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November 15, 2021

Mr. Justin Starr, Project Manager
NYSDEC Region 3, Division of Environmental Remediation
21 S Putt Corners Road
New Paltz, NY 12561
(518) 660-1347
Justin.Starr@dec.ny.gov

Re: Supplementary Investigation Work Plan #1 (SIWP #1)
Former Excelsior Bag (BCP Site No. C360190)
City of Yonkers, Westchester County, NY

Dear Mr. Starr:

This Supplementary Investigation Work Plan #1 (SIWP #1) has been prepared by AKRF, Inc. (AKRF) on behalf of Extell Hudson Waterfront, LLC (the Volunteer) for the Former Excelsior Bag site located at 25, 35 and 45 Riverside Drive (f/k/a 159 Alexander Street), in Yonkers, New York (the Site). This SIWP #1 was prepared to further evaluate potential areas of concern (PAOCs) for metals identified during the September 2020/April 2021 remedial investigation (RI), and to establish the metals source areas, if any, that will be remediated as part of a forthcoming Interim Remedial Measures (IRM) Work Plan.

Site Background

The Site is part of a larger Extell Hudson Waterfront redevelopment plan approved by the City of Yonkers Planning Board on April 11, 2018, for which the final subdivision map was filed with the Westchester County Clerk's office on January 24, 2020. The Site is now identified by the City of Yonkers Tax Map as Section 2, Block 2620, Lot 2, portion of Lot 9, Lots 10, 11 and 12, Fisherman Way, Colman Way, and portion of Riverside Drive. The Site consists of an approximately 243,952-square foot vacant property with concrete/asphalt paved surfaces, a landscaped area (to the north), and revetment stone (along the western boundary adjacent to the Hudson River).

The Volunteer was accepted into the NYSDEC BCP as a Volunteer (BCP Site No. C360190), and a NYSDEC Brownfield Cleanup Agreement (BCA) (BCA Index No. C360190-04-20) was executed on April 30, 2020. A Remedial Investigation Work Plan (RIWP) was prepared by AKRF in July 2020 and approved by NYSDEC on August 4, 2020, and subsequent investigation activities were conducted in September 2020 and April 2021. A draft Remedial Investigation Report (RIR) was submitted to NYSDEC on July 9, 2021, and preliminary comments on the draft July 2021 RIR were provided by NYSDEC to AKRF (on behalf of the Volunteer) via email on July 29, 2021. A formal RIR comment letter was issued by NYSDEC on September 7, 2021. Based upon NYSDEC comments, a SRI was conducted in August 2021. The final RIR, which incorporated the results of the September 2020/April 2021 RI and the August 2021 SRI field activities, was submitted to NYSDEC on October 8, 2021, and approved by NYSDEC (with modifications) on October 29, 2021.

Proposed development of the Site includes two low-rise residential buildings (referred to as Building E and Building F), a portion of a third low-rise residential building (Building D), surrounding access roadways, and a waterfront esplanade. The first phase of construction (Phase I Construction), which includes components on both the Site and the north adjacent Former BICC Cables site [NYSDEC Brownfield Cleanup Program (BCP) Site No. C360051], began on September 13, 2021. Phase I Construction at the Site (which is being conducted in compliance with Supplemental Environmental Management Documentation submitted to NYSDEC on June 23, 2021) includes construction of a portion of Building D, surrounding access roadways, and the esplanade.

Based upon recent correspondences with NYSDEC, it is anticipated the Site will be remediated to achieve site-specific Track 4 soil cleanup objectives (SCOs), which will be detailed in the future Remedial Action Work Plan (RAWP). Prior to preparation of the RAWP, it is anticipated that IRMs [e.g., removal of hazardous metals hotspots (if identified), removal of the suspected underground storage tank (UST), utility excavations, etc.] will be conducted to facilitate the construction schedule. Therefore, Volunteer has elected to conduct this Supplementary Investigation #1 (SI #1) to further evaluate PAOCs for metals identified during the RI, and to determine which metals source areas, if any, will be remediated as part of an IRM Work Plan. On October 12, 2021, AKRF submitted a letter to NYSDEC detailing proposed Track 4 site-specific SCOs for metals, which were accepted by NYSDEC in a letter issued on November 9, 2021. The October 12, 2021 letter, prepared by AKRF, and the November 9, 2021 letter, prepared by NYSDEC, are provided as Attachment A.

As detailed in the October 12, 2021 letter prepared by AKRF (and as further detailed in Section 5.3.5 of the October 2021 RIR), several shallow fill material samples across the Site contained elevated total metal concentrations above Restricted Residential (RR) SCOs and/or Protection of Groundwater (PGW) SCOs, including arsenic, cadmium, copper, lead, mercury, nickel, and selenium; however, the remedial investigation did not identify the presence of an exposure pathway (e.g., documented metals contamination in groundwater). With the exception of selenium detected in one groundwater sample slightly above its NYSDEC Ambient Water Quality Standards and Guidance Value (AWQSGV), none of the metals detected in soil above RRSCOs and/or PGWSCOs were detected above AWQSGVs in site-wide groundwater.

Although an exposure pathway for metals found in shallow fill materials was not identified during the recent RI, the elevated total metal concentrations documented in shallow fill materials (specifically lead and mercury) are considered PAOCs based on their potential to represent source areas for hazardous substances [defined in DER-10§1.3(70); 6 NYCRR 375 §1.2(au)].

Based on this evaluation, total metal concentrations exceeding established site-specific thresholds will be further evaluated as potential source areas (PSAs) for hazardous waste via Toxicity Characteristic Leaching Procedure (TCLP) sampling; and only soils exceeding hazardous waste criteria[1] will be considered source areas, necessitating removal as part of the forthcoming IRM Work Plan remedy.

This SIWP #1 details the total metal concentration threshold criteria for identifying hazardous metals PSAs and the sampling/analytical procedures to be implemented to further evaluate the hazardous metals PSAs. All work will be completed in accordance with applicable protocols detailed in the NYSDEC-approved July 2020 RIWP, including the associated Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Plan (CAMP). The HASP and CAMP will be implemented during all subsurface investigation activities involving soil disturbance at the Site.

[1] I.e., TCLP concentrations exceeding the Environmental Protection Agency (EPA) Maximum Concentrations established for the Resource Conservation and Recovery Act (RCRA) eight heavy metals (commonly referred to as the "RCRA 8")] (e.g., TCLP lead concentrations above 5.0 mg/L)

Threshold Criteria for Identifying Hazardous Metal PSAs

The following threshold criteria for identifying hazardous metals PSAs were proposed by AKRF in a letter dated October 12, 2021, which was accepted by NYSDEC in a letter dated November 9, 2021 (refer to Attachment A).

AKRF will employ the industry-standard "Rule of 20" as the threshold for identifying shallow fill materials that constitute PSAs for RCRA 8 metals (with the exception of lead as noted below). The "Rule of 20" notes that the maximum theoretical leachate concentration that can yield from a TCLP analysis performed on a waste that is 100% physically solid is 1/20 of the total concentration in the waste. In other words, in order to yield hazardous results, total metals concentrations must be at least 20 times higher than their respective EPA allowable limit. The "Rule of 20" is a conservative approach for assessing potentially hazardous levels of metals because it assumes 100% of the total concentration will be leached into the extraction fluid during the TCLP process.

