

SITE OBSERVATION REPORT

PROJECT No.: 170381202 PROJECT: 250 Water Street LOCATION: New York, NY BCP SITE ID: C231127	CLIENT: 250 Seaport District, LLC c/o The Howard Hughes Corporation	DATE: Tuesday, October 17, 2023 WEATHER: Sunny, 48 – 65° F Wind: NE @ 0.1 – 2.3 mph TIME: 5:45 am – 5:30 pm MONITOR Gabriella DeGennaro
EQUIPMENT: CAT 335 Excavator CAT 328 Excavator Komatsu PC210 Excavator Delmag Drill Rig Bauer RTG RG 27S Bauer BG45 Drill Rig Casagrande M6A-1 Tieback Drill Rig Jerome J505 Mercury Vapor Analyzer RKI GX-6000 Photoionization Detector (PID) Aeroqual ASQ1 Air Monitoring Station	PRESENT AT SITE: Day 226 Langan (Environmental/Geotechnical) Gabriella DeGennaro, Michael Cole, Mat Frankel, Pradeep Pandey Suffolk Construction (Suffolk) (General Contractor) Wyatt Favia East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts Earth Efficient (Soil Broker) Yinette Batista AKRF, Inc. (Archaeologist) Theresa Imbriolo Lakewood Environmental Services (Lakewood): Michael Kolasinski	
OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:		
<p>Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).</p>		
Site Activities		
<ul style="list-style-type: none"> • ECD used a Bauer RTG RG 27S drill rig to pre-drill one borehole in the southeast part of the site to loosen the underlying soil in preparation for soil mix column installation. • ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) system installation in the southeast part of the site (along Peck Slip). ECD’s drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 106 feet below grade surface (bgs). <ul style="list-style-type: none"> ○ No drilling spoils were generated during installation of the soil mix column. ○ Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date. • ECD used an RTG RG 27S drill rig to install three soldier piles to a depth of about 35 feet bgs for SOE system installation in the southern part of the site (Water Street). ECD’s drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward. Steel pipe piles were installed within each soil mix column for installation of the soldier piles. <ul style="list-style-type: none"> ○ No drilling spoils were generated during installation of the soldier piles. ○ Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date. 		
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- ECD excavated an about 45-foot-long by 25-foot-wide area to a maximum depth of about 8 feet bgs in the southern part of the site (waste characterization cells WC03 and WC06) to install timber lagging for the SOE system.
 - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket. The C&D debris was loaded into securely covered tri-axle dump trucks for off-site disposal. Excavated soil/fill was temporarily stockpiled adjacent to the excavation area for future off-site disposal.
- ECD excavated an about 30-foot-long by 50-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 10 feet below sidewalk grade [bsg]) in the southwest part of the site (waste characterization cells WC02 and WC03) for removal and off-site disposal of hazardous lead-impacted soil/fill.
 - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD excavated an about 50-foot-long by 5-foot-wide area to a maximum depth of about 6 feet bgs in the southern part of the site (waste characterization cell WC11) for removal and off-site disposal of hazardous lead-impacted soil/fill.
 - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD excavated two about 10-foot-long by 10-foot-wide areas to a maximum depth of about 4 feet below the existing grade (about 12 feet bsg) in the western part of the site (waste characterization cells WC01 and WC03) to investigate groundwater depth.
 - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily backfilled into the original location for future off-site disposal.
- ECD graded soil/fill in an about 100-foot-long by 100-foot-wide area in the eastern part of the site to stabilize the surface for SOE system installation.
 - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the stockpile in the northeast part of the site for future off-site disposal.
- Lakewood used a Geoprobe® 6610DT direct-push drill rig to advance two boreholes to about 10 feet below the existing grade using 2-inch-diameter by 4-foot-long steel macrocores with dedicated acetate liners in the southeast part of the site.
 - Lakewood expanded each borehole using a 3.5-inch-diameter drill rod to about 10 feet bgs. 1-inch-diameter, 0.01-inch slotted polyvinyl chloride (PVC) well screen was inserted into the boreholes for installation of temporary monitoring wells TMW35 and TMW36. The annulus of each well was backfilled with clean No. 1 sand.

