D&B ENGINEERS AND ARCHITECTS, P.C.

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July 21, 2017

RECEIVED
JUL 27 2017
REMEDIAL BUREAU A

Tara Rutland, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, NY 12233-7016

Re: LIRR Hempstead Substation (NYSDEC VCA No. V00390-1)
Final Engineering Report Addendum Letter
Substation Building "Endpoint" Sample Results

Dear Ms. Rutland:

The purpose of this letter is to document the Long Island Rail Road's (LIRR's) substation building "endpoint" soil sampling activities associated with the former substation building currently existing at the LIRR Hempstead Substation (the Site), located in Hempstead, Nassau County, New York.

As you are aware, remedial activities were completed at the Site in May and June 2016 pursuant to the provisions of the New York State Department of Environmental Conservation (NYSDEC)-approved October 2014 Remedial Action Work Plan (RAWP). All completed remedial activities were documented in the D&B Engineers and Architects, P.C. (D&B) May 2017 Draft Hempstead Final Engineering Report (FER). As summarized in the draft FER, the October 2014 RAWP included provisions for the collection of four "endpoint" soil samples within the footprint of the substation building following its demolition.

As the date of building demolition has not yet been established, these "endpoint" soil samples were approved by NYSDEC via e-mail on June 9, 2017 to be collected prior to the demolition of the building. In addition, as one of the four building "endpoint" soil samples (HSEP-57) was inadvertently collected from the former drain hole within the substation building rectifier pit during the 2016 remedial effort, this proposed building "endpoint" soil sample was relocated and renamed HSEP-59, per a June 9, 2017 e-mail discussion with NYSDEC. It should also be noted that rectifier pit drain hole endpoint sample HSEP-57 exhibited non-detect concentrations of mercury.

Summary of Field Activities

The substation building "endpoint" soil samples (HSEP-55, HSEP-56, HSEP-58 and HSEP-59) were collected on June 13, 2017. LIRR utilized Posillico Environmental, Inc. (Posillico) and Posillico's subcontractor Preferred Environmental Services, Inc. (Preferred) to drill through the substation building concrete slab to access the subsurface soil and collect the "endpoint" soil samples using a decontaminated hand auger.

LIRR and D&B provided oversight for the drilling of the substation building concrete slab and collection of the "endpoint" soil samples from beneath the substation building.

Posillico and Preferred utilized a jackhammer and hand tools to break through the concrete slab to collect the soil samples in four locations; HSEP-55 was collected from the southeast corner of the substation building; HSEP-56 was collected from the water trough pit, located in the northeast corner of the substation building; HSEP-58 was collected from the southwest corner of the substation building; and HSEP-59 was collected to the west of the rectifier pit, located in the northwest corner of the substation building. HSEP-59 was initially attempted to be installed just outside the northern boundary of the rectifier pit, in an area where mercury could have traveled from the rectifier pit, per direction of the NYSDEC via a June 13, 2017 e-mail. However, a live communication line was present in this vicinity and HSEP-59 was moved directly west of this communication line, in the northwest corner of the substation building, only approximately 5 feet from the rectifier pit. One soil sample was collected from each location, just below the bottom of the concrete slab and was retained for chemical analysis. A Sample Location Map is provided as Attachment 1.

All soil remaining following sample collection was backfilled into the soil boring from which it was generated and the holes were then sealed with a concrete patch.

All samples were sent to American Analytical Laboratories, LLC. (AAL), a subcontractor to Preferred, and analyzed in accordance with the USEPA SW-846 methods, as stipulated in the October 2014 RAWP. All data packages submitted by AAL have been reviewed by Ms. Donna Brown, D&B's Quality Assurance/Quality Control (QA/QC) Officer. Ms. Brown meets the NYSDEC requirements of a data validator, as listed in the DER-10 Technical Guidance for Site Investigation and Remediation, dated June 2010. Data Validation Checklists were prepared for the laboratory data packages and are provided in Attachment 2.

As per the requirements of the October 2014 RAWP, all sample analytical results have been compared to the Industrial Use Soil Cleanup Objective (SCO) for mercury of 5.7 mg/kg. An

analytical data table summarizing the substation building "endpoint" sample results is provided as Attachment 3.

Findings

The four building "endpoint" soil samples exhibited mercury concentrations ranging from 0.0295 mg/kg to 3.59 mg/kg, below the Industrial Use SCO for mercury of 5.7 mg/kg.