Based on prior experience sampling for hazardous lead in shallow fill materials at neighboring BCP sites, total lead concentrations less than 1,000 mg/kg are unlikely to yield hazardous results. Therefore, a total lead concentration of 1,000 mg/kg will be utilized as the threshold for identifying shallow fill material PSAs for lead at the Site.

Based on the methodology identified above, the total metal concentrations that would constitute PSAs are displayed in the In-Text Table 1 below.

In-Text Table 1 - Proposed Total Metal Concentration Thresholds for Hazardous Metal PSAs

Metal	RCRA EPA Allowable Limit (mg/l)	Total Metals Thresholds (mg/kg)
Arsenic	5.0	100
Barium	100	2000
Cadmium	1.0	20
Chromium	5.0	100
Lead	5.0	1000
Mercury	0.2	4
Selenium	1.0	20
Silver	5.0	100

Based upon these concentration thresholds, eight shallow fill soil samples, collected and analyzed from seven soil borings advanced during the RI, identified total metal concentrations (specifically lead and mercury) that would warrant additional sampling and analysis for their respective hazardous waste criteria. In-Text Table 2 summarizes the eight shallow fill soil sample intervals (collected from seven RI soil boring locations) (hereinafter referred to as "hazardous metals PSAs") planned for further evaluation. The hazardous metals PSAs are also displayed on the attached Figure 1.

In-Text Table 2 - Proposed Hazardous Metal PSAs

Hazardous Metal PSAs	Representative RI Soil Boring ID	RI Sample Interval (feet bgs)	Metal Contaminant of Concern	Total Metal Concentration (mg/kg)	Additional Sampling Proposed
PSA-RISB04	RI-SB-04	1-3	Mercury	17	TCLP Mercury
		4-6	Mercury	17	TCLP Mercury
PSA-RISB12	RI-SB-12	5-7	Lead	2,080	TCLP Lead
PSA-RISB14	RI-SB-14	6-8	Mercury	9.99 J	TCLP Mercury
PSA-RISB19	RI-SB-19	4-6	Lead	3,250	TCLP Lead
PSA-RISB20	RI-SB-20	5-7	Mercury	14	TCLP Mercury
PSA-RISB22	RI-SB-22	0-2	Lead	1,260 J	TCLP Lead
PSA-RISB23	RI-SB-23	0-2	Mercury	4.5	TCLP Mercury

The hazardous metal PSAs identified in the In-Text Table 2 and displayed on the attached Figure 1 will be further evaluated for hazardous criteria as summarized below.

SI #1 Field Program Summary

SI #1 field activities, will include the following:

- The advancement of seven shallow soil borings up to 8 feet below ground surface (bgs) (to evaluate the seven hazardous metals PSAs); and
- The collection and TCLP laboratory analysis of eight shallow fill soil samples (1 to 2 samples per boring at the depth intervals noted in In-Text Table 2) and associated quality assurance and quality control (QA/QC) samples.

Geophysical Survey

A geophysical survey utilizing ground penetrating radar (GPR) and an electromagnetic (EM) utility locating system was conducted by NOVA Geophysical Engineering Services (NOVA) as part of RI field activities at the Site on April 5, 2021. The geophysical survey included a site-wide GPR grid scan (using 5-foot by 5-foot grid line spacing), with additional GPR lines collected in the vicinity of RI boring locations and other features of interest. The EM utility locator was used in conjunction with the GPR throughout the surveyed areas. A copy of the April 5, 2021, Geophysical Survey Report, prepared by NOVA is provided as Attachment B. Utilities and other identified anomalies are displayed on the survey plan within the report.

In addition, electric, gas, sewer, and water utilities were disconnected/abandoned in-place at the Site in February 2021 prior to building demolition, a required prerequisite to obtain a City of Yonkers Demolition Permit.

All proposed SI #1 boring locations will be positioned adjacent to soil borings advanced during the RI. RI soil boring locations were cleared by the previous geophysical investigation noted above; therefore, an additional geophysical survey is not warranted for this investigation.

SI #1 Soil Boring Advancement and Soil Sampling

Prior to soil boring advancement, the previously advanced RI soil borings noted in In-Text Table 2 will be field surveyed by a New York State-licensed surveyor using survey data obtained during the RI. SI #1 soil borings will be advanced directly adjacent to the surveyed point (i.e., within 1 to 2 feet).

To advance the shallow soil borings, AKRF proposes to use a track mounted Geoprobe® Direct-Push Probe (DPP) drill rig. Shallow soil borings will be advanced up to 8 feet bgs, as outlined in In-Text Table 2. Soil samples will be continuously obtained in a 2-inch diameter, stainless steel, macro-core sampler. All soil cores will be inspected by AKRF field personnel for evidence of contamination (e.g., odors, staining, etc.), screened for the presence of volatile organic compounds (VOCs) with a calibrated photoionization detector (PID), and logged using the Modified Burmister Soil Classification System,.

At each of the proposed soil boring locations, up one to two soil samples will be submitted for laboratory analysis (at the sample depth intervals noted in In-Text Table 2). Soil samples slated for laboratory analysis will be placed in laboratory-supplied containers and shipped in accordance with appropriate EPA protocols to a New York State Department of Health (NYSDOH)-certified laboratory. The soil samples will be analyzed for either lead or mercury (depending on the PAOC noted in In-Text Table 2) by TCLP analysis.

A 10-business day standard TCLP analysis turnaround time will be requested from the laboratory. As required by the Category B sampling techniques, additional analysis will be included for quality assurance/quality control (QA/QC) measures. One QA/QC sample for soil will be collected as one field blank, one matrix spike/matrix spike duplicate (MS/MSD), and one blind duplicate sample [no trip blank for VOCs required]. The field blank, blind duplicate, and MS/MSD sample will be analyzed for the same analyte as the accompanying sample. A data usability summary report (DUSR), as required by NYSDEC, will be generated by a third-party data validator.

After each boring is completed, the boreholes will be filled with the boring soil cuttings (if not noticeably contaminated) in accordance with Section 3.3(e) of DER-10. Soil cuttings displaying field evidence of contamination [e.g., odors, elevated PID readings, and/or visible non-aqueous phase liquids (NAPL)] will be containerized in properly labeled Department of Transportation (DOT)-approved 55-gallon drums for waste characterization sampling and off-site disposal at a permitted facility. Boreholes that require drill cutting disposal will be filled with hydrated granular bentonite or bentonite chips. Disposable sampling equipment that comes in contact with environmental media will be disposed of as municipal trash as non-hazardous refuse.

Supplementary Investigation Report #1 (SIR #1)

After completion of the SI #1 field activities, AKRF will prepare an SIR #1 including, if warranted, an IRM Work Plan for submission to NYSDEC. As previously noted, it is anticipated that IRMs will be conducted to facilitate the construction schedule. The SIR #1 and IRM Work Plan will summarize the results of the SI #1 field activities, compare the analytical results to the EPA hazardous waste criteria for lead and mercury, and detail the interim remedial scope of work that will be required, including but not limited to: excavation of any identified hazardous metal source areas; excavation and removal of the suspected UST and associated contaminated soil (identified during the RI in the southeastern corner of the Site), environmental monitoring and other health and safety measures to protect workers and the surrounding community during implementation of the IRM Work Plan; excavation endpoint sampling; and post-remediation engineering and/or institutional controls, including installation of a Site cap.

