September 29, 2021

Mr. Sadique Ahmed
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233
Email: sadique.ahmed@dec.ny.gov

RE: Limited Soil Investigation Work Plan
Rockfarmer 37th Avenue
82-13 37th Avenue
Jackson Heights, Queens County, New York 11372
Block 1456, Lots 35 & 41
Brownfield Cleanup Program Site No. C241212
VERTEX Project Number: 48122

Dear Mr. Ahmed:

Vertex Engineering, PC (VERTEX) is pleased to submit this Limited Soil Investigation Work Plan for the Rockfarmer 37th Avenue property located at 82-13 37th Avenue in Jackson Heights, Queens County, New York (the Site). The Volunteers (37th Owner LLC; Horizon 37th Ave, LLC; and RFC Ketcham 37th Ave, LLC) are participating in the New York State Brownfield Cleanup Program (BCP) pursuant to a Brownfield Cleanup Agreement (BCA) executed on July 25, 2018. The site is identified with Site No. C241212.

1.0 Site Description

The Site consists of two contiguous parcels identified as Block 1456, Lots 35 and 41. The approximate site area is 20,000 square feet (0.46 acres), which is divided equally between the two lots.

The Site is improved with an approximately 108,000-square foot (above-grade), nine-story commercial office building, with ground-floor retail (Rite Aid, nail salon, and vacant space) and a two-level parking garage. The Site building is improved with a basement, which is occupied by office space, utilities and storage space. The Site building is serviced by municipal water (New York City Department of Environmental Protection (NYCDEP)), municipal sanitary and storm sewer (NYCDEP), natural gas (Consolidated Edison), and electric (Consolidated Edison). The building footprint covers the entire Site, and is surrounded to the south, east, and west by public sidewalks and roadways and to the north are residential structures.

2.0 Background

On June 11, 2021, VERTEX submitted Progress Report No. 21, which summarized the sub-slab depressurization system (SSDS) installation activities at the Site and extraction point soil screening results. As part of the soil screening activities during that reporting period, two soil samples (VTX-113 and VTX-114) were collected in the southeastern portion of the site building basement and analyzed for volatile organic compounds (VOCs). Soil analytical results identified detections of tetrachloroethene (PCE) at, 19 milligrams per kilogram (mg/kg) and 16 mg/kg, which are well below the NYSDEC Restricted Use Soil Cleanup Objective for Commercial Use (RUSCO-C) of 150 mg/kg; however, the concentrations exceeded the NYSDEC Restricted Use Soil Cleanup Objective for the Protection of Groundwater (RUSCO-GW) of 1.3 mg/kg. The soil analytical results are depicted on Figure 1.

In response to Progress Report No. 21, the NYSDEC issued a letter dated June 16, 2021, which requested the evaluation of soil and groundwater remedial actions at the Site. VERTEX submitted a response letter on July 14, 2021, which provided justification that the proposed SSDS would effectively remediate the isolated, low PCE concentrations identified in shallow, porous soil. In addition, the letter proposed the installation of six additional soil borings and soil sampling within the tenant space located in the southeastern portion of the Site building. The soil sampling was proposed to further evaluate soil conditions and extent of the potential chlorinated volatile organic compounds (CVOC) source area at the Site.

On September 2, 2021, the NYSDEC issued a letter requesting soil delineation. The letter approved the six soil borings proposed by VERTEX, along with three additional locations (proximity to VTX-113, proximity to VTX-114, and one between those two location). For each of the three additional borings, soil samples are to be collected at two-foot intervals to refusal to determine vertical extent of PCE impacts. Continuous soil screening is to be conducted and soil samples are to be collected from the bottom of each boring location and the depth with the highest photoionization detector (PID) reading. All soil samples are to be analyzed for VOCs. The scope of this Limited Soil Investigation Work Plan incorporates all the foregoing comments.

3.0 Limited Soil Investigation Work Plan

The scope of the Limited Soil Investigation will include the following:

1. VERTEX's drilling subcontractor will contact the New York one call system prior to initiating the drilling activities. VERTEX will also retain the services of a geophysics subcontractor to conduct a geophysical survey using ground penetrating radar (GPR) and electromagnetic evaluation to mark-out subsurface utilities, evaluate drains and subsurface piping, and "clear" any proposed soil boring locations prior to drilling.

