

MEMORANDUM

To: Ken Chin, Massachusetts Department of Environmental Protection

Date: November 26, 2014
(revised December 22, 2014)

From: Billie-Jo Gauley, P.G., Anchor QEA, LLC

Project: 100327-01.03

Cc: Kenneth Lento, P.E., National Grid
Mark Mahoney and Jaime Harrison Rice, P.E., Anchor QEA, LLC
Matthew Barvenik, LSP,
GZA GeoEnvironmental, Inc.

Re: Former Gloucester Gas Light Company Manufactured Gas Plant Remediation Project Turbidity Monitoring and Notification Plan

INTRODUCTION

Anchor QEA, LLC, on behalf of Massachusetts Electric Company d/b/a National Grid, is submitting the following information in accordance with Permit Conditions #10 and #20 of the Water Quality Certification (WQC; Massachusetts Department of Environmental Protection [MassDEP] Transmittal No. X255073) issued on November 3, 2014, for the proposed remediation activities at the former Gloucester Gas Light Company Manufactured Gas Plant Remediation Project (the Site) located along Harbor Loop in Gloucester, Massachusetts.

TURBIDITY MONITORING PLAN

This section summarizes the Turbidity Monitoring Plan in accordance with Permit Condition #10 of the WQC, which states, “At a minimum, the turbidity monitoring plan shall include monitoring locations, type of turbidity monitoring equipment, background turbidity measurement of Gloucester Harbor, stop work level and corrective action level.” This plan was developed to be in compliance with the Massachusetts Surface Water Quality Standards and includes the following:

- A background turbidity monitoring station located upstream of the in-water work will be monitored once daily prior to the start of in-water work activities.

- Turbidity monitoring stations will be established at locations approximately 200 feet downstream of the work area(s). If work is occurring concurrently in more than one area (e.g. two dredges operating at different ends of the Site), multiple work areas will be monitored.
 - A transect of three stationary monitoring locations, located approximately 10 feet apart, will be monitored at each offshore area monitoring station (i.e., located seaward of the Harbor Line). In the nearshore area (i.e., located landward of the Harbor Line), the monitoring station will only include one stationary monitoring location.
 - “Downstream” and “upstream” stations will alternate depending on the direction of tidal flow, and will be recorded accordingly at the time of measurement.
 - Turbidity will be monitored with standard surface water monitoring equipment (e.g., YSI 6920 Multiparameter Sonde). Turbidity will be monitored at two water depths in the offshore area: near the bottom of the water column and at approximately mid-depth in the water column. Turbidity will be measured only near the bottom of the water column in the nearshore area.
 - Turbidity monitoring will commence a minimum of 5 days prior to the start of in-water, silt-producing work to establish a background turbidity range for the work area(s). Thereafter, the upstream monitoring location will be considered to represent background turbidity conditions for the work area(s).
 - During construction, monitoring will be conducted three times daily at each monitoring station. Monitoring stations will vary with the location of the work area(s) at the time of monitoring.
 - If downstream turbidity measurements exceed the daily background station turbidity measurements by a corrective action level of 25 nephelometric turbidity units (NTUs), turbidity will be monitored 200 feet upstream of the work area to confirm the daily background reading. If the downstream turbidity measurements exceed the upstream station turbidity measurement by 25 NTUs, revisions to the work setup will be made, including but not limited to inspecting and modifying turbidity barriers, dredged material transfer and loading equipment, and modifying the dredging operations (e.g., slowing dredging). MassDEP will be notified in the event of any exceedances of the 25 NTU level.
 - If downstream turbidity measurements exceed the daily background station turbidity measurements by a stop work level of 50 NTUs, turbidity will be monitored 200 feet
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upstream of the work area to confirm the daily background reading. If the downstream turbidity measurements exceed the upstream station turbidity measurement by 50 NTUs, work will cease until potential causes and impacts are assessed and appropriate measures are identified by the Engineer, and the continuation of work is approved by MassDEP to ensure compliance with this condition.

- If the water monitoring data are relatively consistent and below action levels following approximately one month of in-water work during each construction season, the data will be presented to MassDEP along with a modified Turbidity Monitoring and Notification Plan recommending a decrease in monitoring frequency, monitoring locations, and/or water depths.

Following the completion of in-water, silt-producing work, the turbidity barrier will remain in place until water quality within the turbidity barrier meets the limits described above and the turbidity barrier removal is approved by the Engineer.