The project team appreciates your expedited review of this SIWP #1. Please contact me at (914) 922-2356 or Scott Caporizzo at (914) 922-2354 if you have any questions or require additional information.

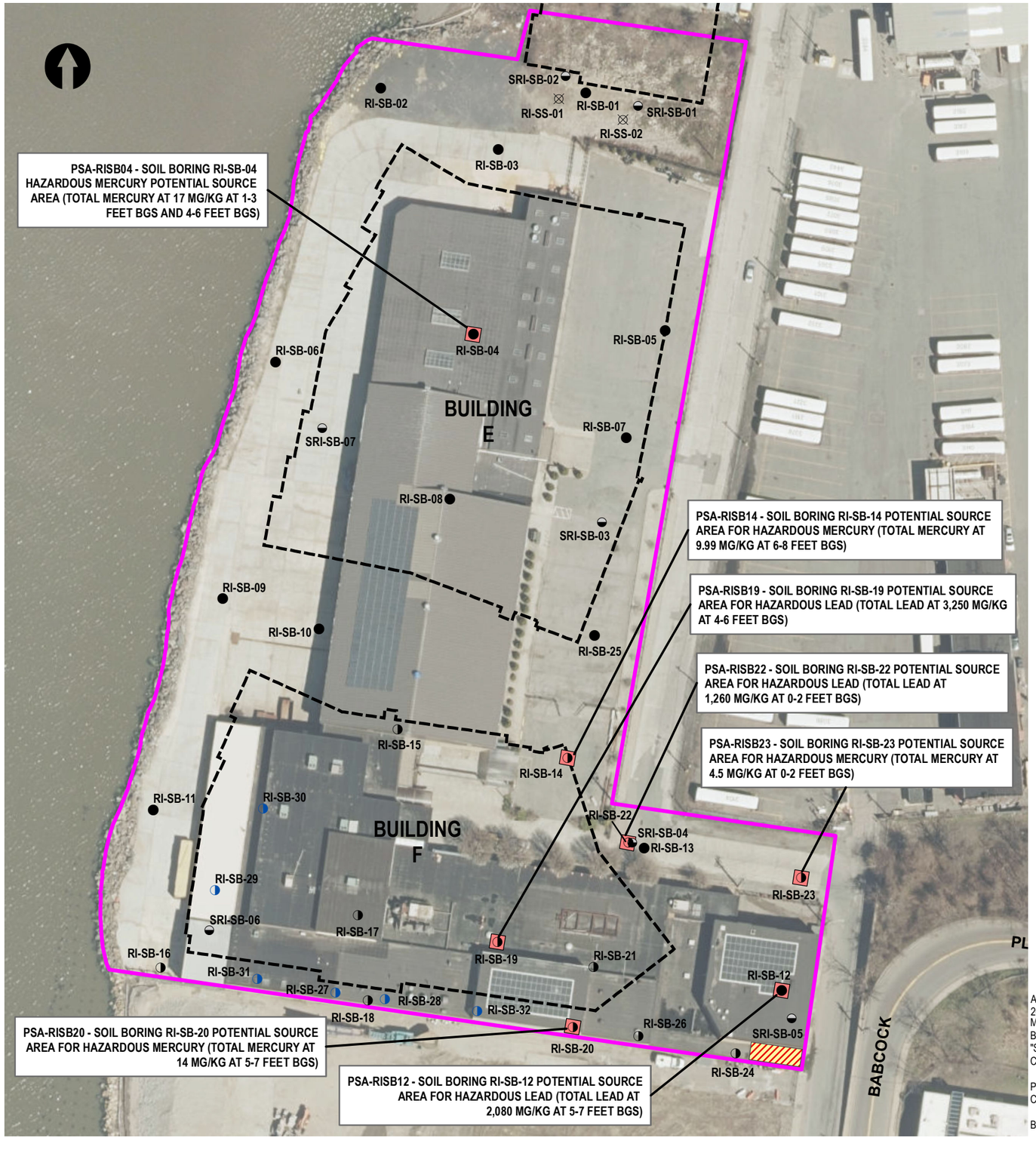
Sincerely,
AKRF, Inc.

Marc S. Godick, LEP
Sr. Vice President

cc: Amen Omorogbe – NYSDEC
Jack Mandelbaum, Chanie Rosenberg, Ryan Masters, Moshe Botnick – Extell
Christine Leas – SPR
Scott Caporizzo – AKRF

Enclosed:
Figure 1 – Proposed Hazardous Metals Potential Source Areas (PSAs)
Attachment A – October 12, 2021 Proposed Metals Track 4 Remedy Site-Specific SCOs for Metals Letter (AKRF); and November 9, 2021 Acceptance Letter (NYSDEC)
Attachment B – April 5, 2021, Geophysical Survey Report (NOVA)

FIGURES



LEGEND

- BCP SITE BOUNDARY
- PROPOSED LOCATION OF FUTURE BUILDING
- SUSPECTED ABANDONED IN-PLACE UST
- SHALLOW SOIL BORING LOCATION
- INTERMEDIATE SOIL BORING LOCATION
- DEEP SOIL BORING LOCATION
- SURFACE SOIL SAMPLE LOCATION
- DNAPL DELINEATION SOIL BORING LOCATION
- POTENTIAL SOURCE AREA (PSA) FOR HAZARDOUS METALS

Aerial Source:
2018 New York State ITS GIS Orthoimagery
Map Sources:
BCP Site Boundary from Ward Carpenter Engineers, Inc.
"Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.

Proposed Location of Future Building from PS&S, PC. "Utility Construction Phasing Plan Phase 1" - dated 5-13-2021.

Boring locations obtained from PS&S survey "Sample Location Map, dated 6/2/21 (revised 9/20/21)

0 40 80 160
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

FORMER EXCELSIOR BAG
Yonkers, New York

POTENTIAL SOURCE AREAS (PSAs) FOR HAZARDOUS METALS

DATE
11/5/2021

PROJECT NO.
200131

FIGURE
1

ATTACHMENT A

OCTOBER 12, 2021 PROPOSED METALS TRACK 4 REMEDY SITE-SPECIFIC SCOS FOR METALS LETTER (AKRF); AND NOVEMBER 9, 2021 ACCEPTANCE LETTER (NYSDEC)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 12th Floor, Albany, NY 12233-7014
P: (518) 402-9662 I F: (518) 402-9679
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Transmitted via e-mail

November 9, 2021

Extell Hudson Waterfront LLC
Attn: Jack Mandelbaum
805 Third Avenue, 7th Floor
New York, NY 10022
jmandelbaum@extell.com

Re: Remedial Action Work Plan (RAWP) - Proposed Track 4 Remedy Site-Specific Soil Cleanup Objectives (SCOs) for Metals
Former Excelsior Bag
NYSDEC Site no. C360190

Dear Jack Mandelbaum,

The New York State Department of Environmental Conservation (DEC) has reviewed the Remedial Action Work Plan (RAWP) - Proposed Track 4 Remedy Site-Specific Soil Cleanup Objectives (SCOs) for Metals Letter for the Former Excelsior Bag site. It is DECs understanding that the proposed 1,000 part-per-million (ppm) and 4 ppm for lead and mercury, respectively, will be used as a guide to evaluate potential source areas of each contaminant. Each potential source area would then be analyzed via a Toxicity Characteristic Leaching Procedure analysis, and those soils that contain exceedances of the Resource Conservation and Recovery Act (RCRA) Environmental Protection Agency (EPA) allowable limits for lead or mercury will be removed from the site and properly disposed of at an appropriately permitted treatment, storage, and disposal facility. Since these targeted excavations will mitigate the potential for lead and mercury hazardous waste generation at the site, and since the groundwater generally does not appear to be impacted by these contaminants, DEC finds the proposed SCOs and preliminary remedial approach for lead and mercury in soils acceptable.

