

DT CONSULTING SERVICES, INC.

**REMEDIAL INVESTIGATIVE WORKPLAN
(REVISED)**

FOR

**230 Plaza LLC
Nanuet, Rockland County, New York 10954**

**BROWNFIELD CLEANUP PROGRAM (BCP)
Site Number C344083**

March 22, 2022

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1.0 INTRODUCTION AND PURPOSE

This Remedial Investigation Work Plan (RIWP) has been prepared to satisfy the investigation requirement of the New York State Department of Environmental Conservation (NYSDEC or “Department”) Brownfield Cleanup Program (BCP). The Subject Property, located at 214-250 East Route 59, Nanuet, Rockland County, New York (heretofore referenced as the Site or Subject Property) has been accepted into the BCP Program. Prior investigation activities have been conducted on the Site and the results of those investigations were submitted to the Department along with the BCP Application. As such, an approved RIWP is required prior to initiating remaining remedial investigation field activities. The expressed purpose of this work is to provide current soil vapor conditions beneath the Site structure and along the periphery of the property boundaries, to document the composition and characteristics of surface and subsurface soils, to document local groundwater quality conditions and direction of groundwater flow (if encountered), and to provide guidance on the selection and implementation of a Remedial Action program for the Site.

This RIWP is designed to focus on and address specific areas at the Site to gain current subsurface quality data as well as to document the environmental conditions at portions of the Site not previously investigated. The Site is a former dry-cleaning facility which operated in the retail plaza (Unit #228) from approximately 1985 to 2001. As more fully described in Sections 2 - 4 of this document, chlorinated solvents have been detected in the subsurface of the property as a result of historical Site use which resulted in the release of hazardous substances, including volatile organic compounds (VOCs). The past release of hazardous substances at the Site has resulted in:

- A potential threat to human health associated with potential exposure to the subsurface contaminated soils, soil vapor and groundwater.

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- A potential environmental threat associated with potential impacts of contaminants to the subsurface soils and groundwater.

All proposed work will be conducted according to a Site-specific Health and Safety Plan (HASP) and a Community Air Monitoring Plan (CAMP), as provided in Attachment A & B, respectively.

2.0 SITE INFORMATION

The Site contains two contiguous parcels which encompass an area of approximately 14.30 acres. The Site is identified as Section No. 64.06, Block 1, Lot 12. The property is improved with three one-story slab-on-grade structures constructed between 1974 and 1985. Areas surrounding the buildings include asphalt paved parking surfaces, concrete walkways and landscape spaces. The current use of the Site includes commercial/retail operations. The primary structure located at 220-250 East Route 59 is anchored by Kohl's and Bob's Discount Furniture stores. Smaller retail spaces are located in the central portion of the building with addresses ranging from 224 to 246 East Route 59.

The area surrounding the Site is primarily characterized by retail/ commercial development.

Location	Occupant
North	Freihofer Baking Company
South	East Route 59, beyond which are restaurants and a commercial retail plaza.
East	Commercial: stereo shop, restaurant, nail salon, tile store, doctor's office and office space
West	Commercial: Lites Plus and Safelite AutoGlass

Site topography is generally level and at grade with surrounding roadway, with a slight slope to the south. The Naurashaun Brook, which appeared intermittent and overgrown at the time of this investigation, borders the Site to the west. Based upon topography and surface water bodies located near the Subject Property, groundwater is theorized to flow in a south, southwesterly direction. Potable water is supplied by Suez Water of New York (Municipal). Sewer is reportedly provided by the Town of Clarkstown. Surface water runoff enters catch basins

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located throughout the property which discharge into a drainage swale located in the wooded, northern section of the Site. No groundwater supply wells were observed by representatives of this office during site inspections and no groundwater supply wells are known to be present or used on adjoining or nearby properties. A property location map and a Site (base) plan are presented as Figures 1 and 2, respectively.

An ASTM Phase I Environmental Site Assessment was conducted at the Site in August 2019. As a result, the following recognized environmental condition (REC) was identified at the site:

- According to the EDR report, a dry-cleaning facility had been previously located at #228 East Route 59. The UPS Store is currently located in this space. Youngs Gentle Touch Cleaners had been a RCRA Large Quantity Generator (RCRA LQG) of hazardous waste (dry cleaning solvents) from approximately 1985-2001. Later, during 2006-2007, Youngs was listed as a “non-handler” of hazardous waste. According to an inspection report dated March 3, 2015, Youngs had not been operating at this time. However, it is unclear at this time, the date Youngs ceased operation.

Subsequent subsurface investigations conducted in 2019 and 2020 indicate the following:

- Sub-slab soil and soil vapor impacts, including chlorinated VOCs (namely tetrachloroethylene and trichloroethylene) associated with the historic onsite dry-cleaning operations;

3.0 OBJECTIVES

The purpose of the Remedial Investigation at the Site is to further define the nature and extent of on-Site contamination and develop sufficient data for the assessment, selection and design of a Remedial Action Work Plan. Based upon the results of previous investigations, subsurface impacts (attributed to the historic chlorinated solvent use) have been identified on the Site. Furthermore, the concentrations of detected contaminants within the soil vapor appear to warrant mitigation. Existing soil, soil vapor and indoor air data (See Section 4.0) has defined a portion of the principal contaminant source area. However, additional investigative activities are necessary to characterize the source area and remaining portions of the property where investigation has not been conducted. Anticipated Remedial Actions for the Site include at minimum diagnostic testing and installation of a Sub-slab Depressurization System (SSDS) as an Engineering Control to mitigate vapor intrusion into the Site building. Site investigation activities will consist of the following specific tasks:

- Document the presence or absence of targeted contaminants in the subsurface;
- Collection and analysis of specific media including soil, soil vapor, groundwater (if encountered) and indoor air;
- Identification of contaminants of concern and;
- Identification of specific environmental media, characterization of exposure settings, potential migration pathways and affected receptors.

4.0 PREVIOUS INVESTIGATIONS AND EVALUATIONS

Three previous environmental investigations have been conducted on the Subject Property. Each of these investigations was performed to assess the environmental status of the Site by identifying existing or potential environmental conditions. The investigative and remedial activities conducted to date can be referenced in the Site Brownfield Cleanup Program (BCP) Application, October 2020.

4.1 Phase 1 Environmental Assessment, August 8, 2019

NB Environmental Services, LLC (herein NB) of Norwalk, Connecticut, performed a Phase I Environmental Assessment (ESA) on the Subject Property dated August 8, 2019 for BCPP Holdings, LLC. Based on the findings of NB's Phase I ESA, the following issues of potential environmental concern and/or recognized environmental conditions (RECs) associated with the Subject Property were identified:

- According to the EDR report, a dry-cleaning facility had been previously located at #228 East Route 59. The UPS Store is currently located in this space. Young's Gentle Touch Cleaners had been a RCRA Large Quantity Generator (RCRA LQG) of hazardous waste (dry cleaning solvents) from approximately 1985-2001. Later, during 2006-2007, Young's was listed as a "non-handler" of hazardous waste. According to an inspection report dated March 3, 2015, Young's had not been operating at this time. However, it is unclear at this time, the date Young's ceased operation.
- The historic operation of a dry cleaner and the on-Site use of dry-cleaning solvents represent a REC as defined by ASTM E-1527-13.

4.2 Limited Phase II Environmental Site Assessment, October 3, 2019

Based on the findings of the Phase I ESA, EMG of Ownings Mills, Maryland performed a Limited Phase II ESA on the Subject Property dated October 3, 2019 for GEJ Nanuet LLC. The EMG subsurface investigation included collection of interior soil and sub-slab soil vapor samples. Pertinent findings documented in the EMG Phase II ESA include the following:

4.2.1 Subsurface Investigation Activities

A total of two interior soil borings were installed in the rear of the former dry cleaner tenant space using manually tooling. The borings were advanced to a maximum depth of 5-feet below ground surface (bgs). Two soil samples were analyzed for VOCs via EPA test method 8260. A total of six sub-slab soil vapor samples were collected from the former dry cleaner tenant space and the two adjacent tenant spaces. Sub-slab soil vapor samples were analyzed for VOCs via EPA test method TO-15.

4.2.2 Subsurface Investigation Findings

Soil Analytical Results

Concentrations of chlorinated volatile organic compounds (cVOCs) were detected in two soil samples collected from beneath the building slab in the rear of the former dry-cleaning tenant space (Unit # 228). Of note, tetrachloroethylene (PCE) was detected in one soil sample at a concentration of 3.58 micrograms per kilogram ($\mu\text{g}/\text{kg}$) above the Unrestricted Use Soil Cleanup Objective (SCO) of 1.3 $\mu\text{g}/\text{kg}$. However, the concentration of PCE in soil did not exceed the Commercial SCO of 150 $\mu\text{g}/\text{kg}$. Additional chlorinated VOCs detected in subsurface soil did not exceed Unrestricted Use or Commercial Use SCOs. The soil sampling results are summarized in Table 1 and boring locations are depicted on Figure 3.

Soil Vapor Analytical Results

Concentrations of PCE and trichloroethylene (TCE) (4,590 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 1,190 $\mu\text{g}/\text{m}^3$, respectively) were detected in a sub-slab soil vapor sample collected from the northern portion of the former dry-cleaning tenant space (Unit # 228). The concentrations are above the New York State Department of Environmental Health (NYSDOH) mitigation threshold when compared to Matrix A and Matrix B, as appropriate. Lower concentrations of PCE (4.02 $\mu\text{g}/\text{m}^3$ to 68.1 $\mu\text{g}/\text{m}^3$) and TCE (1.09 $\mu\text{g}/\text{m}^3$ to 29.1 $\mu\text{g}/\text{m}^3$) were detected in soil vapor samples collected from the southern portion of the Unit #228 and the northern portions of Unit #'s 224 and 230. The soil vapor sampling results are summarized in Table 2. The soil vapor sample locations, along with elevated detections, are depicted on Figure 4.