2. Installation of nine soil borings (B-1 through B-9) utilizing hydraulic limited-access drilling equipment in the southeastern corner of the Site building basement. The soil borings installed in proximity to VTX-113 and VTX-114 will be installed approximately 12 inches

from the edge of the SSDS trench. Depths of soil borings will be as much as practically possible utilizing the limited-access equipment. As noted in the *Remedial Investigation Report* (VERTEX, June 11, 2020), as a result of having to utilize a limited-access rig for the drilling, the smaller, lower powered and lighter drilling equipment hit refusal at depths ranging from 1.0 to 12.0 feet below the basement slab and was unable to advance any of the soil borings to the depth of the groundwater table below the footprint of the site building (approximately 17.5 to 21.5 feet below the basement slab). The proposed boring locations are depicted on Figure 1. The location of the soil borings may need to be adjusted in the field, based on the findings of the geophysical evaluation and/or due to site access limitations (i.e., tenant operations, structural obstructions, etc.).

3. Soil samples will be collected continuously and screened in the field for the presence of total volatile organic vapors using a PID calibrated to 100 parts per million (ppm) by volume of isobutylene. The PID readings, soil lithology, and field observations will be documented in the field by VERTEX.

4. Sampling of soils at the requested intervals or at the highest PID reading at each of the soil boring locations. In accordance with the NYSDEC's September 2021 letter, soil samples will be collected at two-foot intervals at borings B-3, B-6, and B-8, to determine the vertical extent of PCE impacts in these areas. At all other soil boring locations, soil samples will be collected from the location of the strongest evidence of suspected impacts based on PID readings, odors, or staining and the bottom of each boring.

Investigative work will be performed in full compliance with applicable health and safety laws and regulations, including Site and Occupational Safety & Health Administration (OSHA) worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. A site-specific Health and Safety Plan (HASP) was prepared to guide the conduct of the work in the event that petroleum hydrocarbons and/or hazardous substances are encountered during the performance of the field activities.

During the limited soil investigation in the Site building basement, a Community Air Monitoring Plan (CAMP) will be implemented. All individuals not directly involved with the proposed work will be absent from the room in which the investigation activities are being conducted. Continuous monitoring locations for VOCs and particulates will be established to monitor potentially exposed individuals and adjacent occupied rooms. If total VOC concentrations opposite walls of occupied rooms or next to intake vents exceed 1 ppm, monitoring will occur within the occupied room. Background readings in the occupied rooms will be collected prior to commencement of the proposed investigation activities. If total particulate concentrations opposite the walls of the occupied rooms or next to intake vents exceed 150 micrograms per cubic meter (mcg/m^3), work activities will be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

All sampling will be conducted in accordance with NYSDEC *DER-10 Technical Guidance for Site Investigation and Remediation*, dated May 3, 2010, and Sampling Guidelines and Protocols, dated March 1991. Disposable nitrile gloves will be worn during the soil screening process and sample collection. The soil samples will be collected in dedicated laboratory-provided Encore samplers and laboratory-provided containers.

Equipment will be operated in accordance with the manufacturer's specifications, including calibration of all field instruments, which will be performed prior to the initiation of field work and on a schedule indicated by the manufacturer.

Excess soil will be placed in a sealed and labeled U.S. Department of Transportation (DOT)-approved 55-gallon drum pending off-site disposal at a permitted facility. Following the backfilling of the soil borings with imported ¾-inch clean stone, a minimum of four inches of concrete will be utilized to seal the boring at the top of the slab.

Following the soil sample collection, the sample containers will be secured, labeled, and placed in a storage/transportation cooler and cooled to acceptable temperatures (e.g., four degrees Celsius) with ice. Samples will then be transported by a field courier to the laboratory following proper chain of custody procedures. The courier will relinquish custody to the log-in sample custodian upon arrival at the laboratory.

All samples will be submitted under proper chain-of-custody protocols to Alpha Analytical, Inc. (Alpha) in Westborough, Massachusetts (New York Environmental Laboratory Approval Program (ELAP) No. 11627) for VOC analysis via United States Environmental Protection Agency (USEPA) Method 8260.