If you have any questions, please feel free to contact me at justin.starr@dec.ny.gov or 518-402-9662.

Sincerely,

Justin C. Starr, P.G.
Assistant Geologist, Remedial Bureau C
Division of Environmental Remediation

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October 12, 2021

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Re: Remedial Action Work Plan (RAWP) - Proposed Track 4 Remedy Site-Specific Soil Cleanup Objectives (SCOs) for Metals
Former Excelsior Bag (BCP Site No. C360190)
City of Yonkers, Westchester County, NY

Dear Mr. Starr:

This letter has been prepared by AKRF, Inc. (AKRF) on behalf of Extell Hudson Waterfront, LLC (the Volunteer) for the Former Excelsior Bag site (BCP Site No. C360190) (the "Site") to outline proposed Track 4 site-specific soil cleanup objectives (SCOs) for metals. Notwithstanding any additional feedback from the New York State Department of Environmental Conservation (NYSDEC) following review of this letter, the proposed remedial design criteria detailed herein will be described in further detail in the forthcoming Remedial Action Work Plan (RAWP) and/or Pre-Design Investigation (PDI) Work Plan..

Background

As discussed during the August 31, 2021 remedial investigation results/pre-remedial design coordination call between NYSDEC, the Volunteer, and AKRF, it is anticipated that the Site will be remediated to achieve site-specific Track 4 restricted-residential soil cleanup objectives (SCOs). As detailed further herein, it is proposed to utilize similar site-specific SCOs for metals established for the 57 Alexander Street site NYSDEC-approved Track 4 remedy (BCP No. C360194, located less than ¼ mile south of the Site), where it was determined appropriate to focus on hazardous criteria as part of the evaluation to determine whether potential areas of concern (PAOCs) for metals required remediation. At the 57 Alexander Street site, several shallow fill material samples across the site contained elevated total metal concentrations above background conditions (primarily lead and mercury); however, the results of the remedial investigation did not identify the presence of an exposure pathway (e.g., documented metals contamination in groundwater). Although no exposure pathways were identified, the elevated concentrations of lead and mercury were still considered PAOCs based on their potential to represent source areas due to the potential presence of hazardous substances [defined in DER-10§1.3(70); 6 NYCRR 375 §1.2(au)].

Based on this evaluation, the NYSDEC-approved RAWP for 57 Alexander Street required shallow fill materials (that would remain below the site cover system and above the groundwater table) with total metal concentrations exceeding established site-specific thresholds (i.e., lead exceeding 1,000 mg/kg) be further evaluated as potential source areas (PSAs) for hazardous metals via Toxicity Characteristic Leaching

Procedure (TCLP) sampling. Only soils exceeding hazardous criteria[1] were considered source areas, necessitating removal as part of the Track 4 remedy.

Based on the similar nature of metals contamination documented at the Former Excelsior Bag Site and the 57 Alexander Street BCP site, AKRF proposes to use a similar strategy to establish Track 4 criteria for determining whether metals contamination warrant remediation at the Site.

As further detailed in Section 5.3.5 of the Remedial Investigation Report (RIR) prepared for the Site, several shallow fill material samples across the site contained elevated total metal concentrations above Restricted Residential (RR) SCOs and/or Protection of Groundwater (PGW) SCOs, including arsenic, cadmium, copper, lead, mercury, nickel, and selenium; however, similar to the conditions documented at 57 Alexander Street, the remedial investigation did not identify the presence of an exposure pathway (e.g., documented metals contamination in groundwater). With the exception of selenium detected in one groundwater sample slightly above its NYSDEC Ambient Water Quality Standards and Guidance Value (AWQSGV), none of the metals detected in soil above RRSCOs and/or PGWSCOs were detected above AWQSGVs in site-wide groundwater.

Although an exposure pathway for metals found in shallow fill materials was not identified during the recent remedial investigation, based upon recent TCLP sampling conducted on shallow fill materials at 57 Alexander, it is anticipated that elevated total metal concentrations documented in shallow fill materials (specifically lead and mercury) have the potential to represent hazardous waste. The proposed remedial criteria and evaluation procedures for identifying hazardous metal PSAs is further detailed below.

Proposed Threshold Criteria for Identifying Hazardous Metal PSAs

AKRF proposes to employ the industry-standard "Rule of 20" as the threshold for identifying shallow fill materials that constitute PSAs for RCRA 8 metals (with the exception of lead as noted below). The "Rule of 20" notes that the maximum theoretical leachate concentration that can yield from a TCLP analysis performed on a waste that is 100% physically solid is 1/20 of the total concentration in the waste. In other words, in order to yield hazardous results, total metals concentrations must be at least 20 times higher than their respective EPA allowable limit. The "Rule of 20" is a conservative approach for assessing potentially hazardous levels of metals because it assumes 100% of the total concentration will be leached into the extraction fluid during the TCLP process.

Based on prior experience sampling for hazardous lead in shallow fill materials at neighboring BCP sites, total lead concentrations less than 1,000 mg/kg are typically unlikely to yield hazardous results. Also, as noted above, a total lead concentration of 1,000 mg/kg was the NYSDEC-approved hazardous evaluation threshold established for the remedy implemented at 57 Alexander Street. Therefore, a total lead concentration of 1,000 mg/kg is proposed as the threshold for identifying shallow fill material PSAs for lead at the Site.

Based on the proposed thresholds identified above, the total metal concentrations that would constitute PSAs are displayed in the In-Text Table 1 below.

[1] I.e., TCLP concentrations exceeding the Environmental Protection Agency (EPA) Maximum Concentrations established for the Resource Conservation and Recovery Act (RCRA) eight heavy metals (commonly referred to as the "RCRA 8")] (e.g., TCLP lead concentrations above 5.0 mg/L)

In-Text Table 1
Proposed Total Metal Concentration Thresholds for Hazardous Metal PSAs

Metal	RCRA EPA Allowable Limit (mg/l)	Total Metals Thresholds (mg/kg)
Arsenic	5.0	100
Barium	100	2000
Cadmium	1.0	20
Chromium	5.0	100
Lead	5.0	1000
Mercury	0.2	4
Selenium	1.0	20
Silver	5.0	100

Eight shallow fill soil samples collected and analyzed from seven soil borings advanced during the remedial investigation identified total metal concentrations (specifically lead and mercury) exceeding the above thresholds. In-Text Table 2 summarizes the remedial investigation shallow fill material soil samples proposed for further evaluation under the RAWP to determine whether the identified PSAs contain hazardous waste warranting remediation as part of the Track 4 remedy. The proposed hazardous metal PSAs are also displayed on the attached Figure 1.