4.2.3 Recommendations

Based on the findings of the Phase I ESA, EMG recommended an additional sampling including exterior soil borings in the front and rear of the former dry cleaner with collection of soil and groundwater samples. In addition, EMG recommended installation of a SSDS within the rear portion of the former dry cleaner tenant space (present day UPS Store).

4.3 Limited Phase II Environmental Site Assessment, March 2, 2020

DTCS conducted a Phase II ESA dated March 2, 2020. Pertinent findings documented in the Phase II ESA include the following:

4.3.1 Subsurface Investigation Activities

The subsurface investigation included the advancement of three exterior and two interior soil borings. In addition, three interior sub-slab soil vapor samples were collected along with an indoor and outdoor air samples. A Rockland County Department of Health (RCDOH) Resource Evaluation Permit was obtained prior to commencement of the subsurface investigation. Additionally, boring locations were pre-cleared using ground penetrating radar equipment (GPR) prior to boring advancement.

The exterior soil borings were advanced using a direct push Geoprobe drill rig. Interior soil borings were advanced using 1.25-inch macro drill rids manually advanced using a slide weight. Soil samples were collected from three exterior and two interior borehole locations continuously from grade to a maximum depth of 20 feet bgs where bedrock resistance was encountered.

As detected during this investigation, the lithology of overburden materials encountered at the facility can be characterized as mixed fill (sandy loam), underlain by organics and sand. All soil cores were screened with a PID for VOCs upon removal from the subsurface. The headspace screening yielded non-detect responses within each soil core on the day of the survey. Saturated soils (typically an indicator of groundwater) were not encountered in the soil borings advanced at the Subject Property. Based on the absence of shallow groundwater prior to boring termination, groundwater samples were not collected from the Site.

Soil samples were collected from the bottom two feet of each soil core location as obvious impacts were not encountered. A total of five soil samples were analyzed for the full list of VOCs via EPA test method 8260.

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A total of four sub-slab soil vapor points were installed at the Site. The soil vapor points were constructed by drilling a 5/8-inch hole through the slab and installing brass pins recessed in the slab sealed with a silicon sleeve and covered with a protective flush mount stainless steel cover (approximately 1.5-inch diameter). The sub-slab soil vapor points were completed as permanent flush mount sample locations. Following the vapor point construction, a MiniRae (which registers airflow below 0.2 liters per minute) was attached to the polyethylene tubing and a minimum of three sample volumes were purged from each point. Soil vapor samples were collected for analysis with 6-liter SUMMA canisters equipped with a laboratory calibrated flow control device to facilitate the collection of the samples for a 2-hour sample duration time. As a quality assurance/quality control measure, an inert tracer gas (helium) test was completed before and after sampling to document that the soil vapor sampling points were properly sealed preventing subsurface infiltration of ambient air into the sample chain. The soil vapor samples were analyzed for VOCs via USEPA Method TO-15.

An indoor air sample, designated IA-1, was collected from the rear portion of the UPS Store (Unit #228) at a height of approximately 4-feet from the ground surface. An outdoor air sample, designated OA was collected from the rear exterior area of the UPS Store (Unit #228) at a height of approximately 3-feet from the ground surface. Both samples were collected for analysis with 6-liter SUMMA canisters equipped with a laboratory calibrated flow control device to facilitate the collection of the samples for a 2-hour sample duration time. The air samples were analyzed for VOCs via USEPA Method TO-15.

4.3.2 Subsurface Investigation Findings

Soil Analytical Results

DTCS concluded that most all soil boring locations were returned with non-detectable concentrations of cVOCs with the exception of Soil Boring SB-4. SB-4

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was placed adjacent to the assumed locations of the equipment utilized during the historic dry-cleaning operations conducted on-Site. Technical data generated for Soil Boring SB-4 revealed the presence of PCE above unrestricted, but below commercial SCOs. The soil sampling results are summarized in Table 3 and boring locations are depicted on Figure 3.

Soil Vapor Analytical Results

Significant concentrations cVOCs including, but not limited to cis-1,2-Dichloroethylene (DCE), PCE, TCE and vinyl chloride (VC) were reported within each sub-slab soil vapor sample collected on-Site. The highest cVOC concentrations including DCE (300,000 $\mu\text{g}/\text{m}^3$), PCE (2,200,000 $\mu\text{g}/\text{m}^3$), TCE (750,000 $\mu\text{g}/\text{m}^3$) and VC (17,000 $\mu\text{g}/\text{m}^3$) were all reported in SV-3 collected in the rear of the former dry cleaner tenant space #228 (present day UPS Store). When compared with indoor air concentrations, the sub-slab cis- 1,2-DCE, PCE, TCE and vinyl chloride soil vapor concentrations warrant “Mitigation” based on evaluation of the appropriate NYSDOH Final Guidance on Soil Vapor Intrusion matrices. The soil vapor sampling results are summarized in Table 4. The soil vapor sample locations, along with elevated detections, are depicted on Figure 4.

Note that the substantial difference between soil vapor detections during the 2019 and 2020 sampling events is likely the result of seasonal fluctuations as the 2019 sampling event was performed in September, while the 2020 sampling event was conducted in January. As similar methodologies were utilized, the 2020 sampling event is presumed to be the more likely representation of potential vapor concentrations as the monitoring was performed within the heating season when soil vapor have the greatest tendency to accumulate.

Indoor and Outdoor Air Analytical Results

The results of indoor air sampling indicated that twenty-eight VOCs are present within both indoor air and outdoor air samples collected on-Site. Chloroform and

benzene were both detected in indoor air above the EPA Target Indoor Air Concentrations for Industrial/Commercial properties. Neither compound was detected in sub-slab soil vapor. Accordingly, the indoor air concentrations are unlikely associated with a vapor intrusion condition. The concentrations of cis-1,2-DCE, PCE, TCE and vinyl chloride were slightly higher in the indoor air sample as compared to the background outdoor air concentration. None of the indoor air concentrations were above the EPA Target Indoor Air Concentrations for Industrial/Commercial properties. As indicated in Table 5, TCE was detected in the indoor air sample at a concentration of 0.84 $\mu\text{g}/\text{m}^3$, and PCE was detected at a concentration of 6.1 $\mu\text{g}/\text{m}^3$. All such concentrations fall below NYSDOH's air guideline values of 2 $\mu\text{g}/\text{m}^3$ for TCE and 30 $\mu\text{g}/\text{m}^3$ for PCE. The indoor air sampling results and comparison standards are summarized in Table 5. The indoor air sample locations, along with elevated detections, are depicted on Figure 5.

4.4 DATA ASSESSMENT AND NEEDS

Based upon the results of previous investigations, subsurface impacts (attributed to the former onsite dry cleaner) have been identified on the Site. The nature and extent of soil and sub-slab soil vapor impacts have not been fully defined within the building or along the property boundaries. To assist in determining the potential for off-Site contaminant migration, a subsurface soil vapor study along the periphery of the Subject Property boundaries will be conducted as part of the proposed RI. Groundwater does not appear to be present above bedrock at the Site; however, additional efforts will be made to attempt to collect groundwater samples, if encountered.

5.0 REMEDIAL INVESTIGATION APPROACH

The scope of the investigation program is directed at providing sufficient information that will complete data gaps in historical Site surveys. Ultimately,

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the goal of this RI is to delineate cVOC impacted soil and soil vapor, to evaluate and characterize Site soil and groundwater (if encountered), and evaluate indoor air quality so that a remedial program, can be selected, and implemented. The RI objectives and methods have been developed in accordance with the *NYSDEC Brownfield Program Cleanup Guidance* (NYSDEC May 2004); relevant provisions of Department of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation May 2010*, and NYSDEC's Part 375 Remedial Programs, *Sampling, Analysis, And Assessment of Per- And Polyfluoroalkyl Substances (PFAS)*, June 2021. A Site and contaminant specific HASP and Community Air Monitoring Plan (CAMP) have been prepared for the Site is included as Attachments A and B, respectively.

Although the scope of work as described herein provides specific locations for soil, groundwater (if encountered), soil vapor and indoor air sampling locations, additional testing locations may be added or otherwise adjusted during the course of work, as warranted to define the limits of impact. Figure 6 shows the proposed soil, groundwater (if encountered), soil vapor and indoor air sampling locations for this Site investigation work plan.

Soil Sampling and Analysis

A direct-push drilling rig (Geoprobe) will be used to advance a minimum of eight exterior and four interior soil borings (See Figure 6). All interior soil borings will be advanced using a Geoprobe 420M (or equivalent) limited access probe. The soil boring locations were selected to fill data gaps from the October 2019 and March 2020 subsurface investigations which targeted the location of the former dry cleaner and adjacent tenant's spaces. The boring locations were selected to provide good spatial coverage of the property to define the nature and extent of cVOC impacts at the Site, as well as to fully characterize site conditions. Upon retrieval from the four or five-foot sampler equipped with an acetate liner, the collected sample shall be placed in laboratory supplied glassware, labeled, and

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readied for transport to the laboratory for analysis. The sampling tubes and tools used to collect the soil samples will be decontaminated between each sampling location using a detergent wash and potable water rinse. Soil sampling will be conducted continuously from the surface to a maximum depth of approximately 30 feet below grade, the shallow groundwater table, or refusal, whichever is encountered first.