4.0 Reporting

VERTEX will prepare a Limited Soil Investigation summary report. The report will present the findings of the limited soil investigation and provide a recommendation for additional investigation and or a remedial strategy to address soil or groundwater concerns (if warranted). The report will include site location and sample location figures, color photographic documentation, summary of methods, laboratory reports and data summaries, and other pertinent support documentation as required by applicable NYSDEC regulations.

Soil analytical results will be compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives and appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives.

A thorough evaluation of the laboratory data will be completed and a DUSR will be prepared by a qualified, independent data validation expert. The DUSR will be prepared in accordance with *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* included in NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this Limited Soil Investigation Work Plan summary letter.

Sincerely,
Vertex Engineering, PC

Richard J. Tobia, P.E.
Technical Director

Attachments
Figure 1 – Proposed Soil Boring Location Map

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		RUSCO-I	RUSCO-C	RUSCO-RR	RUSCO-R	UUSCO
VC	Vinyl chloride	27	13	0.9	0.21	0.02
trans-1,2-DCE	trans-1,2-Dichloroethene	1000	500	100	100	0.19
cis-1,2-DCE	cis-1,2-Dichloroethene	1000	500	100	59	0.25
Carbon Tetra	Carbon tetrachloride	44	22	2.4	1.4	0.76
TCE	Trichloroethene	400	200	21	10	0.47
PCE	Tetrachloroethene	300	150	19	5.5	1.3

All concentrations in milligrams per kilogram (mg/kg)
Bold & Highlighted = Concentration exceeds NYSDEC soil cleanup objective
Note: For soil samples collected below the building footprint, sample depth is feet below basement slab.
For soil samples collected on building exterior, sample depth is feet below ground surface.

SCALE (FEET)
0 20 40

REMEDIATED

RF-5	
2/19/2019	
10.5-11.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTX-110	
9/27/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.003

RF-6	
2/21/2019	
6.5-7.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTX-111	
9/27/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0032

RF-9	
2/21/2019	
1.5-2.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	0.019
PCE	1.4

RF-9-PX	
9/27/2020	
3.0-3.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00074

RF-12	
2/21/2019	
8.0-8.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00036

VTX-103	
9/18/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.007

VTX-104	
9/18/2020	
1.5-2.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0039

VTX-102	
9/18/2020	
2.0-2.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00038

RF-1	
2/25/2019	
2.0-6.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0031

VTX-101	
9/18/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0024

VTX-112	
9/27/2020	
2.0-2.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0053

RF-10	
2/22/2019	
2.0-2.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.006

VTW-3	
2/14/2018	
15.0-15.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTX-105	
9/25/2020	
1.5-2.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00055

VTX-113	
5/11/2021	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.1
TCE	0.12
PCE	19

VTX-108	
9/25/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0003

RF-13	
2/21/2019	
2.5-3.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTX-107	
9/25/2020	
3.5-4.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0022

VTW-2		
2/14/2018		
	26.5-27.0	34.0-34.5
VC	ND	ND
trans-1,2-DCE	ND	ND
cis-1,2-DCE	ND	ND
Carbon Tetra	ND	ND
TCE	ND	ND
PCE	ND	ND

RF-11	
2/22/2019	
10.5-11.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTX-114	
5/11/2021	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.4
TCE	0.051
PCE	16

S-7	
2/25/2019	
33.5-34.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

RF-2	
2/25/2019	
1.0-2.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	0.00016
PCE	0.0084

VTX-109	
9/25/2020	
1.0-1.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

S-1	
2/22/2019	
31.5-32.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

RF-4	
2/25/2019	
9.0-9.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.0026

S-2	
2/22/2019	
32.0-32.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00027

