1 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.1 ppb, downcurrent Hg 0.06 ppb is not an exceedance.	
11/18/2015	Stage 2	Ebb	M	10:46	25.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/19/2015	Stage 2	Ebb	M	10:00	17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/20/2015	Stage 2	Ebb	M	12:04	44.3	0.07 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.07 ppb, downcurrent Hg ND is not an exceedance.	
11/21/2015	Stage 2	Ebb	S	10:12	16.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was ND, downcurrent Hg 0.06 ppd is an exceedance.	
11/21/2015	Stage 2	Ebb	B	10:10	18.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/23/2015	Stage 2	Flood	S	9:23	22.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/23/2015	Stage 2	Flood	B	9:21	43.0	0.05 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.05 ppb, downcurrent Hg 0.06 ppb is not an exceedance.	
11/24/2015	Stage 2	Ebb	S	11:08	38.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/24/2015	Stage 2	Ebb	B	11:05	42.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/25/2015	Stage 2	Flood	S	9:10	44.3	0.09 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.09 ppb, downcurrent Hg 0.1 ppb is not an exceedance.	
11/25/2015	Stage 2	Flood	B	9:07	124.0	0.1 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.1 ppb, downcurrent Hg 0.1 ppb is not an exceedance.	
11/27/2015	Stage 2	Flood	S	9:24	81.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/27/2015	Stage 2	Flood	B	9:21	92.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/28/2015	Stage 2	Flood	S	9:22	48.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/28/2015	Stage 2	Flood	B	9:20	64.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/30/2015	Stage 2	Flood	S	9:40	29.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
11/30/2015	Stage 2	Flood	B	9:38	46.0	0.08 ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg was 0.08 ppb, downcurrent Hg ND is not an exceedance.	
12/1/2015	Stage 2	Ebb	M	9:39	28.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/3/2015	Stage 2	Flood	S	16:07	23.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/3/2015	Stage 2	Flood	B	16:05	24.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	
12/4/2015	Stage 2	Ebb	M	9:49	23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance	

Notes: ¹ S = Near Surface, M = Mid-Depth, B = Near Bottom

² Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

³ Upcurrent (ambient) concentrations exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.

⁴ Reported value exceeds the Water Quality Standard as stated in Condition 61 of NYSDEC Permit Facility ID 3-9903-00043/00012-13

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 11

Summary of Visual Observations of Turbidity

Summary of Visual Turbidity Observations
01/01/2015-12/31/2015



Activity	Date	Inspection Start Time ¹	Inspection End Time ¹	Location	Inspection Method ²
Barge Decanting, Dredging	2015-08-07	16:30	NP	South Decanting Area	ENV CL
Barge Decanting, Dredging	2015-08-14	08:35	08:50	South Decanting Area	VBI
Barge Decanting, Dredging	2015-08-30	09:00	09:45	South Decanting Area	VBI
Cofferdam Dewatering	2015-07-20	06:30	16:30		ENV CL
Cofferdam Dewatering	2015-10-06	06:00	16:00		ENV CL,ENV CL
Concreting	2015-03-10	06:00	15:00		ENV CL,FCI
Concreting	2015-03-28	10:01	11:19		FCI,FCI
Concreting	2015-04-02	12:45	16:00		ENV CL,VBI,ENV CL
Concreting	2015-04-10	09:47	09:52		FCI
Concreting	2015-05-09	14:00	23:59		FCI
Concreting	2015-05-15	06:00	14:30		ENV CL,FCI
Concreting	2015-05-16	06:00	17:00		ENV CL,FCI
Concreting	2015-05-29	11:00	14:36		FCI
Concreting	2015-06-04	09:57	11:14		ENV CL,FCI
Concreting	2015-06-05	09:53	11:11		ENV CL,FCI
Concreting	2015-06-23	07:00	15:00		ENV CL,FCI
Concreting	2015-07-07	06:00	16:00		ENV CL
Concreting	2015-08-05	10:21	11:08		FCI
Concreting	2015-08-24	12:38	13:24		FCI,ENV CL
Concreting	2015-08-25	13:10	14:35		FCI,ENV CL
Concreting	2015-08-27	NP	NP		ENV CL
Concreting	2015-09-21	12:35	13:10		FCI
Concreting	2015-09-28	07:00	NP		ENV CL
Concreting	2015-10-28	NP	NP		ENV CL
Concreting	2015-12-16	7:00	17:00		ENV CL
General Construction	2015-03-02	13:12	13:15		FCI
Pile Dewatering	2015-02-24	13:15	14:40		FCI
Pile Dewatering	2015-02-25	10:47	11:55		FCI
Pile Dewatering	2015-04-07	13:00	15:30		FCI,ENV CL
Pile Dewatering	2015-04-21	10:50	11:50		FCI
Pile Dewatering	2015-05-14	10:30	13:00		ENV CL

Notes:

¹ NP= Not Provided on Environmental Checklist

² ENV CL= Environmental Checklist FCI = Field Compliance Inspection VBI = Vessel Based Inspection