An on-Site Geologist will prepare geologic logs that will include the boring identification, depth interval, soil descriptions, moisture, and other notable features. Soil samples retrieved from each boring will be screened in approximate two-foot intervals for organic vapors using a field calibrated PID equipped with a 10.2 electron volt lamp. The PID probe will be inserted into the headspace of each sample bag and the maximum reading will be recorded. The sample from each boring with the highest PID reading will be submitted for laboratory analysis. Selected samples corresponding to the water table or capillary zone above the water table may be submitted for laboratory analysis if there is no indication of the presence of subsurface contamination based on visual and and/or PID measurements. A deep sample at the boring termination depth will be collected for laboratory analysis from the two interior borings advanced in the locations of prior borings SB-1 (2019) and SB-4 (2020).

Selected samples will be submitted to a New York State Department of Health (NYSDOH)-approved laboratory for analysis of VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), Target analyte list (TAL) metals (USEPA Various Methods), pesticides (USEPA Method 8081), polychlorinated biphenyls or PCBs (USEPA Method 8082), and Per- And Polyfluoroalkyl Substances or PFAs (USEPA Method 537.1) cyanide, and 1, 4-dioxane with reporting to be submitted in an EQUIS-ready format. All analyses will be performed by NYSDEC Analytical Services Protocol (ASP) with Category B deliverables. Sample collection and analysis will be in accordance with the methods described

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in the Quality Assurance/Quality Control (QA/QC) Plan as described in Section 6 of this report. Field quality control measures including trip and field blanks will be collected and submitted to the chemical laboratory for analysis. These control measures are described in Section 6 of this report.

Excess soils that are not observably impacted from the sample cores will be used to backfill borings not converted into monitoring wells. Any other residual drilling cuttings will be containerized in 55-gallon drums as Investigation Derived Waste (IDW) for future off-Site disposal. All boring locations will be measured and plotted on a scaled base map.

Ground Water Sampling and Analysis

If groundwater is encountered before bedrock refusal, six of the twelve soil borings will be converted to permanent 1-inch PVC monitoring wells. The well screen will extend a minimum of 2-feet above the measured water table to account for seasonal variability in groundwater levels. If groundwater is not detected within overburden materials on-Site, and no contamination is identified in the soil, DTCS will assess the need for a bedrock well investigation with the NYSDEC. Annulus around the well screen will be filled with filter sand top 2-feet above the screen and sealed with a 1-2 foot bentonite seal. Each well will be completed at the surface with solid PVC riser pipe, flush mounted in a steel road box or stickup protective cover set in concrete. Prior to sampling, each well will be developed by pumping a minimum of three well volumes to remove entrained sediments. All development water will be containerized in 55-gallon drums as IDW for future off-Site disposal.

Following installation, each well will be sampled using the USEPA Low Flow method. Sampling will be conducted using the following protocol:

- Basic climatological data (e.g., temperature, precipitation, etc.) and all field observations will be recorded in the field logbook. Groundwater

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sampling will begin at the potentially least contaminated well (as determined from well location and/or previous data) and proceed to the potentially most contaminated well. New nitrile gloves will be worn by the sampler at each well location.

- The protective casing on the well will be unlocked, the air in the well head will be screened with the PID, and the static water level (relative to the top of the casing) will be measured with a decontaminated water-level meter. Polyethylene tubing will be slowly lowered until reaching two to three feet off the bottom to prevent disturbance and re-suspension of any sediment present in the bottom of the well.
- Water level measurements will be recorded to the nearest 0.01 foot prior to ground water sampling. The well would then be pumped at a rate of 200 to 500 milliliters per minute, and the water level will be measured approximately every three to five minutes to ensure that stabilization (drawdown of 0.3' or less) is achieved.
- All groundwater samples will be collected in a manner consistent with NYSDEC sample collection protocols. Each groundwater sample will be placed into, appropriately labeled, containers provided by the laboratory. All samples will be maintained at appropriate cold temperatures.
- The protective cap on the well will be replaced and locked following sampling, and the field sampling crew will move to the next most contaminated well and the process will be repeated.

If groundwater is encountered, one round of groundwater samples will be collected from the new monitoring wells and will be analyzed for VOCs plus 1,4-dioxane (USEPA Method 8260), SVOCs (USEPA Method 8270), Target analyte

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list (TAL) metals plus cyanide (USEPA Various Methods), pesticides (USEPA Method 8081), polychlorinated biphenyls or PCBs (USEPA Method 8082), and Per- And Polyfluoroalkyl Substances or PFAs (USEPA Method 537.1M), cyanide, and 1, 4-dioxane with reporting to be submitted in an EQUIS-ready format. All analyses will be performed by NYSDEC Analytical Services Protocol (ASP) with Category B deliverables. Field quality control measures including trip and field blanks will be collected and submitted to the chemical laboratory for analysis. These control measures are described in Section 6 of this report. All well locations will be measured and plotted on a scaled base map.

Waste Handling

All investigation-derived waste (IDW) will be contained on-Site in a secure area for appropriate characterization and disposal by DTCS. Soil cuttings, personal protective equipment, and spent disposable sampling materials will be segregated by waste type and placed in DOT-approved 55-gallon steel drums. All decontamination water, purged groundwater, and drilling water will be stored in 55-gallon drums as necessary. Field staff will maintain an inventory of all waste storage vessels. All storage vessels will be appropriately labeled with the contents, generator, location, and date.

Relative Groundwater Elevation Survey

If groundwater is encountered, a relative groundwater elevation survey will be conducted using the measured groundwater depths and surveyed top of casing elevations, compared to a relative arbitrary benchmark of 100 feet above mean seal level (amsl). The data will be used to establish the groundwater flow direction at the Site. A groundwater elevation contour map will be prepared for inclusion in the RIR.

Sub-Slab Soil Vapor Sampling and Analysis

A total of six interior sub-slab soil vapor sampling points will be installed in the former dry cleaner space and tenant spaces to the east and the west of the former

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dry cleaner space in an attempt to delineate the extent of cVOC vapors beneath the building. One sample will be collected in the southern portion of the UPS Store (Unit #228); one sample will be collected from the Music store (Unit # 234); one sample will be collected from Kerry Nail & Spa (Unit # 236); one sample from Palisades Federal Bank (Unit # 240); and two samples from the eastern portion of the Kohl's department store space. The soil vapor points will be installed by core drilling a small diameter hole (5/8") completely through the slab and installing a brass vapor pin equipped with an airtight silicon sleeve. The pins will be recessed beneath the slab and fitted with stainless steel flush-mount threaded covers set in 1.5-inch cavities.

Additionally, up to eight exterior soil vapor points will be installed along the property boundary to assess potential offsite migration of cVOCs (See Figure 6). The soil vapor points will be installed by advancing 1.25-inch solid stem direct push sample rods to a depth of 5-feet bgs. A dedicated soil vapor implant will be installed at the base of the borehole and connected to the surface with dedicated high density polyethylene tubing. The annulus around the vapor implant will be filled with No. 2 filter sand to approximately 3-feet bgs. The remaining annulus will be sealed with hydrated bentonite to the surface.

Following installation, a MiniRae photoionization detector (which registers airflow below 0.2 liters per minute) will be attached to the vapor points using high density polyethylene tubing and a minimum of three sample volumes will be purged from each point. Total VOC readings will be recorded for each soil vapor point and used as a basis for comparison with laboratory analytical data.

The interior and exterior soil vapor samples will be collected for analysis in batch clean SUMMA canisters equipped with a laboratory calibrated flow control device to facilitate the collection of the samples for a 8-hour sample duration time. As a quality assurance/quality control measure, an inert tracer gas (helium)

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test will be completed before and after sampling to document that the soil vapor sampling points were properly sealed preventing subsurface infiltration of ambient air into the sample chain. Following sampling, the pressure of the SUMMA canisters will be recorded. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, and chain of custody protocols. Note that all sub-slab, indoor and ambient air samples will be collected concurrently for comparison purposes.

The soil vapor samples will be submitted to a NYSDOH-approved laboratory for analysis of VOCs by EPA Method TO-15. Sample collection and analysis will be in accordance with the methods described in the Quality Assurance/Quality Control (QA/QC) Plan as described in Section 6 of this report. All soil vapor sampling locations will be measured and plotted on a scaled base map. The soil vapor sampling data will be summarized in the Remedial Investigation Report.

Indoor and Ambient Air Sampling and Analysis

A total of four indoor and one outdoor ambient air samples will be collected. One sample per retail space will be collected from the presently vacant store front (Unit #224), GameStop retail store (unit #230), the Music store (Unit # 234), and one sample from the eastern portion of the Kohl's department store space. The outdoor ambient air sample will be collected from an upwind location on the property. Prior to sample collection, a building chemical inventory screening will be performed to determine potential sources of VOCs in indoor air. Each sample will be collected at a height of 3-5 feet from the ground within the approximate breathing zone. Parameters including indoor and outdoor air temperature, wind direction and relative humidity will be noted during the sampling event. Note that all sub-slab, indoor and ambient air samples will be collected concurrently for comparison purposes.

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The air samples will be collected for analysis in batch clean SUMMA canisters equipped with a laboratory calibrated flow control device to facilitate the collection of the samples for an 8-hour sample duration time. Following sampling, the pressure of the SUMMA canisters will be recorded. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, vacuum of canisters before and after the samples are collected, and chain of custody protocols.

The air samples will be submitted to a NYSDOH-approved laboratory for analysis of VOCs by EPA Method TO-15. Sample collection and analysis will be in accordance with the methods described in the Quality Assurance/Quality Control (QA/QC) Plan as described in Section 6 of this report. All air sampling locations will be measured and plotted on a scaled base map. The air sampling data will be summarized in the Remedial Investigation Report.