In-Text Table 2
Proposed Hazardous Metal PSAs

Hazardous Metal PSAs	Representative Soil Boring ID	Sample Interval (feet bgs)	Metal Contaminant of Concern	Total Metal Concentration (mg/kg)	Additional Sampling Proposed
PSA-RISB04	RI-SB-04	1-3	Mercury	17	TCLP Mercury
		4-6	Mercury	17	TCLP Mercury
PSA-RISB12	RI-SB-12	5-7	Lead	2,080	TCLP Lead
PSA-RISB14	RI-SB-14	6-8	Mercury	9.99 J	TCLP Mercury
PSA-RISB19	RI-SB-19	4-6	Lead	3,250	TCLP Lead
PSA-RISB20	RI-SB-20	5-7	Mercury	14	TCLP Mercury
PSA-RISB22	RI-SB-22	0-2	Lead	1,260 J	TCLP Lead
PSA-RISB23	RI-SB-23	0-2	Mercury	4.5	TCLP Mercury

Proposed Hazardous Metal PSA Evaluation Soil Sampling and Excavation Procedures

The hazardous metal PSAs identified in the In-Text Table 2 above and displayed on the attached Figure 1 will be further evaluated for hazardous conditions as part of the Pre-Design Investigation (PDI) that will be included in the forthcoming RAWP to refine the remedy. In summary, soil samples would be collected at the same sample intervals displayed in In-Text Table 2 and analyzed for hazardous lead or mercury via TCLP analysis.

Metals identified as hazardous (based upon TCLP sampling and analysis) will be targeted for removal during remedial activities. An approximate 10-foot by 10-foot (100-square foot) area surrounding the sample location would be excavated vertically to 1 foot below the deepest sampling interval that exceeded the hazardous criteria, or to the observed groundwater table, whichever is encountered first.

Sidewall and bottom of excavation confirmatory endpoint sampling would be included as a component of the remedy to confirm hazardous criteria thresholds are met prior to backfilling.

As discussed, AKRF requests NYSDEC review and preliminary feedback on the proposed remedial approach for addressing potential metals source areas prior to development and submission of the forthcoming draft RAWP (planned for submission late-October 2021).

In the meantime, please contact me at (914) 922-2354 or Marc Godick at (914) 922-2356 if you have any questions or require additional information.

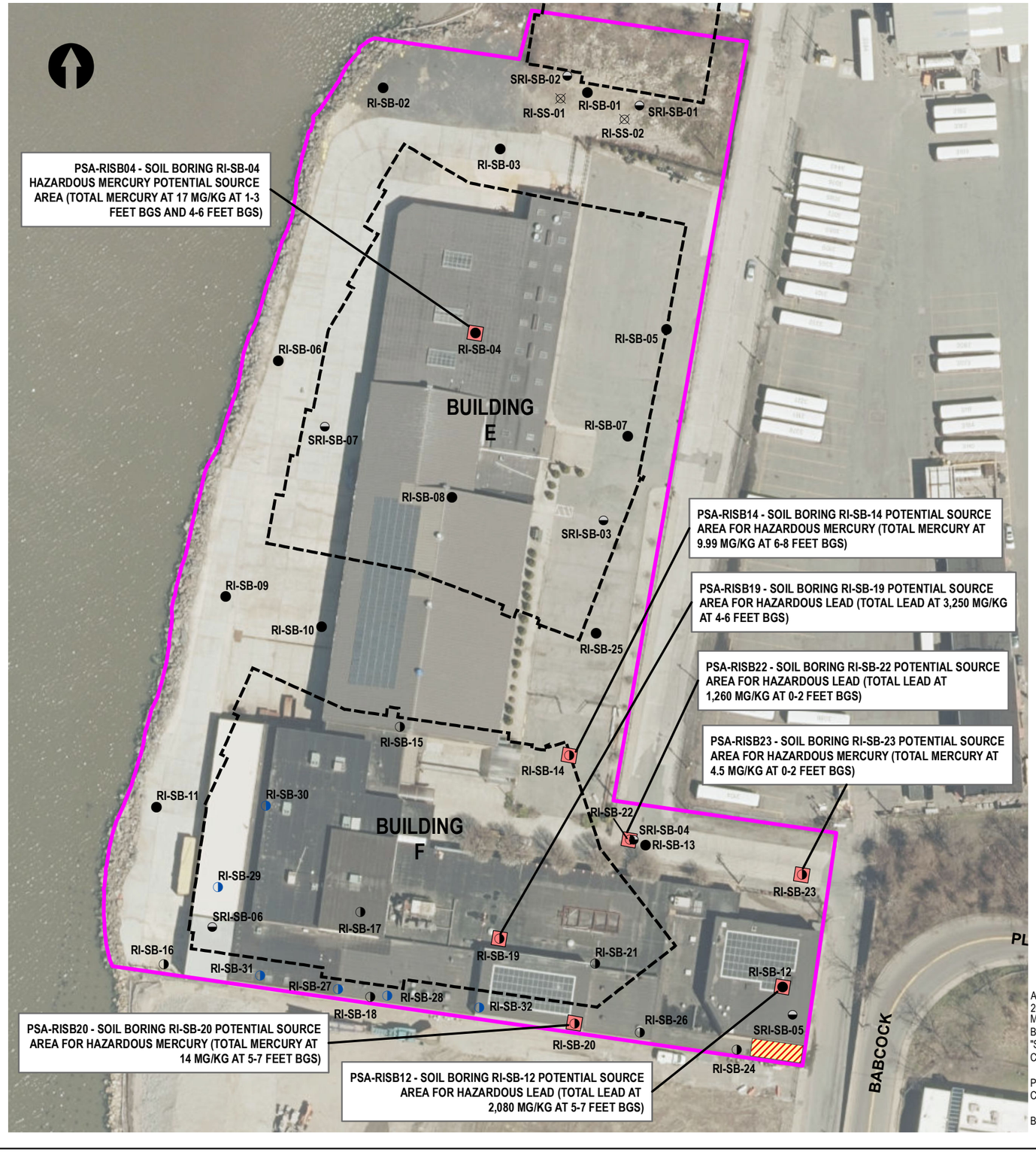
Sincerely,
AKRF, Inc.

