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August 31, 2016

Mr. John R. Strang, P.E.
New York Department of Environmental Conservation
Region 4 Headquarters
1130 North Westcott Road
Schenectady, NY 12306

Subject: Hudson River Operable Unit 2 Field Sampling
BASF Rensselaer, NY

Dear Mr. Strang:

AECOM is pleased to provide you with this letter work plan prepared on behalf of BASF Corporation (BASF). This letter presents the scope of work (SOW) for limited sampling and analysis activities that will be conducted at the BASF Rensselaer Site (the "Site") in support of the Hudson River Operable Unit 2 (OU-2) Remedial Design. This work will include: (1) installation of 3 geotechnical borings in support of bulkhead enhancements; (2) limited PCB vibracore sampling to refine the volumes of non-Site related PCB-contaminated sediment requiring management under the Toxic Substance Control Act (TSCA); and (3) bench-scale dewatering study to evaluate the use of specialty chemicals to support ex situ sediment dewatering.

1. Geotechnical Borings

The bulkhead between the Rensselaer site and the Hudson River was constructed in three sections (built in 1936, 1974, and the 1980s), as depicted in **Figure 1.** In preparation for the proposed remedial dredging work, the 1936 and/or pre-1936 sections of the existing bulkhead may require significant updating/repairs. Available geotechnical data (presented in Appendix B of the Feasibility Study (AECOM, 2015)) are insufficient for bulkhead design and need to be supplemented to complete the bulkhead design

Sampling and geotechnical analysis from three (3) deep borings (up to 50 feet in depth) is proposed. Two deep borings will be installed in the Northern FS Study Area (one in the upper portion, one in the lower portion). One additional boring will be located in the upland portion of the Site (**Figure 1).** These borings will be analyzed for standard geotechnical parameters (Grainsize, Atterberg limits, moisture content, compression, and density) at select intervals. The landside boring data will be used to evaluate the stability of the bulkhead during dredging operations, and the two waterside borings will be used to fill data gaps for the evaluation of dredge material management and cover system stability.

2. Supplemental PCB Sampling

In 2008, sediment sampling conducted adjacent to the Site by the Empire Generating Project, found PCBs at concentrations greater than 50 milligrams per kilogram (mg/kg). Both the United States Environmental Protection Agency (USEPA) and NYSDEC have concluded that PCBs did not originate from the Site and PCBs are not a Site-related chemical of concern. However, the PCBs are located within the Hudson River

OU-2 where remedial alternatives will be implemented to address metals and VOCs, and PCB-containing sediment will need to be managed appropriately.

This work plan presents a scope of work (SOW) that will be conducted to further refine the potential volumes of TSCA-level PCB containing sediments present at the Site. These data, in conjunction with the historically collected data from the Site, will provide supplemental information to allow BASF to further refine the various disposal categories of sediment requiring in situ and ex situ management as TSCA waste. The goal of this program will be to refine the spatial distribution of PCBs in that portion of the Site.

Sampling and chemical analysis of sediment from 14 sediment cores from the central portion of the Northern FS Study Area will be conducted to refine the PCB volumes. The 14 locations are located adjacent to existing sampling locations with PCB concentrations in excess of 50 mg/kg. At each of the locations, a vibracore will advanced in the vicinity of the original greater than 50 mg/kg PCB sampling location (**Figure 2**). The target depth of each boring will be determined by the depth of the proposed remedial scenario and will include collection of up to 2 samples per core; the cores will be processed in 2.0 ft intervals (e.g., 0.0 to 2.0 ft, or 2 to 4 ft). Up to 20 samples will be collected as part of this exercise, and analyzed solely for PCB aroclors.

3. Supplemental Dewatering Studies

The results of dewatering studies conducted to date are presented in the Final FS for this portion of the Site (AECOM, 2015). These studies indicate that although sediment passes the paint filter test, additional dewatering is likely required for ex situ management, and none of the dewatering treatments tested at that time represent an effective means of ex situ dewatering. Additional dewatering studies will be required to complete the design for the Hudson River OU-2 remediation.

As part of this proposed field effort, up to 15 gallons of sediment will be collected for use in these dewatering studies. This sediment will be subject to benchscale studies evaluating use of flocculants, coagulants, and other specialty chemical dewatering agents. The results of these studies will be incorporated into the design, as appropriate.

Schedule

It is anticipated that the field sampling described below will be conducted in the late summer of 2016 (commencing week of September 6, 2016). Proposed sampling station locations are depicted on **Figures 1 and 2**. The actual sampling locations may be slightly modified based on Site conditions encountered in the field and based on any recommendations of the NYSDEC upon field program initiation.