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- o Langan collected one groundwater sample from each temporary monitoring well using a peristaltic pump fitted with dedicated low-density polyethylene (LDPE) tubing. Water quality parameters were recorded using a Horiba U-52 water quality meter during low-flow purging prior to sample collection.
- o The temporary monitoring wells were removed following sample collection, and each borehole was backfilled with bentonite chips from the boring termination depth to surface grade.

Material Tracking

- ECD exported six truckloads (about 120 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported six truckloads (about 120 CY) of soil/fill for off-site disposal at the Clean Earth of North Jersey (CENJ) Facility in Kearny, NJ.
- No material was imported to the site.

Material Import Summary								
Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	13	309.28	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*			720 tons*			19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	6	120	6	120
Project Total	5	85	42	840	201	4,020	107	2,140

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Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	313	6,260	267	5,340	66	1,320

Material Export Summary (3 of 3)

Facility Name Location Type of Material	Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill		Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill		Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	27	540

Sampling

- Langan collected two groundwater samples (TMW35_101723 and TMW36_101723) plus quality assurance/quality control (QA/QC) samples from the southeast part of the site for laboratory analysis of target compound list (TCL) and NYSDEC Part 375 volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).
- Samples were relinquished to Alpha Analytical, an Environmental Laboratory Accredited Program (ELAP)-certified laboratory, under standard chain-of-custody protocols.

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CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:59am to 4:45pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 $\mu\text{g}/\text{m}^3$, 5.0 ppm, or 0.100 mg/m^3 , respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 $\mu\text{g}/\text{m}^3$.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu\text{g}/\text{m}^3$)
PM-1	0.005	0.00	0.02
PM-2	0.004	0.01	0.01
PM-3	0.003	0.00	0.00
PM-4	0.004	0.02	0.02
WZ-1	0.004	0.00	0.00
WZ-2	0.003	0.00	0.00
WZ-3	0.002	0.00	0.01
WZ-4	0.003	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor ($\mu\text{g}/\text{m}^3$)
PM-1	0.013	0.02	0.05
PM-2	0.017	0.05	0.05
PM-3	0.004	0.02	0.01
PM-4	0.010	0.16	0.08
WZ-1	0.007	0.01	0.01
WZ-2	0.004	0.01	0.00
WZ-3	0.004	0.00	0.02
WZ-4	0.004	0.02	0.02

• mg/m^3 = milligrams per cubic meter •ppm = parts per million • $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

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Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m³ to 0.09 µg/m³.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:43am to 4:20pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:45am to 4:28pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:58am to 5:04pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:56am to 4:36pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:45pm and 4:55pm.