Sub-slab Depressurization Pilot/ Diagnostic Testing

Pilot/diagnostic testing will be conducted to determine if installation of a SSDS can successfully mitigate the vapor intrusion concern identified within the building, pending the results of additional sub-slab soil vapor sampling described in this RIWP. The testing, to be performed after the concurrent sub-slab soil vapor, indoor and ambient air sampling is complete, will include installation of four to six vapor extraction points throughout the building. The tentative locations of the vapor extraction points are depicted in Figure 6 but are subject to change based on field observations. The new vapor extraction points will be installed by core drilling a 3 and 5/8-inch diameter core through the existing concrete slab. Soils and/or subsurface aggregate will be removed from the extraction well and the cavity will be backfilled with 1 to 1.5-inch gravel. The soils will be placed in 55-gallon drums pending characterization sampling for off-Site disposal. The SSDS vapor extraction points will be constructed with a 3-inch

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PVC coupling set and sealed in the cored hole and connected to 3-inch schedule 40 PVC riser pipe. The space between the cored slab and 3-inch PVC coupler will be sealed with RadonAway® Pro PGS joint sealant.

The pilot/ diagnostic testing will include pumping/ removing vapor from each of the vapor extraction points in a series of tests. During each test, the sub-slab soil vapor sample points installed for delineation purposes will be utilized as vacuum monitoring points. Additional temporary vacuum or permanent monitoring points will be installed strategically during the pumping tests to determine vacuum field extension and to identify short circuiting of the vacuum radius of influence (ROI). A GBR 76SOE radial blower fan capable of creating a maximum vacuum of 16-inches of water column (in-H₂O) and air flow of 155 cubic feet per minute (CFM) will be connected to each extraction pumping well to create the sub-slab vacuum. Extracted vapors will be routed through a 30-gallon carbon vessel to remove cVOCs. The extracted vapor effluent will be continually monitored with a MiniRae PID during testing to ensure no accumulation of detectable VOCs within the building.

During the pilot test, a number of parameters will be monitored to evaluate performance-related measurements. Velocity measured in feet per minute (FPM) and temperature (Degrees Fahrenheit) will be measured using a Dwyer® Air Velocity Meter. The velocity will be converted to a flow rate in CFM. Extracted vapor vacuum readings will be collected in in-H₂O using a Dwyer Magnehelic® differential pressure gauge and converted to inches of mercury (in-Hg). Sub-slab vacuum readings will be collected in in-H₂O using an Infiltec® DM1 micromanometer. Total VOC readings pre- and post-carbon treatment will be collected using a MiniRae PID. In addition, effluent samples (up to four total) will be collected from a sample port, prior to carbon treatment. The samples will be collected in batch clean SUMMA canisters and analyzed for CVOCs by EPA Method TO-15. The purpose of the effluent samples is to determine the

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anticipated CVOC mass removal rate and whether carbon treatment will be necessary for final system design.

The data gathered during the pilot/ diagnostic testing will be evaluated by a NYS Professional Engineer to determine final system design. A summary of pilot/ diagnostic testing data will be included in the Remedial Investigation Report and the proposed system design will be included in the Remedial Action Work Plan.

6.0 QUALITY ASSURANCE PROJECT PLAN

As stated previously, the goals of this RI Work Plan is to delineate cVOC impacted soil and soil vapor, to evaluate and characterize Site soil and groundwater (if encountered) and evaluate indoor air quality. Additionally, the RIWP will provide diagnostic data to be used in the design of a SSDS to address the suspected vapor intrusion concern in the building. Therefore, this Quality Assurance Project Plan (QAPP) has been developed to establish the procedures and protocols for collection and laboratory analysis of samples associated with the completion of the BCP RI element on-Site. Project management/organizational responsibilities will be performed under the direction of Deborah J. Thompson.

6.1 Quality Assurance/Quality Control (QA/QC) Objectives

The NYSDEC Analytical Services Protocol (ASP) provides levels of quality for laboratory testing as they apply to remedial investigation and construction activities. As such, the NYSDEC ASP will be followed during the course of Site investigation/remediation on the Subject Property. The overall data quality objectives of the project are:

- To ensure that samples collected are representative.

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- To provide detection limits for the selected analytical methods, which are below the established cleanup objective or regulatory standards.
- To measure and document precision and accuracy using procedures established by the laboratories, NYSDOH Environmental Laboratory Approval Program (ELAP) and USEPA approved analytical methods.
- To ensure that a NYSDOH ELAP and NYSDOH ELAP CLP certified laboratory will conduct all soil vapor groundwater analyses.

6.2 Analytical Methods/Quality Assurance Summary

- *Matrix type:*
Soil, soil vapor, indoor air and groundwater (if encountered)
- *Number or frequency of samples to be collected per matrix:*
Variable, pending field conditions.
- *Number of field and trip blanks per matrix:*
Groundwater – 1
- *Analytical parameters to be measured per matrix:*
Volatile organic compounds (soil, soil vapor, indoor air and groundwater)
Semi-volatiles, TAL Metals, PCBs, pesticides/herbicides and PFOAS (soil and groundwater)
- *Analytical methods to be used per matrix:*
EPA Method TO-15 (soil vapor and indoor air)
EPA Test Methods 8260, 8270B/N, 6010/7470/7471, 8082, 537/ 537.1
(groundwater)

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- *The number/type of matrix spiked, duplicate and blank samples to be collected:*

Dependent upon the total number of samples of each matrix to be analyzed but, there will be at least one split per matrix.

6.3 Field Quality Control Samples

Field quality controls for laboratory confirmation samples include the collection and analysis of field duplicate and equipment rinsate samples. The frequency of collection for the specified QC field samples is as follows:

- ✓ A trip blank will be prepared before the sample bottles are sent by the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for VOC is planned (water matrix only).
- ✓ One equipment blank (rinsate) sample per day or one per 20 samples; whichever is more frequent.

6.4 Field Sampling Procedures

Sampling/Analytical procedures are described in detail in the RI Work Plan as outlined above and will not be reiterated in this QAPP. The Work Plan also includes site maps and sampling diagrams as well as details for sampling implementation, decontamination, and waste management.

Sample Containerization

Analysis	Bottle Type	Preservative	Holding Time
<i>Soil Samples</i>			
VOCs & 1,4-dioxane (VOA – 8260)	40 ml x2 with septum cap	Deionized water (x2) Methanol (1)	14 days
SVOCs (8270)	1 8 oz glass	None	7 days (until extraction, 40 days extracted)
Metals ¹	1 8 oz glass	None	6 months Mercury, 26 days
PCBs/ Pesticides/ Herbicides (8082/ 8081/ 8151)	1 8 oz glass	None	7 days (until extraction, 40 days extracted)
PFOAS (537M)	(2) 8 oz HDPE	None	14 days
<i>Groundwater Samples</i>			
VOCs & 1,4-dioxane (VOA – 8260)	40 ml with septum cap	HCl	14 days
SVOCs (8270)	1 L glass	None	7 days (until extraction, 40 days extracted)
Metals ¹	1 L plastic	Nitric acid to pH <2	6 months Mercury, 26 days
PCBs/ Pesticides/ Herbicides (8082/ 8081/ 8151)	1 L glass	None	7 days (until extraction, 40 days extracted)
PFOAS (537M)	(2) 125 mL HDPE	None	14 days
<i>Soil Vapor & Indoor Air</i>			
VOCs GC/MS (TO-15)	1L or 6L Summa canister	None	7 days (until extraction, 40 days extracted)

- (1) Metals referred to the 24 metals and cyanide in the Target Analyte List, Methods 6010/7470/7471/9010.

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As all bottles will contain the necessary preservatives as shown above, they need only be filled. Each VOC 40ml vial must be filled to the brim with no air bubbles. The other sample jars should be filled to within an inch from the top for liquids, and to the brim for soils and sediment. PFA's sample jars will be filled first and kept separate from other, incompatible sampling jars/materials as per the Department's *Sampling, Analysis, And Assessment of Per- And Polyfluoroalkyl Substances*, June 2021. All samples will be preserved with ice during collection and shipment.

Sample Preservation

The samples collected for analysis will require preservation prior to shipment (as described above). Preservation of the sample ensures sample integrity and prevents or minimizes degradation or transformation of the constituents to be analyzed. Specific preservation requirements include proper handling, packaging in laboratory-supplied sample containers, and chilled to 4° Celsius (°C) for shipping to the contract analytical laboratory.

Documenting Field Samples

The DTCS Field Team will use field logbooks or specific field forms to record pertinent information regarding subsurface characteristics, field screening results, and confirmatory sampling activities. Field staff will record the project name and number, date, sampling personnel on site, other personnel present, weather conditions, and other relevant events to sampling activity in a chronological order. The field log book and/or analysis forms will be maintained in the project file.

6.5 Sample Custody

Chain-of-Custody Forms

Each sample will be recorded onto a chain-of-custody (COC) form. The form will include the project name and number, names of the field sampling personnel, the sample number, date and time the sample was collected, whether the sample is a

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composite or grab sample, sample location, number of containers per sample number, constituents to be analyzed, and pertinent comments. The form will document the date, time, and signature of person(s) relinquishing and receiving custody of the samples.

Sample Transportation to the Laboratory

Samples will be shipped for analysis to the laboratory either the day the samples are collected or within 24 hours following collection, except in the case of samples that are collected on Saturday. Samples will be transported by a laboratory supplied carrier service. If samples are collected on a Saturday, they will be stored by field personnel during the weekend and then readied for transport on Monday. The contract analytical laboratory will be required to perform the analyses on the samples within the allowable holding time proscribed for the analyses.

Laboratory Sample Custody

Upon arrival at the analytical laboratory, samples will be checked in by the sample custodian. The sample custodian will:

- Sign the COC form documenting receipt of the samples from the carrier;
- Verify that the number of samples received in the shipment agrees with the number listed on the COC form;
- Verify that the information on each bottle agrees with the information documented on the COC form; and
- Document on the COC form the integrity/condition (bottle intact, temperature, etc.) of all received samples.