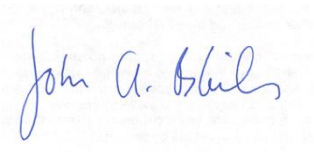
Detailed descriptions of methods for sediment sampling (sediment vibracoring), documenting field conditions (e.g., log books, sample sheets, photographs), sample numbering, chain of custody, sample packaging and shipping, and collection and handling of Investigation-Derived Wastes (IDW) have been previously presented in the NYSDEC-approved Work Plan for the Hudson River OU-2 Investigation (ENSR, 2007). The sampling tasks will be supported by the existing Quality Assurance Project Plan (QAPP; ENSR, 2005) and the updated QAPP Addendum (presented as in 2011 PCB Work Plan [AECOM, 2011]). The field program will also be conducted under the existing include Health and Safety Plan (HASP; ENSR, 2005), which will be reviewed, updated, and modified where appropriate.

ALS-Columbia (ALS) of Rochester, NY will conduct the sediment analyses. Laboratory detection limits, method specific sampling requirements and QA/QC procedures were presented in the 2011 PCB/ Upper Navigational Channel Work Plans (AECOM, 2011).

Summary
In summary, BASF proposes to collect up to 14 sediment cores from the Northern Portion of the FS Study Area to further delineate PCB impacts; in addition, 3 geotechnical borings (2 waterside; 1 landside) will be installed, and additional benchscale dewatering studies will be conducted. These data will be collected for use in the refinement of the remedial design. This work is currently scheduled to be completed in the late summer of 2016 (commencing week of September 6, 2016).

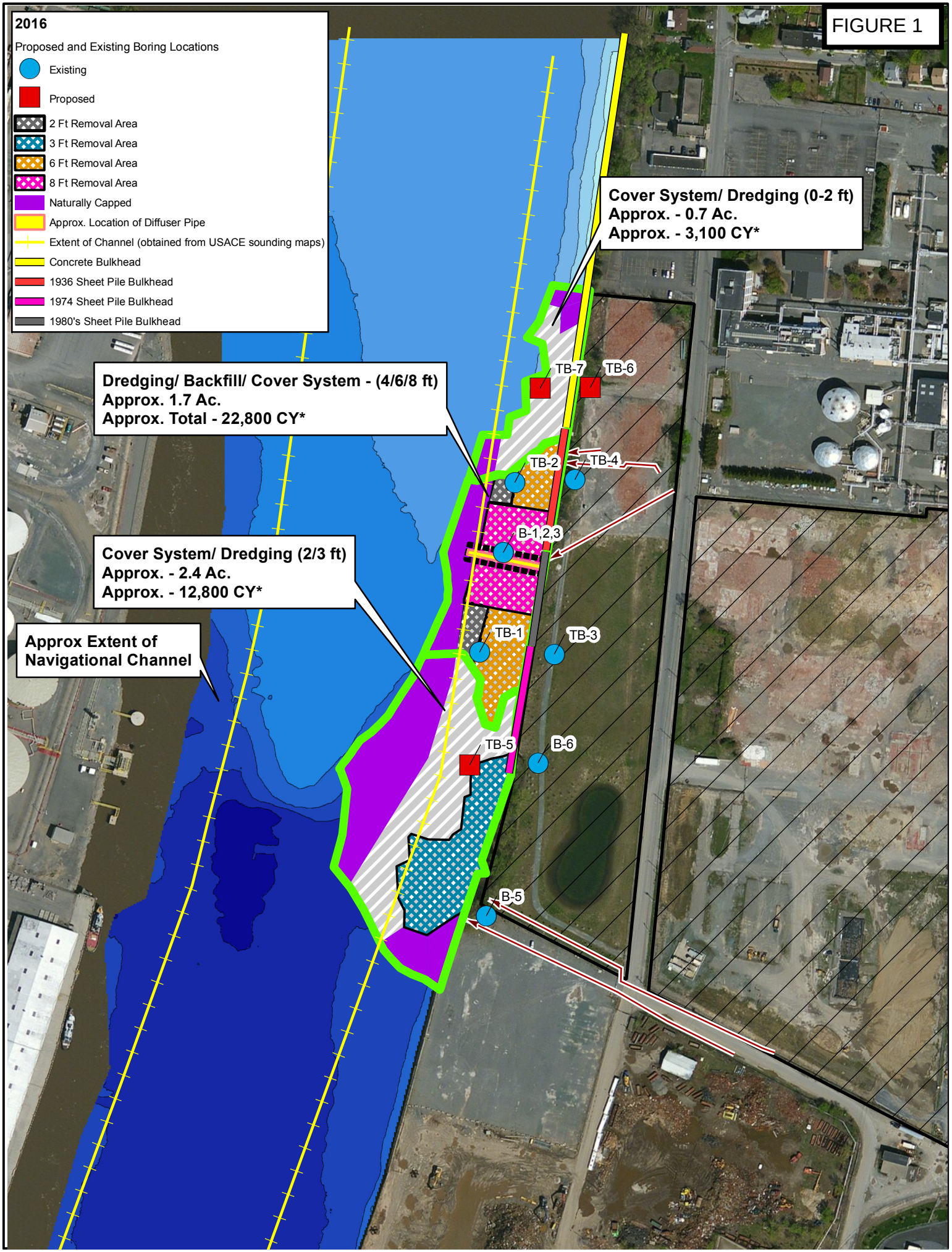
Please do not hesitate to contact me or Mr. Doug Reid-Green (908-507-8820) if any questions arise regarding this matter.