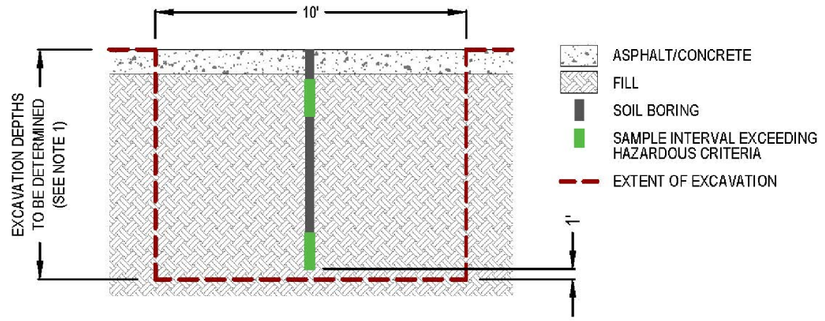
Scott Caporizzo, E.I.T.
Technical Director

cc: William Bennet – NYSDEC
Amen Omorogbe – NYSDEC
Jack Mandelbaum – Extell
Chanie Rosenberg – Extell
Ryan Masters – Extell
Moshe Botnick – Extell
Christine Leas – SPR
Marc Godick – AKRF

Enclosed: Figure 1 – Proposed Hazardous Metal Potential Source Areas (PSAs)

FIGURES





DETAIL 1 - TYPICAL HAZARDOUS METALS PSA EXCAVATION

Notes:

1. Metals identified as hazardous (based upon future TCLP sampling and analysis) will be targeted for removal during remedial activities. An approximate 10-foot by 10-foot (100-square foot) area centered on sample location will be excavated vertically to one foot below the deepest sampling interval which exceeded hazardous criteria, or to the observed groundwater table, whichever is encountered first.

2. Sidewall and bottom of excavation confirmatory endpoint sampling would be conducted following excavation to confirm hazardous thresholds are met prior to backfilling."

LEGEND

- BCP SITE BOUNDARY
- PROPOSED LOCATION OF FUTURE BUILDING
- SUSPECTED ABANDONED IN-PLACE UST
- SHALLOW SOIL BORING LOCATION
- INTERMEDIATE SOIL BORING LOCATION
- DEEP SOIL BORING LOCATION
- SURFACE SOIL SAMPLE LOCATION
- DNAPL DELINEATION SOIL BORING LOCATION
- POTENTIAL SOURCE AREA (PSA) EXCAVATION FOR HAZARDOUS METALS

Aerial Source:
2018 New York State ITS GIS Orthoimagery
Map Sources:
BCP Site Boundary from Ward Carpenter Engineers, Inc.
"Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.

Proposed Location of Future Building from PS&S, PC. "Utility Construction Phasing Plan Phase 1" - dated 5-13-2021.

Boring locations obtained from PS&S survey "Sample Location Map, dated 6/2/21 (revised 9/20/21)

0 40 80 160
SCALE IN FEET

AKRF
440 Park Avenue South, New York, NY 10016

FORMER EXCELSIOR BAG
Yonkers, New York

POTENTIAL SOURCE AREAS (PSAs) FOR HAZARDOUS METALS

DATE
9/28/2021

PROJECT NO.
200131

FIGURE
1

ATTACHMENT B

APRIL 5, 2021, GEOPHYSICAL SURVEY REPORT (NOVA)

GEOPHYSICAL ENGINEERING SURVEY REPORT

Industrial Site
159 Alexander Street,
Yonkers, New York 10701

NOVA PROJECT NUMBER:
21-2205

DATED:
April 12, 2021

PREPARED FOR:

AKRF

Environmental, Planning, and Engineering Consultants
34 South Broadway, Suite 401, White Plains, NY 10601
www.akrf.com

PREPARED BY:

NOVA
GEOPHYSICAL
ENGINEERING
Subsurface Mapping Solutions
56-01 Marathon Parkway # 765
Douglaston, New York 11362
347-556-7787 (PHONE)
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NOVA GEOPHYSICAL SERVICES

SUBSURFACE MAPPING SOLUTIONS
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April 12, 2021

Scott P. Caporizzo, E.I.T.
Environmental Engineer
AKRF, INC.
Environmental, Planning, and Engineering Consultants
34 South Broadway, Suite 401, White Plains, NY 10601
New York, New York 10001-2727
P: 914.922.2354 | E: scaporizzo@akrf.com

Re: Geophysical Engineering Survey (GES) Report
Industrial Site
159 Alexander Street,
Yonkers, New York 10701

Dear Mr. Caporizzo,

Nova Geophysical Services (NOVA) is pleased to provide the findings of the geophysical engineering survey (GES) at the above referenced project site: 159 Alexander Street, Yonkers, New York 10701 (the "Site").

INTRODUCTION TO GEOPHYSICAL ENGINEERING SURVEY (GES)

NOVA performed a geophysical engineering survey (GES) consisting of a Ground Penetrating Radar (GPR) and Electromagnetic (EM) survey at the site. The purpose of this survey is to locate and identify utilities, underground storage tanks and other substructures on April 5th & 7th, 2021.

The equipment selected for this investigation was a Sensors and Software Noggin 250 MHz ground penetrating radar (GPR) and a GSSI UtilityScan 350 MHz GPR both with shielded antennas and a Radio Detection RD7100 Electromagnetic utility locator.

A GPR system consists of a radar control unit, control cable, and transducer (antenna). The control unit transmits a trigger pulse at a normal repetition rate of 250/350 MHz. The trigger pulse is sent to the transmitter electronics in the transducer via the control cable. The transmitter electronics amplify the trigger pulse into bipolar pulses that are radiated to the surface. The transformed pulses vary in shape and frequency according to the transducer used. In the subsurface, variations of the signal occur at boundaries

where there is a dielectric contrast (void, steel, soil type, etc.). Signal reflections travel back to the control unit and are represented as color graphic images for interpolation.

A typical electromagnetic (EM) utility locating system consists of a transmitter unit and a receiver unit. The receiver unit can be used independently of the transmitter unit in order to detect utility lines with an inherent EM signature (electric utility lines, water lines, etc.). If needed a current at a specific frequency can also be placed on a utility that is being located. This can be done via the transmitter unit by either direct connection or induction via an EM field varying at specific frequency. The receiver unit is then set to the selected frequency and the electromagnetic field created by the current running through the utility can be located allowing the utility to be marked.

GEOPHYSICAL METHODS

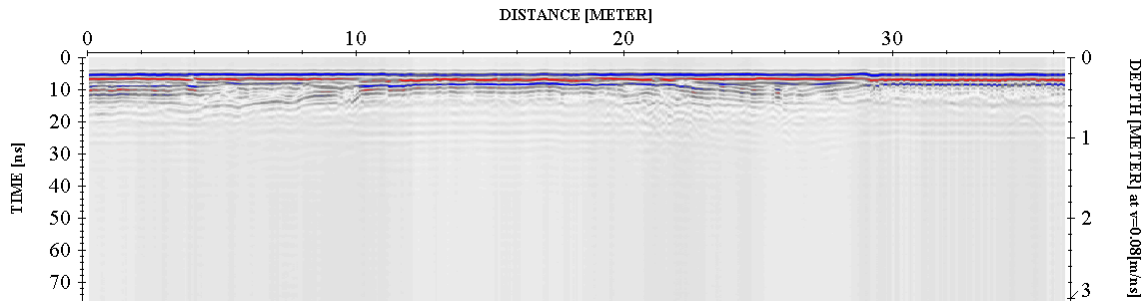
The project site was screened using GPR to search the specified area and inspected for reflections, which could be indicative of substructures and utilities within the subsurface. An EM utility locator was used to help determine the locations of utilities within the survey area.

EM data was collected and interpreted on site and suspected utilities marked as needed. GPR data profiles were collected for the areas of the Site specified by the client and processed as specified below.