RF-8	
2/22/2019	
8.5-9.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

S-3	
2/22/2019	
32.0-32.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

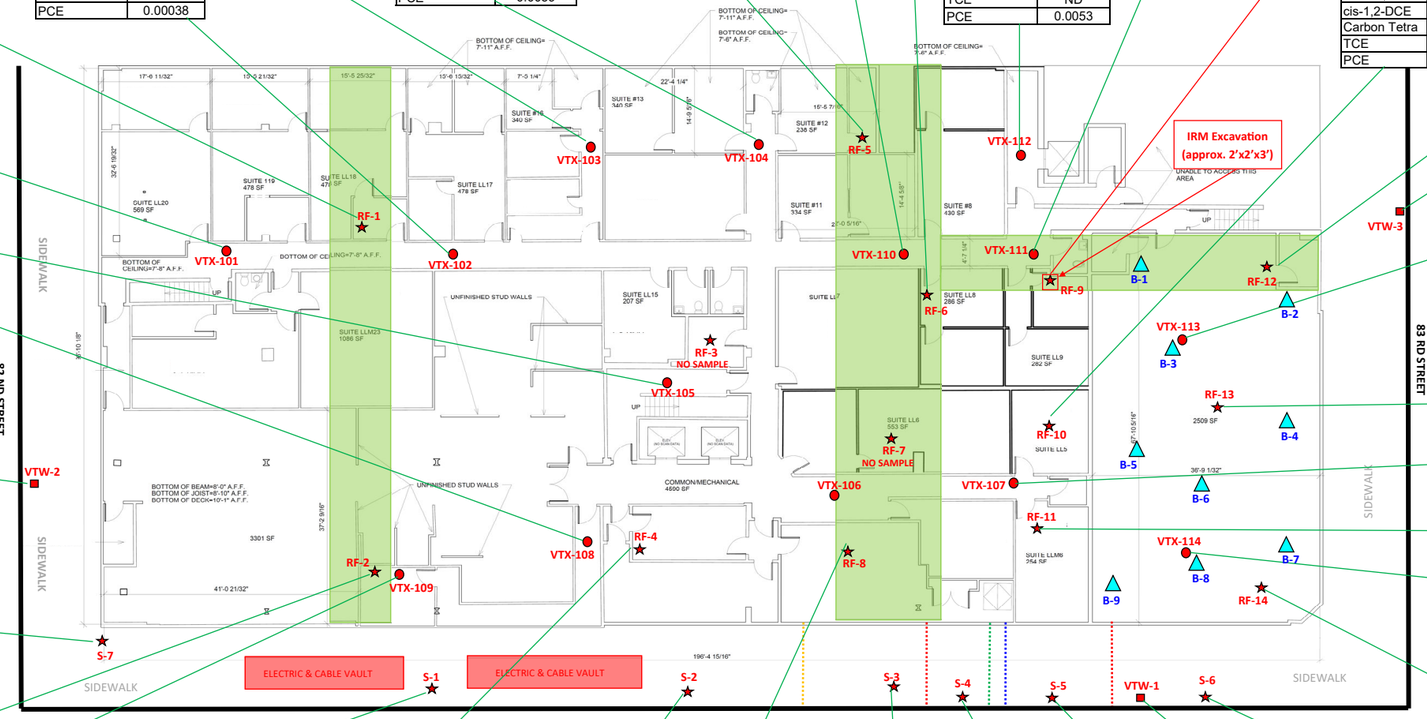
S-4	
2/21/2019	
29.5-30.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

S-5	
2/21/2019	
15.0-15.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.00028

S-6	
2/21/2019	
31.0-31.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTW-1		
2/14/2018		
	17.0-17.5	34.0-34.5
VC	ND	ND
trans-1,2-DCE	ND	ND
cis-1,2-DCE	ND	ND
Carbon Tetra	ND	ND
TCE	ND	ND
PCE	ND	ND

RF-14	
2/21/2019	
6.5-7.0	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.0024
TCE	0.00025
PCE	0.033



Map Source: *Existing Basement Floor Plan*, Existing Conditions Surveys Inc., 11/30/2017

SOIL SAMPLE (SEPTEMBER 2020 & MAY 2021)
SOIL SAMPLE (MARCH 2018)
SOIL SAMPLE (FEBRUARY 2019)
S-1 SOIL SAMPLE ID
PROPOSED SOIL BORING
FORMER DRYCLEANER LOCATION

PROPOSED SOIL BORING LOCATION MAP

82-13 37th AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC
147 WEST 35TH STREET, 19TH FLOOR
NEW YORK, NEW YORK 10001

FIGURE NO. 1

VERTEX Project No. 48122