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In the event of any discrepancy or problems associated with the shipment of samples for chemical analysis, the analytical laboratory project manager will immediately notify the field personnel. A unique laboratory sample number will be assigned to each sample. Pertinent information from the COC form and/or sample label (e.g., sample identification, sampling location, sampling date and time, sample description, and requested analyses) together with the date of sample receipt will be entered into the analytical laboratory's data management system which will be used to record the status of samples, their storage locations, and the analytical results. The analytical laboratory will have in-house COC procedures to ensure proper security of all samples.

Laboratory Selection

The laboratory chosen for the project will be certified, and maintain certification, under the NYSDOH ELAP and NYSDOH ELAP CLP for analyses of solid and hazardous waste. DTCS has contracted with York Analytical Laboratories, Inc. located in Stratford, CT to perform laboratory services for this Work Plan.

6.6 Data Reduction, Verification and Reporting

Verification of data obtained from sampling will be performed by the Project Manager who will determine the validity of the data by comparing the actual procedures used for field measurements, sampling, and custody, as documented on forms and in the field log book, with those prescribed in the work plan and/or approved by the Project Manager.

6.7 Data Usability Summary Report

As part of this Remedial Investigation Work Plan, a Data Usability Summary Report or DUSR will be prepared to summarize the soil and groundwater sampling and analytical results for the Site. The primary objective of the DUSR

is to determine whether the analytical data meets Site specific objectives for data quality and data use.

The DUSR will be prepared following the guidelines provided in Department of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*, Draft, December 2002, Guidance for the Development of Data Usability Summary Reports. The complete validated analytical results and Form 1s will be provided in the DUSR during reporting of the remedial investigation.

6.8 Electronic Data Deliverables

The RIR will be provided to NYSDEC and DOH as an electronic PDF report upon completion of the RI field investigation. All analytical data will be summarized in data tables compared to applicable regulatory standards, along with complete laboratory analytical reports. Scaled site plans will also be included in the RIR.

7.0 HUMAN HEALTH EXPOSURE ASSESSMENT

Site data will be evaluated to determine whether human receptors, both on and off Site are potentially exposed. The purpose of the exposure assessment will be to qualitatively determine the route, intensity, frequency and duration of actual or potential exposures of human to site-related chemicals. The assessment will also describe the nature and size of the population potentially exposed to the contaminants.

Laboratory analytical reporting on soil, groundwater (if encountered), soil vapor and indoor air will be compared to applicable health-based screening criteria:

- **Soil**
Soil analytical results will be compared to NYSDEC's Subpart 375-6: Remedial Program Unrestricted Soil Cleanup Objectives and the NYSDEC Sampling, Analysis, and the NYSDEC Assessment of Per- And Polyfluoroalkyl Substances (PFAS), June 2021.
- **Groundwater**
Groundwater (if encountered) analytical results will be compared to NYSDEC Guidance Values as referenced in Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 for class GA groundwater and the NYSDEC Sampling, Analysis, And Assessment of Per- And Polyfluoroalkyl Substances (PFAS), June 2021.
- **Soil Vapor & Indoor Air**
The sub-slab soil vapor and indoor air sampling results will be compared to the compounds listed in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006 and the revised NYSDOH Decision Matrices dated May 2017.

The comparison of analytical result to the applicable screening values will be utilized to tentatively identify contaminants of potential concern.

8.0 FISH AND WILDLIFE EXPOSURE ASSESSMENT

A Fish and Wildlife Resource Evaluation (FWRIA) will be completed to provide an initial screening of potentially affected fish and wildlife resources in connection with the site. The first step of the FWRIA process, resource characterization, will be completed as part of the Site investigation scope. Resource characterization includes the following basic steps:

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- Identify fish and wildlife resources for the area within a one-half mile radius of the site, based on NYSDEC records and knowledge of the site area.
- Identify contaminant migration patterns that may potentially expose fish and wildlife resource to site-related contaminants.
- Identify specific contaminants of ecological concern.
- Draw conclusions regarding potential adverse effects.

The findings of the initial FWRIA phase will be employed to determine whether it is likely that the commercial Site has a negative effect on local wildlife and related habitats.

9.0 REMEDIAL INVESTIGATION REPORT

Following the completion of the proposed sampling, analysis and data evaluation, a Remedial Investigation Report will be prepared that presents the findings of the investigation. The following information will be included in the RI Report.

1. A narrative discussion of methods and results. Work completed under the approved RI Work Plan will be described, including the methods employed for sample collection and laboratory analysis.
2. This final remedial investigation will further define the nature and extent of soil and groundwater (if encountered) contaminants. Sub-slab soil vapor sampling will provide building-wide soil vapor concentrations. Indoor air sampling will identify current exposures within the existing structure. Exterior perimeter soil vapor sampling will assess potential offsite migration of cVOCs. Indoor air and soil vapor data will be

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compared to NYSDOH Vapor Intrusion Guidance Matrices. A comparison with the NYSDOH Vapor Intrusion Guidance Matrices, along with diagnostic data collected during SSDS diagnostic testing, will be used to determine the appropriate design of an active SSDS. Soil and groundwater (if encountered) sampling and analysis will provide current concentrations present in both media and will provide data on other potential contaminants of concern not previously investigated.

3. **Hydrogeologic Data.** Hydrogeologic factors and their influence on the migration and distribution of contaminants will be discussed if groundwater is encountered. Supporting data including groundwater elevation data and maps displaying groundwater analytical results, with text boxes depicting contaminant concentrations at each monitoring point will be prepared for the inclusion in the final RI Report.
4. **Standards and guidance that pertain to the sampled Site media will be identified and listed in summary tables along with the analytical results for each medium. Any exceedances encountered above regulatory standards will be indicated on the tables and discussed in the technical overview.**
5. **Human Health Exposure Assessment.** An assessment of potential exposure scenarios will be presented in the context of the Site's existing and future contemplated use. Exposure scenarios will be addressed both on and off-Site in the assessment.
6. **Fish and Wildlife Resources.** Area fish and wildlife resources will be identified and the overall habitat value for the site will be discussed. The site's affect on the overall habitat value for the area based on current conditions and the future anticipated use will be included the resource assessment.

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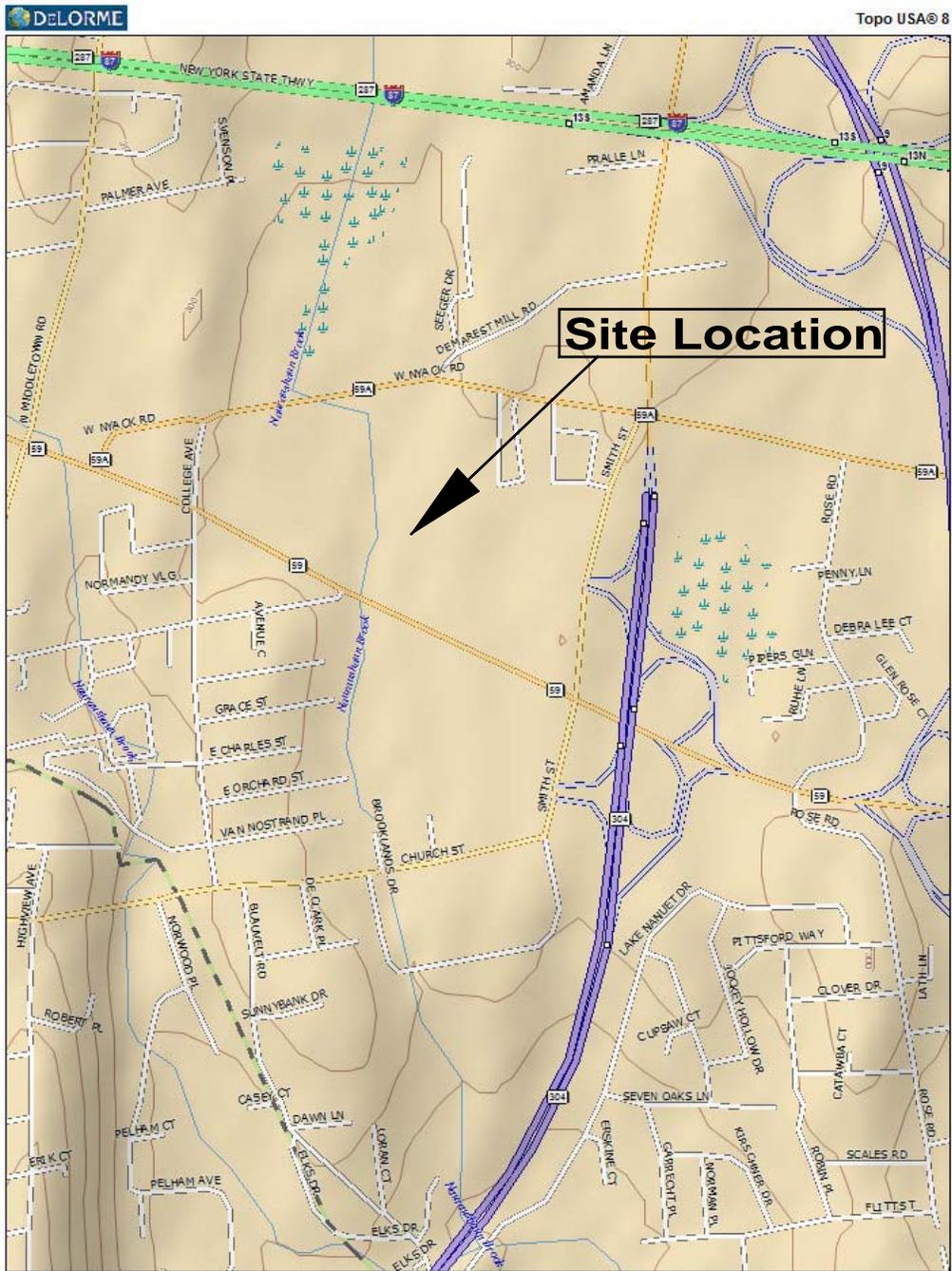
7. Conclusions/Recommendations. The results of the final RI will be summarized in a written document which will identify source areas and potential exposure pathways in relation to human and environmental receptors. The RI Report will also evaluate appropriate remedial options based upon the RI results and provide specific details on diagnostic testing to be used for design of a SSDS at the Site.