Sincerely yours,



John A. Bleiler
Project Manager

cc: J. Douglas Reid-Green (BASF)



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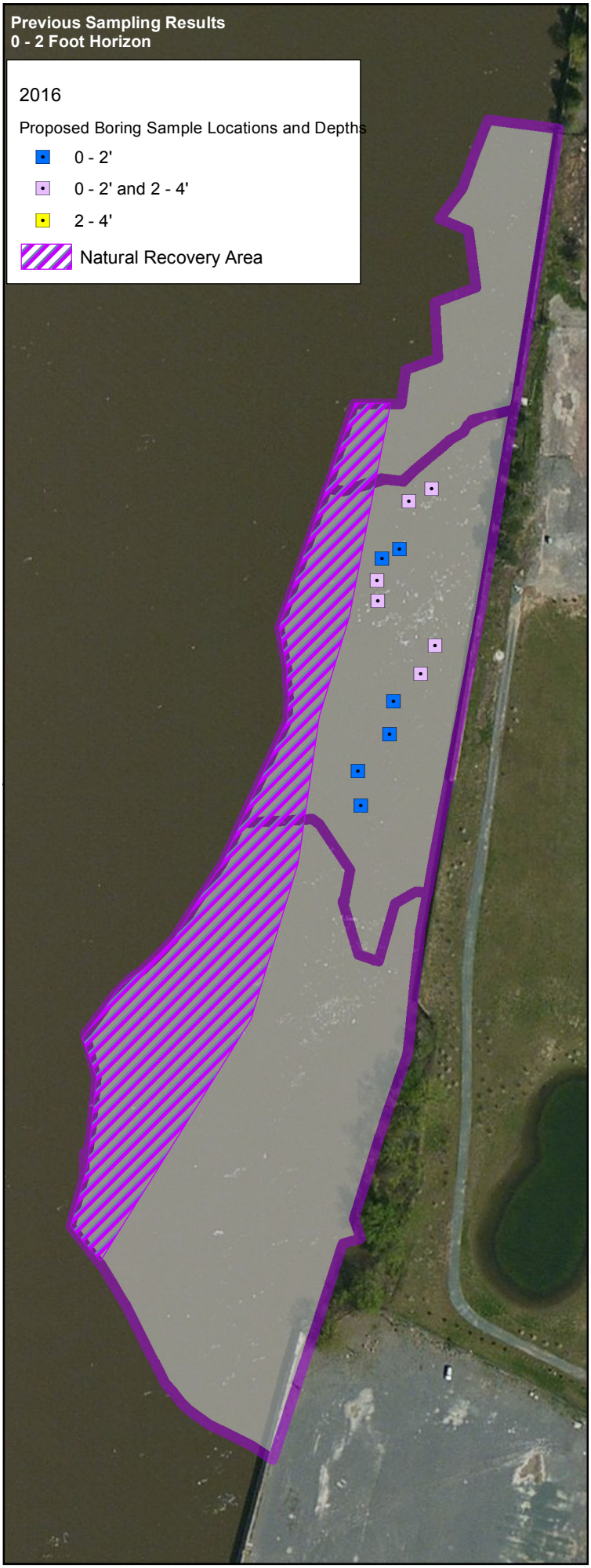

FIGURE 2

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