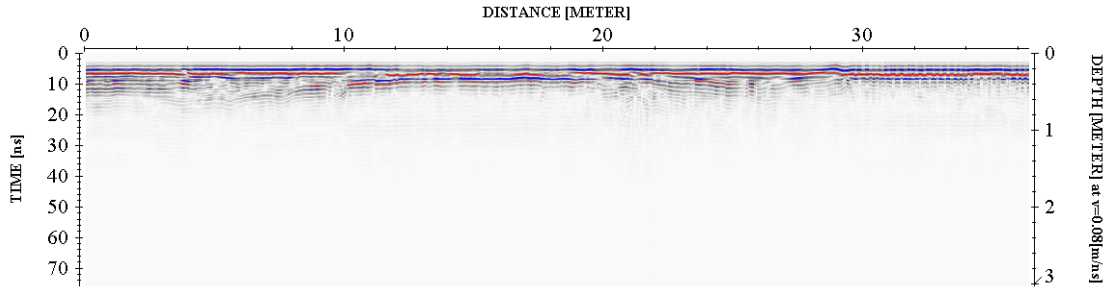
DATA PROCESSING

In order to improve the quality of the results and to better identify anomalies NOVA processed the collected data. The processing work flow is briefly described in this section.

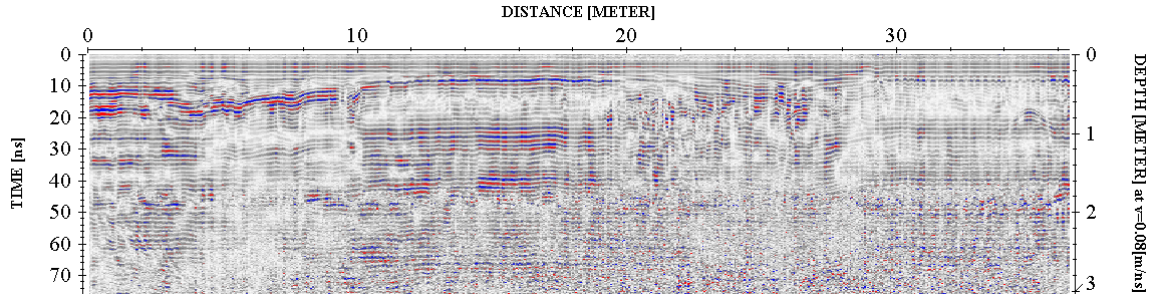
Step 1. Import Raw RAMAC data to standard processing format



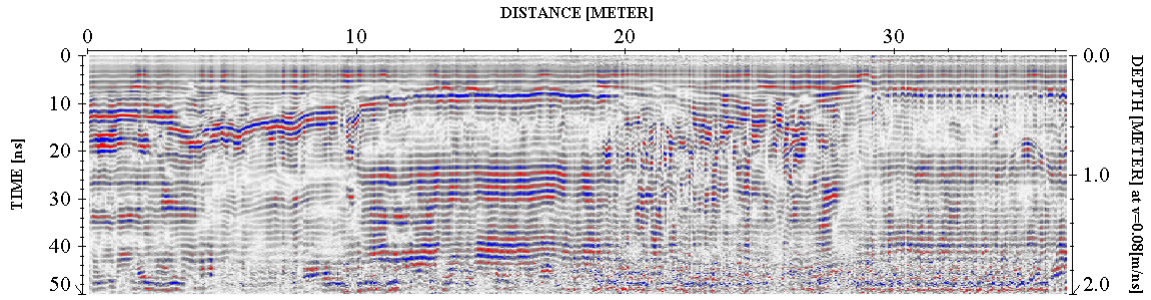
Step 2. Remove instrument noise *(dewow)*



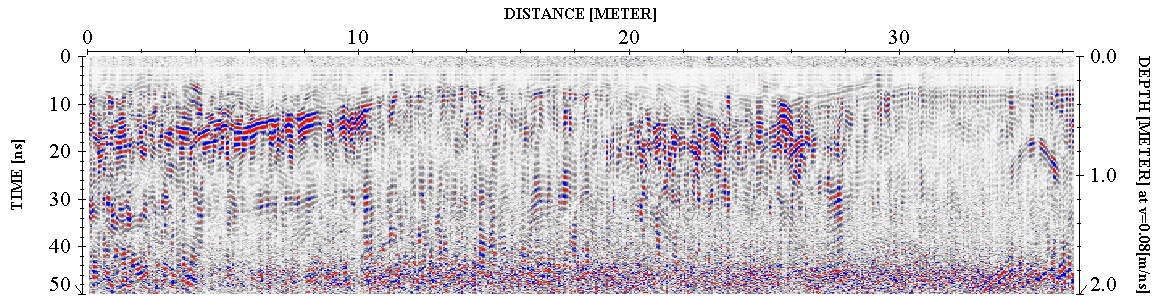
Step 3. Correct for attenuation losses *(energy decay function)*



Step 4. Remove static from bottom of profile *(time cut)*



Step 5. Mute horizontal ringing/noise *(subtracting average)*



The above example shows the significance of data processing. The last image (step 5) has higher resolution than the starting image (raw data – step 1) and represents the subsurface anomalies much more accurately.

PHYSICAL SETTINGS

NOVA observed the following physical conditions at the time of the survey.

Weather: Clear, Wind

Temperature: 60° F

Surface: Concrete, Asphalt, Fill

Survey Parameters: A GPR grid scan was conducted throughout the site, as shown in the survey plan. The approximate line spacing of the grid survey was approximately 5'. Additional GPR lines were collected in the vicinity of proposed boring locations and other features of interest. An EM utility locator was used in conjunction with the GPR throughout the surveyed areas.

Limitations: The geophysical noise level (GNL) was high at the site. The noise was a result of the site being in an urban environment, reinforced concrete, and multiple layers of pavement. Portions of the site were covered with debris at the time of the survey and could not be effectively surveyed with GPR.

RESULTS

The results of the geophysical engineering survey (GES) identified the following at the project site:

- Anomalies resembling potential subsurface utilities (such as sewer, water, electric, and gas) were identified during the GES along with associated surface features. The approximate locations are shown in the survey plan.
- 2 large geophysical anomalies resembling underground storage tanks were identified during the GES. Shown in the survey plan.
- All detected subsurface anomalies were marked in the onsite mark out.
- All cleared boring locations were marked in the onsite mark out.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

NOVA Geophysical Services

Levent Eskicakit, P.G., E.P.
Project Engineer

Attachments:

Location Map
Survey Plan
Geophysical Images

NOVA
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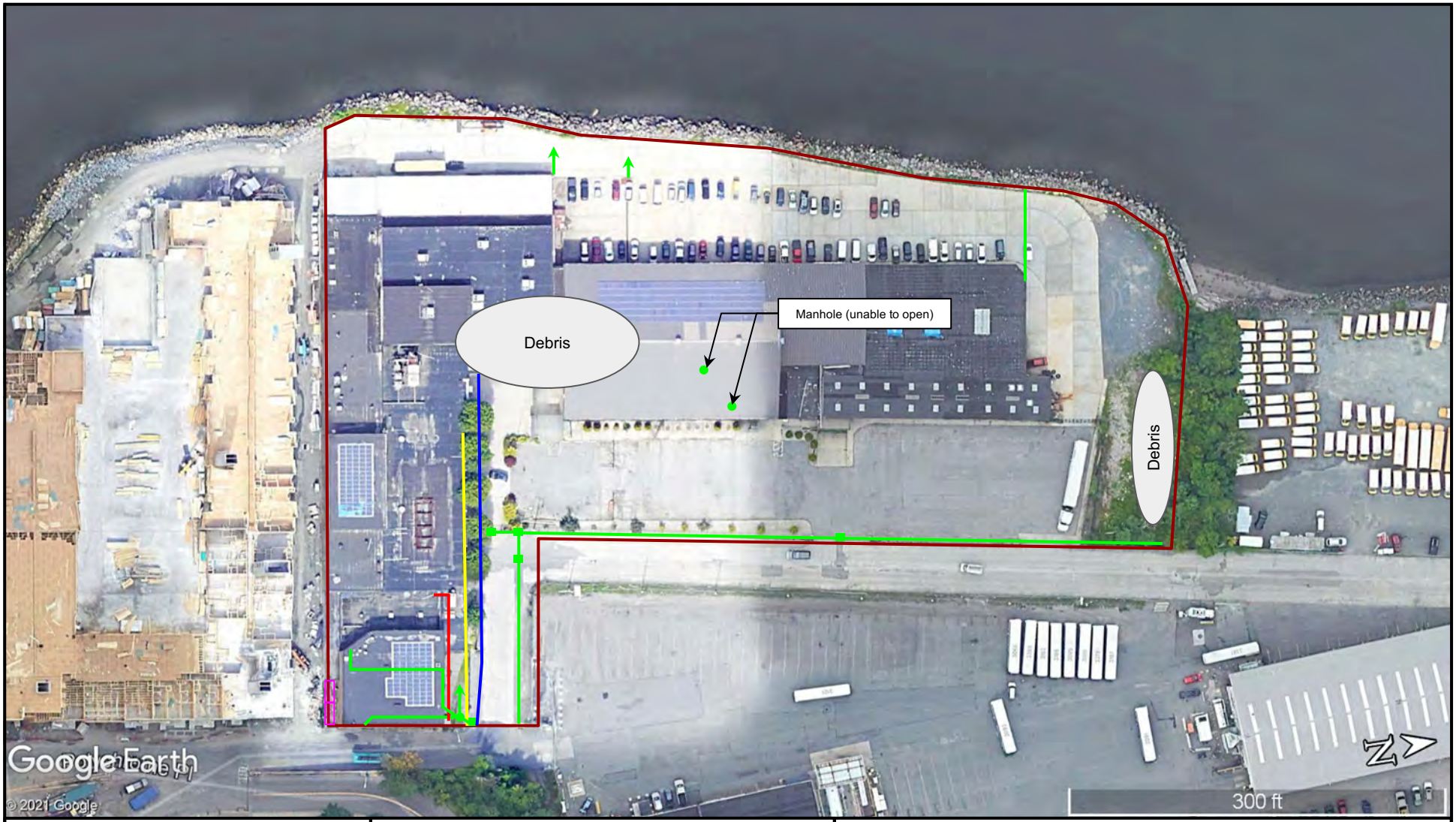
Subsurface Mapping Solutions
56-01 Marathon Parkway, # 765
Douglaston, New York 11362
Phone (347) 556-7787 * Fax (718) 261-1527
www.novagsi.com

Location Map

SITE:	**Industrial Site** 159 Alexander Street, Yonkers, New York 10701
CLIENT:	AKRF
DATE:	April 5th & 7th, 2021
AUTH:	Chris Steinley

LEGEND



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SURVEY PLAN

SITE:	**Industrial Site** 159 Alexander Street, Yonkers, New York 10701
CLIENT:	AKRF
DATE:	April 5th & 7th, 2021
AUTH:	Chris Steinley

LEGEND

- Survey Area
- Gas
- Sewer
- Water
- Electric
- Drain
- UST

GEOPHYSICAL IMAGES

Industrial Site

159 Alexander Street,
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April 5th & 7th, 2021

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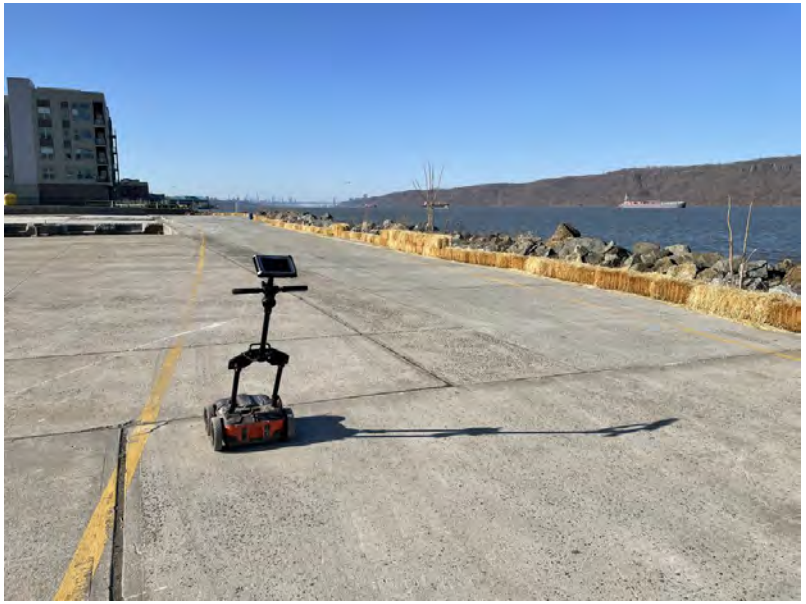

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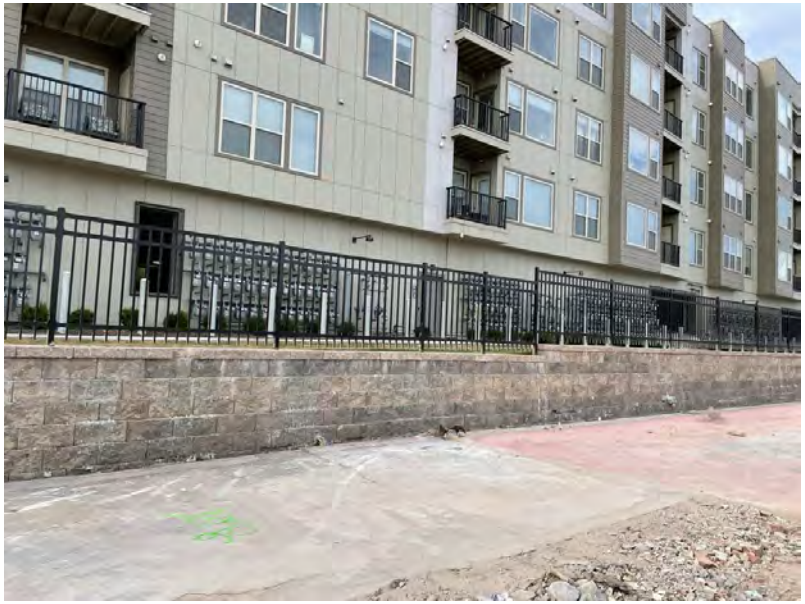

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