8. Supporting Information. To support the site data collected during the implementation of the RI Work Plan, the following items will be appended to the RI Report:
 - Site photographs;
 - Site maps, including text box figures depicting analytical results;
 - Soil boring logs;
 - Laboratory analysis including Category B deliverables and DUSRs;
 - Tables summarizing technical reporting; and
 - Findings/Conclusions based upon RI data.

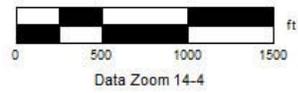
10.0 PROJECT SCHEDULE

The RI sampling and analysis program proposed herein will be implemented following NYSDEC and NYSDOH approval. RI field sampling work will be scheduled to begin within thirty days of approval. Specific public participation milestones are denoted in a separate Citizens Participation Plan. DTCS estimates that the field work will require 4 to 6 days to complete, and laboratory analysis within two weeks of the conclusion of field work on-Site. The RI Report and Remedial Action Work Plan will be submitted for NYSDEC and NYSDOH review and approval within two months of the completion of the RI.

FIGURES



Data use subject to license.
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Client: 230 Plaza, LLC

Site: 214-250 and 256 East Route 59, Nanuet, NY

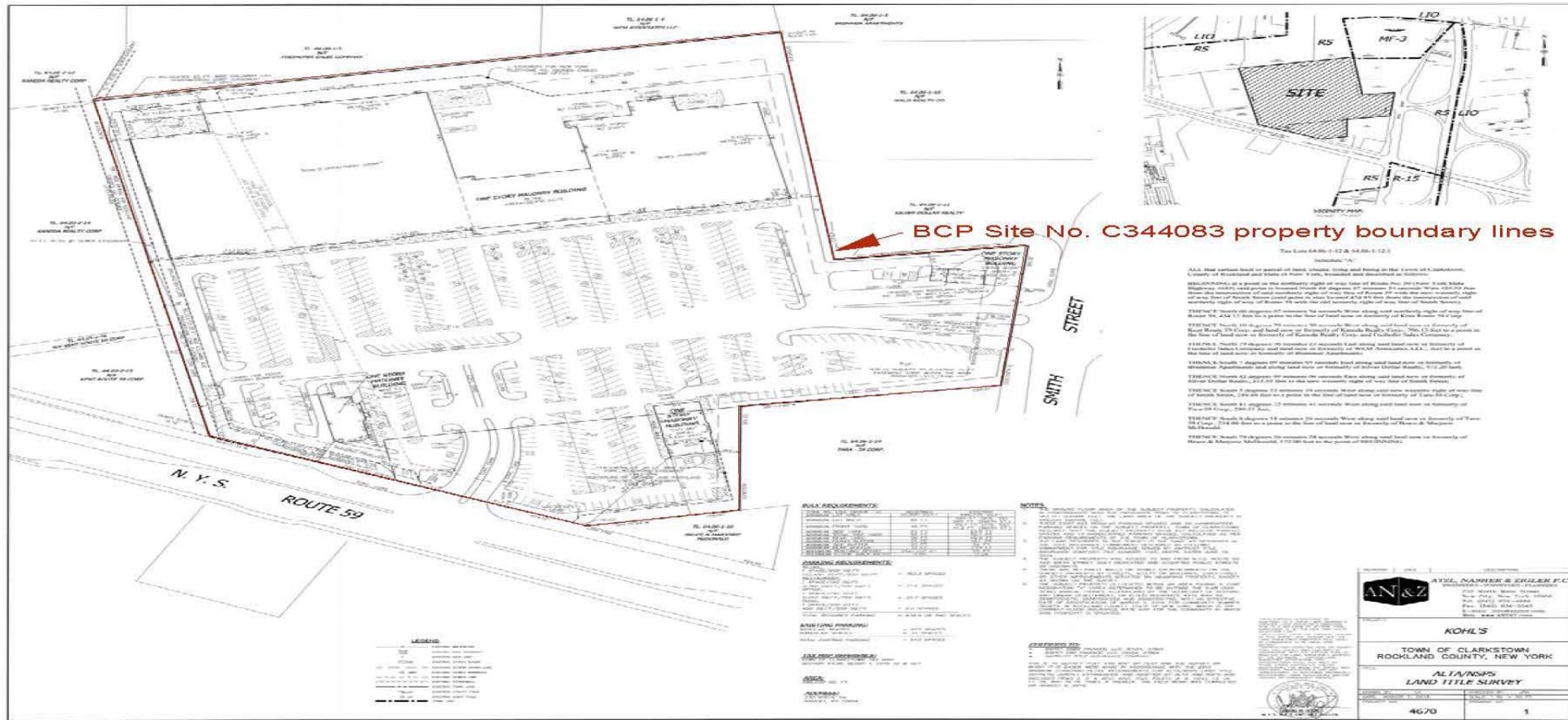
BCP Site # C344083

Drawn by:
DJT

Scale:
Graphic

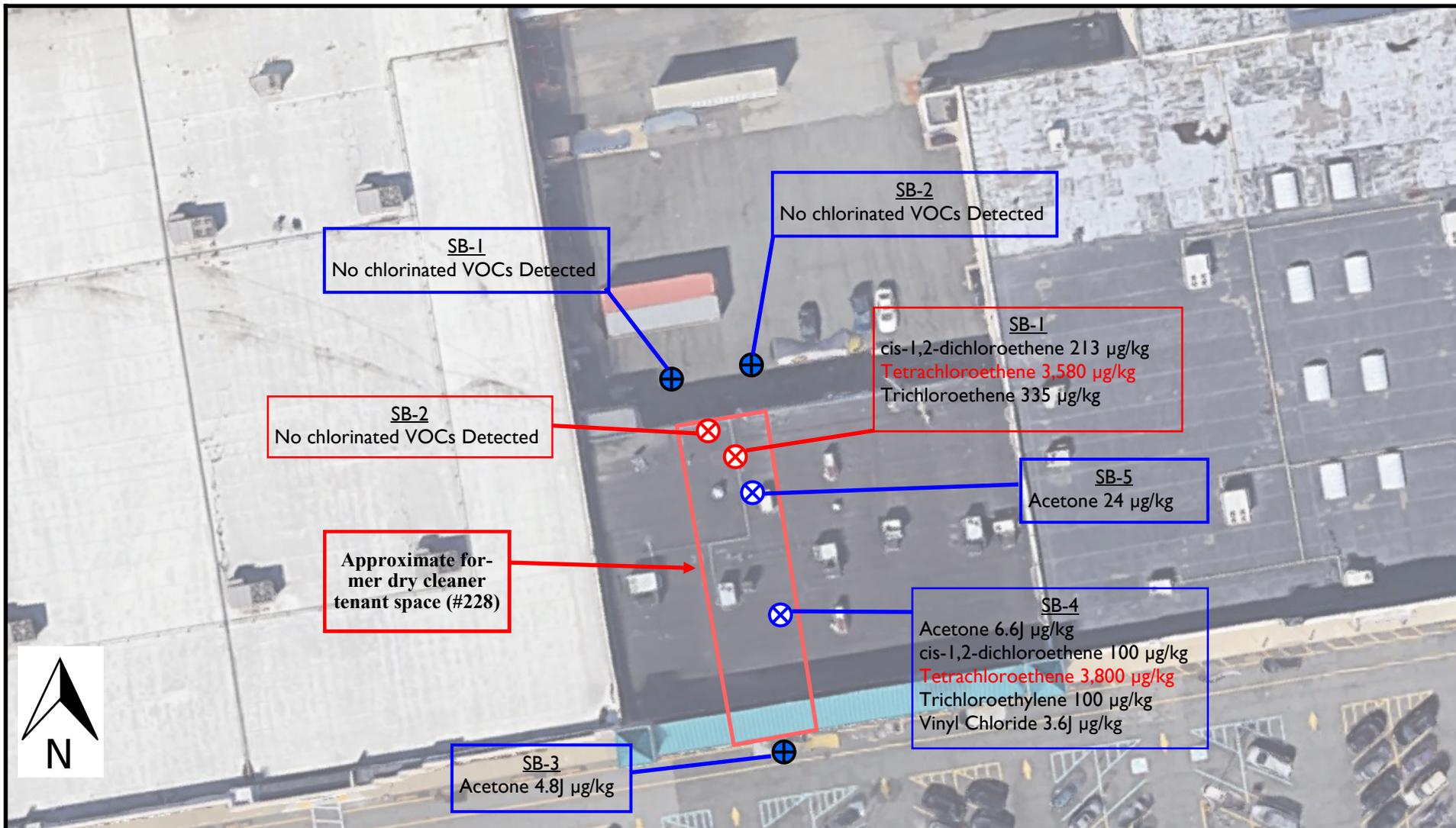
Site Location Plan

Figure No: 1



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 Ulster Park, New York 12487
 (845) 658-3484

Client:	230 Plaza LLC		
Location:	214 - 250 & 256 East Route 59, Nanuet, Rockland County, New York		
Title:	Site (base) Map		
Scale:	Graphic	Drawn By:	DT
		BCP Site No.:	C344083
		Figure No.:	2



LEGEND:

- ⊗ Interior soil boring location (October 2019)
- ⊕ Exterior soil boring (March 2020)
- ⊗ Interior soil boring location (March 2020)