Conclusions and Recommendations

The analytical results associated with building "endpoint" soil samples HSEP-55, HSEP-56, HSEP-58 and HSEP-59 exhibited mercury concentrations below the Industrial Use SCO for mercury; therefore, no further investigation or remedial activities associated with the substation building footprint area are warranted at this time.

If you have any questions or require additional information, please do not hesitate to contact me at (516) 364-9890, Ext. 3094.

Very truly yours,

Stephen E. Tauss, P.G.
Associate

SET/EHt/nc,kp
Attachment
cc: A. Albano (LIRR)
J. Makowski (LIRR)
T. Fox (D&B)
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ATTACHMENT 1

SAMPLE LOCATION MAP

ATTACHMENT 2

DATA VALIDATION CHECKLISTS

D&B ENGINEERS AND ARCHITECTS, P.C.

DATA VALIDATION CHECKLIST

Project Name:	Old Hempstead Substation
Project Number:	2801-14
Sample Date(s):	June 13, 2017
Sample Team:	NC from PES
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 0 Trip Blanks /0 Field Blanks/0
Analyzing Laboratory:	American Analytical Laboratories, Farmingdale, NY
Analyses:	Mercury: by SW846 Method 7471B
Laboratory Report No:	1706094 Date: 6/19/2017

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of Inorganic Data Review, August 2014, method performance criteria, and D&B Engineers and Architects, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

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Custody Numbers:1706094
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis			
				VOC	PCB	Mercury	MISC
HSEP-56	1706094-001A	6/13/17				X	
HSEP-58	1706094-002A	6/13/17				X	
HSEP-55	1706094-003A	6/13/17				X	
HSEP-59	1706094-004A	6/13/17				X	

INORGANIC ANALYSES
METALS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. Laboratory control sample %R		X		X	
6. Spike sample %R		X		X	
7. Post digestive spike sample %R					X
8. Duplicate %RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable.

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DATA VALIDATION AND QUALIFICATION SUMMARY **Laboratory Numbers:1706094**

Sample ID	Analyte(s)	Qualifier	Reason(s)
Metals			
No qualification of the data was necessary.			

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 7/20/17
VALIDATION PERFORMED BY SIGNATURE:	