In addition to the measures described above in the Turbidity Monitoring Plan, the following operational controls will be implemented to minimize the potential for adverse impacts to water quality:

- Any sheens and/or floating or emulsified oil/tar originating from the work and visible beyond the contained area(s) shall be immediately removed by a crew working from a boat with spill response equipment, all dedicated to this purpose.
 - If dead or distressed fish or other aquatic organisms are observed, offending work will stop immediately and assessment of cause(s) and corrective action(s) will be implemented.
 - If dissolved oxygen (DO) levels in surface water are less than 5.0 milligrams per liter (mg/L), and DO levels at upstream station locations are more than 5.0 mg/L, the Contractor and Engineer will assess the cause of the decrease in DO level and implement corrective actions(s) as appropriate.
 - If barging or equipment accidents/spills occur, work will stop immediately and the dedicated cleanup crew/boat/equipment will be deployed and will address the situation immediately.
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The following adjustments are proposed if performance standards are exceeded:

- If floating and/or emulsified oil/tar is observed beyond the contained area(s) or if barging or equipment accidents/spills occur, the Contractor will immediately cease dredging operations, deploy the dedicated cleanup crew/boat/equipment, and notify the Licensed Site Professional (LSP) and Engineer.

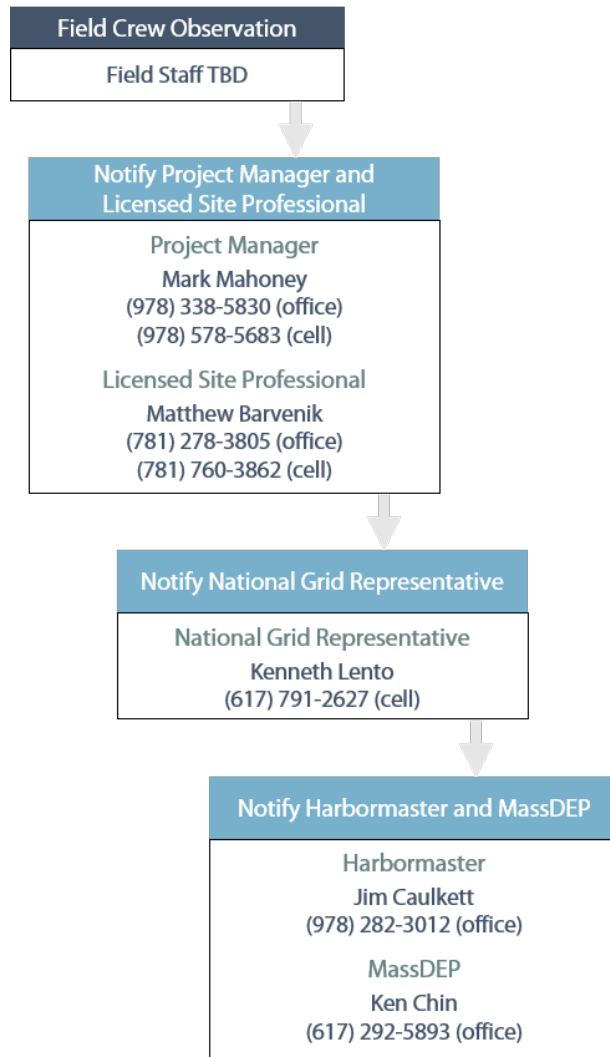
Any modifications to the Turbidity Monitoring Plan or performance standards outlined herein will be submitted to Ken Chin of MassDEP for approval prior to implementation.

NOTIFICATION PROCEDURE

This section presents the Notification Procedure in accordance with Permit Condition #20 of the WQC, which states:

“...the applicant shall submit a notification procedure outlining the reporting process to the department for incidents, relating to the dredging activities, impacting surrounding resource areas and habitats such as, but not limited to, observed dead or distressed fish, or other aquatic organisms, observed oily sheen on surface water, sediment spill, turbidity plume beyond the deployed BMP's, and barging or equipment accident/spills.”

If any of the above mentioned incidents occur, the following flow chart represents the notification procedure:



MassDEP will be notified within 24 hours if any of the above mentioned incidents occur, and the notification will include a summary of the incident, the suspected causes of the incident, a summary of implemented corrective action(s), and the current status of the work (e.g., if the incident has been remedied).

Any modification to the notification procedure will be submitted to Ken Chin of MassDEP for approval prior to implementation.