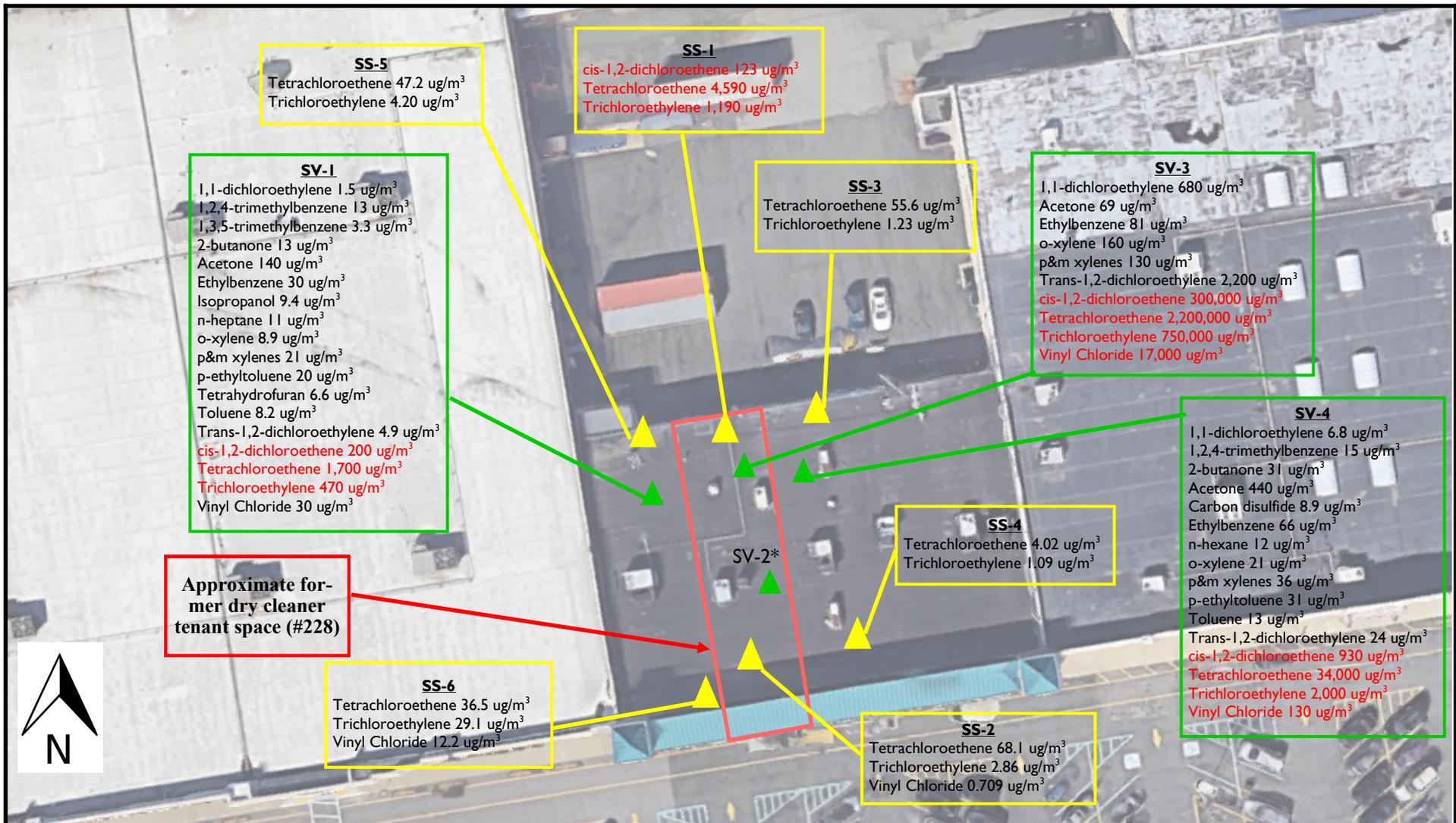
Exceeds 375-6.8(a) Unrestricted Use SCO

Anticipated Use - Restricted Use 375-6.8(b)-Commercial SCOs

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Nanuet, New York

FIGURE 3 - SOIL CONTAMINANT CONCENTRATION MAP
BCP SITE # C344083



LEGEND:



Interior sub-slab vapor gas sample location (October 2019)



Interior sub-slab soil vapor sample location (March 2020) * No sample, canister malfunction

Value exceeds NYSDOH VI Matrix Warranting Mitigation and/or USEPA Target Shallow Soil Gas Concentrations (Commercial Properties)

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FIGURE 4 - SOIL VAPOR CONTAMINANT CONCENTRATION MAP
BCP SITE # C344083



LEGEND:

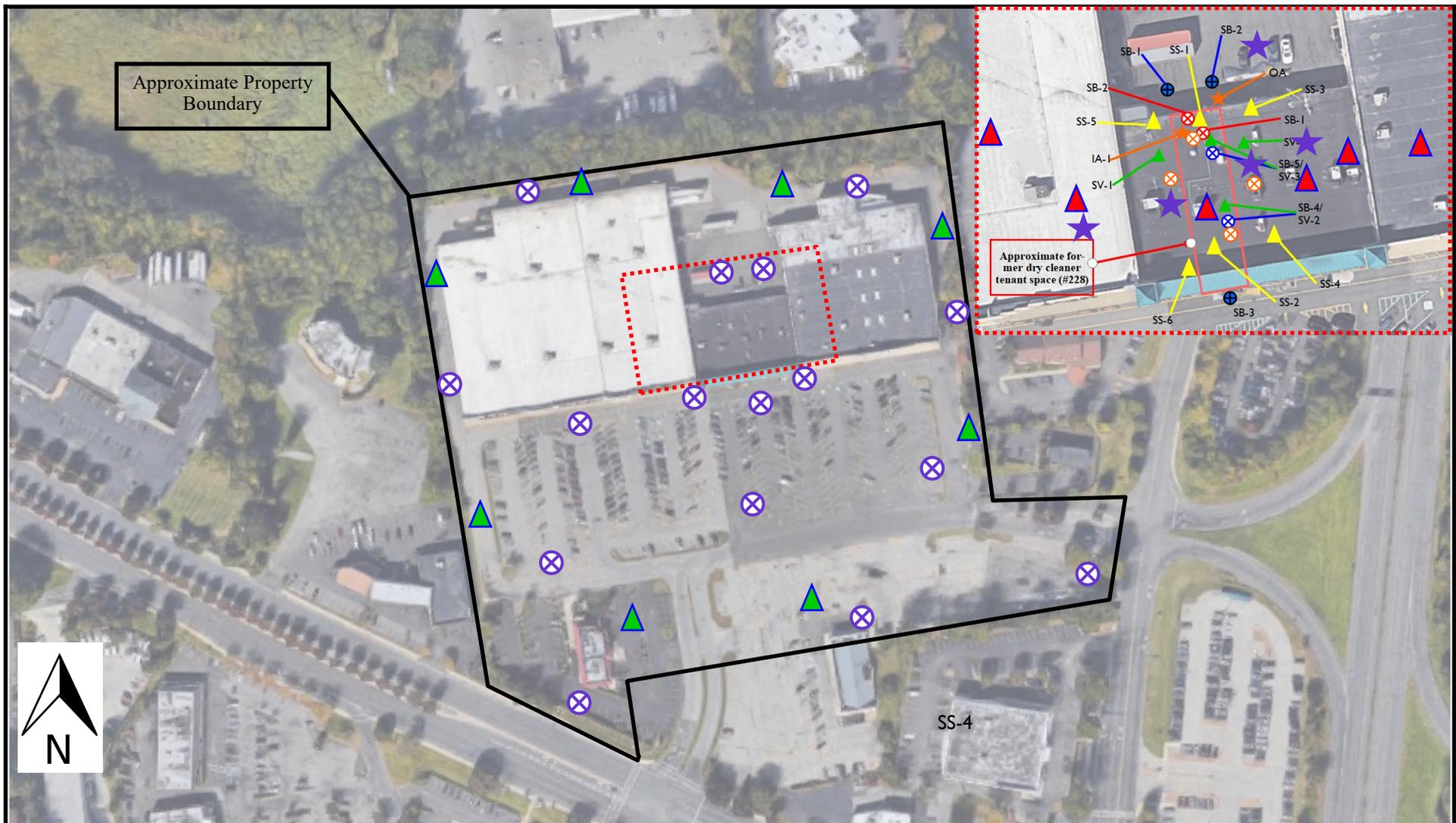
★ Air sampling location (March 2020)

Value exceeds NYSDOH VI Matrix Warranting Mitigation when compared with Soil Vapor Concentrations

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FIGURE 5 - INDOOR AIR CONTAMINANT CONCENTRATION MAP
BCP SITE # C344083



Approximate Property Boundary

Approximate former dry cleaner tenant space (#228)



- ⊗ Interior soil boring location (October 2019)
- ⊗ Interior soil boring location (March 2020)
- ⊗ Proposed exterior soil boring
- ⊗ Proposed interior soil boring

- ▲ Interior sub-slab soil vapor sample location (October 2019)
- ▲ Interior sub-slab soil vapor sample location (March 2020)
- ▲ Proposed exterior soil vapor point
- ★ Proposed air sampling location

- ⊕ Exterior soil boring (March 2020)
- ★ Air sampling location (March 2020)
- ▲ Proposed interior soil vapor point

Base map obtained from GoogleEarth.

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Nanuet, New York

FIGURE 6 - PROPOSED SAMPLE LOCATION PLAN
BCP SITE # C344083

TABLES

Table 1:

Summary of Soil Laboratory Analysis - Volatile Organic Compounds (VOCs) - September 19, 2019

Site: 230 Plaza, LLC
214-250 East Route 59
Nanuet, Rockland County, New York

Client: 230 Plaza, LLC
Post Office Box 54
Stony Point, New York 10980

Contact: Mr. Patrick Magee Jr.