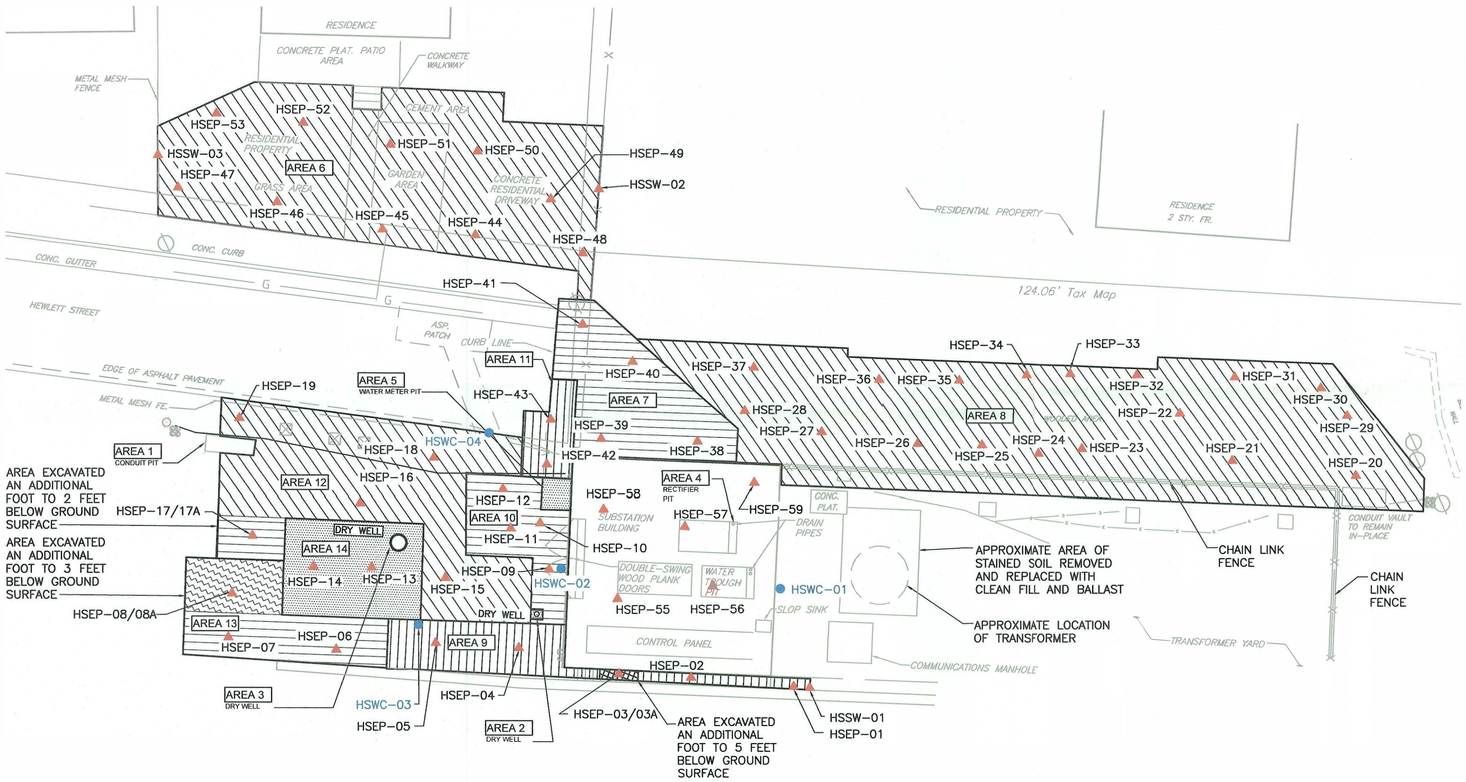
ATTACHMENT 3

ANALYTICAL DATA TABLES

Table 1
Long Island Rail Road
Hempstead Substation
Building Footprint "Endpoint" Sample Results
Mercury

Sample ID Sampling Date Matrix Units	HSEP-55 6/13/2017 Solid mg/kg	HSEP-56 6/13/2017 Solid mg/kg	HSEP-58 6/13/2017 Solid mg/kg	HSEP-59 6/13/2017 Solid mg/kg	NYSDEC 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives (SCOs) mg/kg
Mercury	0.0295	3.59 D	0.097	0.185	5.7

Notes:
D: Analyte concentration was obtained from diluted analysis



LEGEND

- REMEDIAL AREA EXCAVATED TO 1-FOOT BELOW GROUND SURFACE (REMEDIAL AREAS 6, 8 AND 12)
- REMEDIAL AREA EXCAVATED TO 2 FEET BELOW GROUND SURFACE (REMEDIAL AREAS 7, 10 AND 13 AND PORTION OF REMEDIAL AREA 12)
- REMEDIAL AREA EXCAVATED TO 3 FEET BELOW GROUND SURFACE (PORTION OF REMEDIAL AREA 13)
- REMEDIAL AREA EXCAVATED TO 4 FEET BELOW GROUND SURFACE (REMEDIAL AREAS 9 AND 11)
- REMEDIAL AREA EXCAVATED TO 5 FEET BELOW GROUND SURFACE (PORTION OF REMEDIAL AREA 9)
- REMEDIAL AREA EXCAVATED TO 8 FEET BELOW GROUND SURFACE (REMEDIAL AREAS 5 AND 14)

SYMBOLS AND ABBREVIATIONS

- BALLAST FILLED SUB-BASEMENT AND/OR SUB-GRADE FLOOR DRAIN (F.D)
- ELECTRIC MANHOLE
- DRAINAGE MANHOLE
- ROOF DRAIN
- UTILITY POLE
- LIGHT POLE
- ELECTRIC RISER
- POLE STAY
- TREE
- CHAIN LINK FENCE
- BURIED SANITARY LINE
- BURIED TELEPHONE/COMMUNICATION LINE
- OVERHEAD UTILITY
- GAS LINE
- ELECTRIC LINE
- WATER LINE
- COMPLETED WASTE CHARACTERIZATION SAMPLE LOCATION MARCH 2009
- ENDPOINT/SIDEWALL SAMPLE LOCATION

MAP SOURCE: MAY 2010 SURVEY PREPARED BY MUNICIPAL LAND SURVEY P.C., POSILICO CONSTRUCTION DRAWINGS AND D&B'S FIELD OBSERVATIONS

1"=10'-0" 10 5 0 10'

D&B ENGINEER AND ARCHITECTS, P.C.

LONG ISLAND RAIL ROAD
FINAL ENGINEERING REPORT

ENDPOINT SAMPLE LOCATIONS & REMEDIAL ARES
HEMPSTEAD SUBSTATION (V00390-1)

SCALE: 1"=10'

DRAWING 1