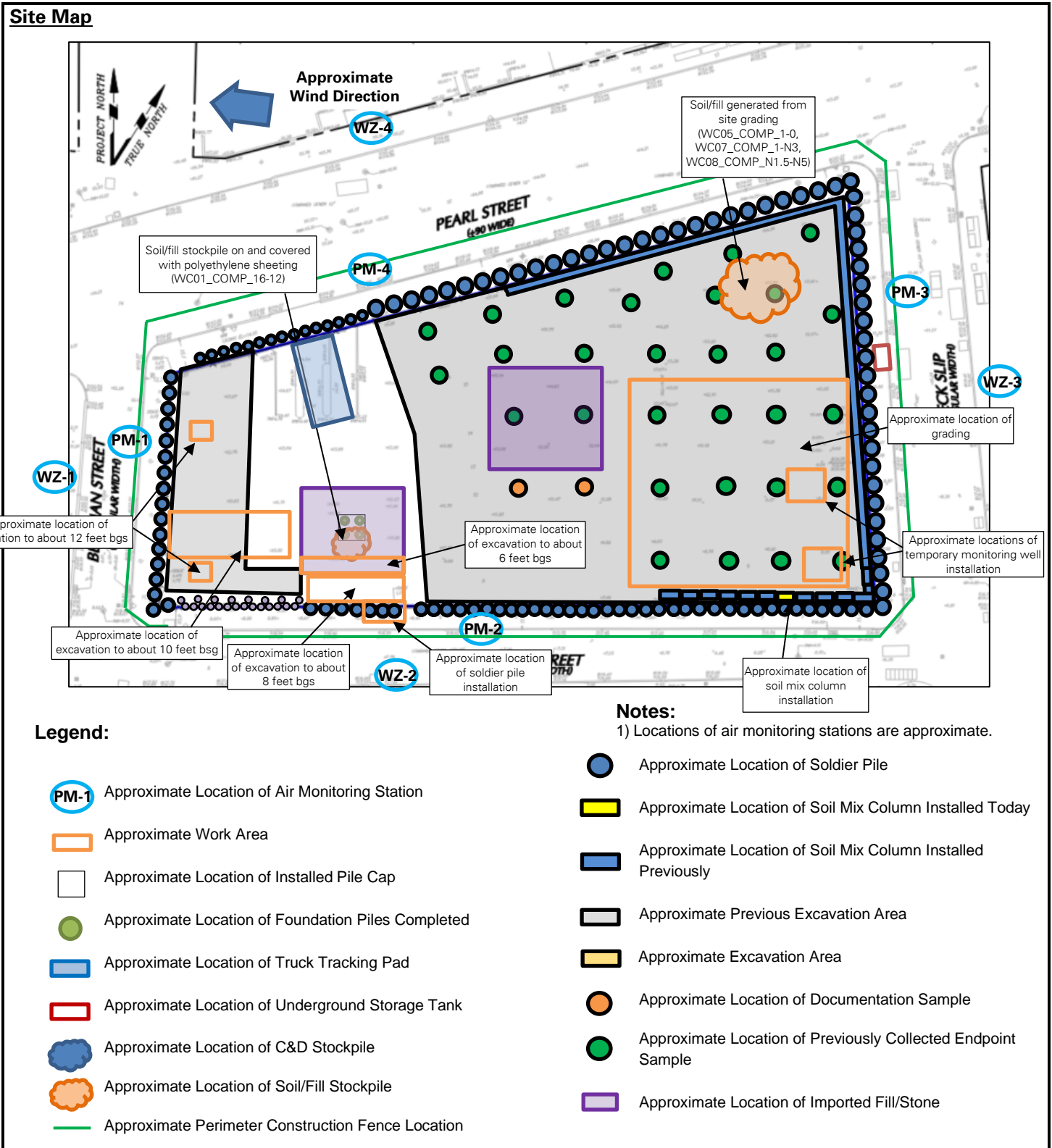
- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m³.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the eastern part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Water Street.
- ECD will continue installing tiebacks for the SOE system along Beekman and Pearl Streets.

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Select Site Photographs:



Photo 1: General view of the site (facing east)

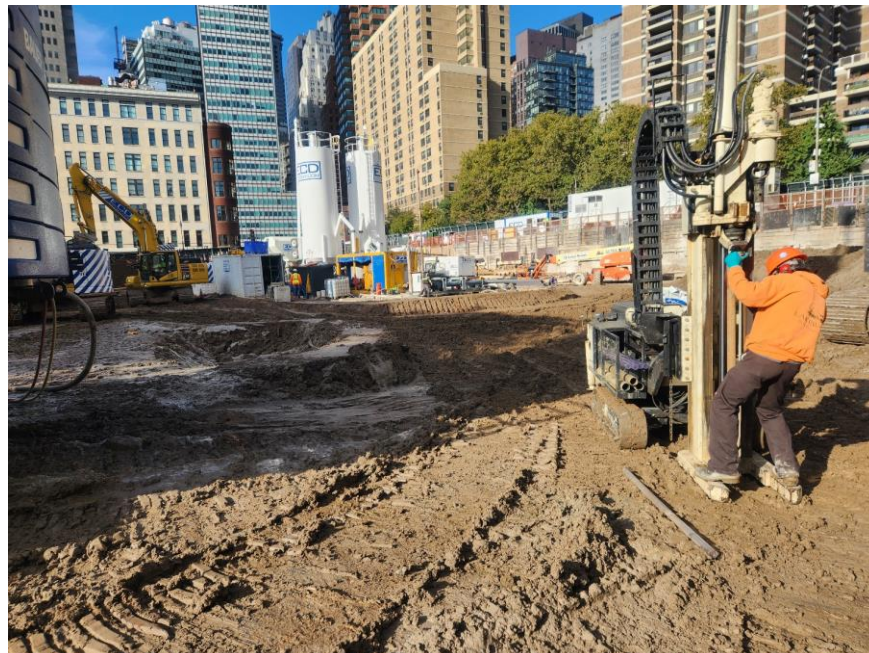


Photo 2: Lakewood installing temporary monitoring well TMW35 in the southeast part of the site (facing northwest)

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