NYSDEC BCP NO. C344083

Sample Location			SB-1	SB-2
Date Collected			9/19/2019	9/19/2019
Matrix			Soil	Soil
Analytical Method			8260	8260
Sample Depth (Feet bgs)			Not Reported ³	Not Reported ³
Compound	Soils Guidance ¹	Soils Guidance ²	Sample Con	Sample Con
cis-1,2-Dichloroethylene	250	500,000	213	ND
Tetrachloroethylene	1,300	150,000	<u>3580</u>	ND
Trichloroethylene	470	200,000	335	ND
Vinyl Chloride	20	13,000	ND	ND

Notes:

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. ND = Undetected. J = Detected below reporting limit but greater than or equal to MDL; therefore, the result is an estimated concentration.
3. Soil Guidance¹ was adopted from the NYSDEC 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs, December 14, 2006.
4. Soil Guidance² was adopted from the NYSDEC 6 NYCRR Part 375-6.8(b) Commercial Use SCOs, December 14, 2006.
5. Not Reported³ - The Phase II ESA prepared by EMG (September 19, 2019) did not report the depths from which samples were collected from SB-1 and SB-2. The termination depths of each boring were 3.5 and 5 feet bgs, respectively. Accordingly, the presumed sample depths are approximately 0 to 3.5 feet bgs (SB-1) and 0 to 5 feet bgs (SB-2).
6. Sample concentrations exceeding Unrestricted SCOs are printed in bold and underlined; those exceeding commercial SCOs are printed in bold, underlined and highlighted.
7. Only those parameters with laboratory detectable concentrations are shown on this Table.

Table 2
Phase II Environmental Site Assessment
Soil Vapor/Ambient Air Detections Summary
NYSDOH Matrix A
214-250 & 256 East Route 59, Nanuet, Rockland County, New York

Compound	Soil Vapor, Indoor and Outdoor Air Concentrations ($\mu\text{g}/\text{m}^3$)					NYSDOH Decision Matrix A: Trichloroethylene (TCE), cis-1,2-Dichloroethene, 1,1-Dichloroethene and Carbon Tetrachloride				
	SV-1	SV-3	SV-4	IA-1	OA		Indoor Air Concentration			
							<0.2 $\mu\text{g}/\text{m}^3$	0.2 to <1 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$ and above	
Trichloroethylene	470	750,000	2,000	0.84	0.50	Sub-Slab Vapor Concentration	<6 $\mu\text{g}/\text{m}^3$	1. No Further Action	2. No Further Action	3. Identify Source(s) and Resample or Mitigate
cis-1,2-Dichloroethene	200	300,000	930	0.58	0.23		6 to 60 $\mu\text{g}/\text{m}^3$	4. No Further Action	5. Monitor	6. Mitigate
1,1-Dichloroethene	ND	ND	ND	ND	ND		60 $\mu\text{g}/\text{m}^3$ and above	7. Mitigate	8. Mitigate	9. Mitigate
Carbon Tetrachloride	ND	ND	ND	0.43	0.49					

NFA - No Further Action

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

NYSDOH - New York State Department of Health - May 2017 - Soil Vapor Matrix A

ND - Compound not detected above laboratory detection limits

Table 2
Phase II Environmental Site Assessment
Soil Vapor/Ambient Air Detections Summary
NYSDOH Matrix B
214-250 & 256 East Route 59, Nanuet, Rockland County, New York

Compound	Soil Vapor, Indoor and Outdoor Air Concentrations (µg/m ³)					NYSDOH Decision Matrix B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (1,1,1-TCA) and Methylene Chloride				
	SV-1	SV-3	SV-4	IA-1	OA	Sub-Slab Vapor Concentration	Indoor Air			
							<3 µg/m ³	3 to <10 µg/m ³	10 µg/m ³ and above	
Tetrachloroethene	1,700	2,200,000	34,000	6.1	3.7		<100 µg/m ³	1. No Further Action	2. No Further Action	3. Identify Source(s) and Resample or Mitigate
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	100 to 1,000 µg/m ³	4. No Further Action	5. Monitor	6. Mitigate	
Methylene Chloride	ND	ND	ND	34	41	1,000 µg/m ³ and above	7. Mitigate	8. Mitigate	9. Mitigate	

NFA - No Further Action

µg/m³ - micrograms per cubic meter

NYSDOH - New York State Department of Health - May 2017 - Soil Vapor Matrix B

ND - Compound not detected above laboratory detection limits

Table 2
Phase II Environmental Site Assessment
Soil Vapor/Ambient Air Detections Summary
NYSDOH Matrix C

214-250 & 256 East Route 59, Nanuet, Rockland County, New York

Compound	Soil Vapor, Indoor and Outdoor Air Concentrations ($\mu\text{g}/\text{m}^3$)					NYSDOH Decision Matrix C: Vinyl Chloride		
	SV-1	SV-3	SV-4	IA-1	OA	Sub-Slab Vapor Concentration	Indoor Air Concentration	
							<0.2 $\mu\text{g}/\text{m}^3$	0.2 $\mu\text{g}/\text{m}^3$ a and above
Vinyl Chloride	30	17,000	130	0.1	ND	<6 $\mu\text{g}/\text{m}^3$	1. No Further Action	2. Identify Source(s) and Resample or Mitigate
						6 to 60 $\mu\text{g}/\text{m}^3$	3. Monitor	4. Mitigate
						60 $\mu\text{g}/\text{m}^3$ and above	5. Mitigate	6. Mitigate

NFA - No Further Action

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

NYSDOH - New York State Department of Health - May 2017 - Soil Vapor Matrix C

ND - Compound not detected above laboratory detection limits

Table 3:

Summary of Soil Laboratory Analysis - Volatile Organic Compounds (VOCs) - January 24, 2020

Site: 230 Plaza, LLC
214-250 East Route 59
Nanuet, Rockland County, New York

Client: 230 Plaza, LLC
Post Office Box 54
Stony Point, New York 10980

Contact: Mr. Patrick Magee Jr.

NYSDEC BCP NO. C344083

Sample Location			SB-1	SB-2	SB-3	SB-4	SB-5
Date Collected			1/24/2020	1/24/2020	1/24/2020	1/24/2020	1/24/2020
Matrix			Soil	Soil	Soil	Soil	Soil
Analytical Method			8260	8260	8260	8260	8260
Sample Depth (Feet bgs)			18' to 20'	18' to 20'	15' to 17'	2' to 3'	2' to 3'
Compound	Soils Guidance ¹	Soils Guidance ²	Sample Con	Sample Con	Sample Con	Sample Con	Sample Con
Acetone	50	500,000	ND	ND	4.8J	6.6J	24
cis-1,2-Dichloroethylene	250	500,000	ND	ND	ND	100	ND
Tetrachloroethylene	1,300	150,000	ND	ND	ND	<u>3800</u>	ND
Trichloroethylene	470	200,000	ND	ND	ND	100	ND
Vinyl Chloride	20	13,000	ND	ND	ND	3.6J	ND

Notes:

1. Soil results are recorded in micrograms-per-kilogram (µg/Kg) or ppb.
2. ND = Undetected. J = Detected below reporting limit but greater than or equal to MDL; therefore, the result is an estimated concentration.
3. Soil Guidance¹ was adopted from the NYSDEC 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs, December 14, 2006.
4. Soil Guidance² was adopted from the NYSDEC 6 NYCRR Part 375-6.8(b) Commercial Use SCOs, December 14, 2006.
5. Sample concentrations exceeding Unrestricted SCOs are printed in bold and underlined; those exceeding commercial SCOs are printed in bold, underlined and highlighted.
6. Only those parameters with laboratory detectable concentrations are shown on this Table.

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ATTACHMENTS

DT CONSULTING SERVICES, INC.

ATTACHMENT A

Environmental Services Health & Safety Plan

Job Name: 230 Plaza, LLC

DT CONSULTING SERVICES, INC

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2.0 Organizational Structure

2.1 Safety and Health Manager

2.2 Site Safety and Health Office

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3.0 Personal Protective Equipment

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10.1 Detailed Site information

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10.3 Emergency Information

10.3.1 Emergency Responders

10.3.1.1 Hospital

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- 10.5 Work Zones
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- 10.6 Site Communications
 - 10.6.1 Telephone
 - 10.6.2 Hand Signals
- 10.7 Environmental Monitoring
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11.0 Key Personnel

12.0 Work Plan

- 12.1 Job objective / Detailed work plan

ATTACHMENTS

COVID Safety Standards

A

DT CONSULTING SERVICES, INC

1.0 INTRODUCTION

DT Consulting Services, Inc. (DTCS) has designed a safety and health program to provide its employees and subcontractors with the guidelines necessary to ensure their own safety and health as well as that of the surrounding community. The goal of this plan is to minimize the risk of injury during remedial investigation procedures including the advancement and sampling of soil cores, coring for soil gas sampling, along with the monitoring of groundwater wells.

2.0 ORGANIZATIONAL STRUCTURE

2.1 SAFETY AND HEALTH MANAGER

It is the responsibility of the safety and health manager to develop the comprehensive safety and health plan. The safety and health manager will be appraised of any changes in the comprehensive safety and health plan as well as all Site-specific procedural determinations. The safety and health manager for this project will be Ms. Deborah Thompson.

2.1.1 RESPONSIBILITIES

- a) Initial Site evaluation
- b) Hazard identification
- c) Determination of appropriate protection levels
- d) Conduct daily safety and health meetings
- e) Supervision of Site sampling and monitoring
- f) Supervision of decontamination procedures
- g) Designate work zones to maintain Site integrity

3.0 PERSONAL PROTECTIVE EQUIPMENT

The proper personal protective equipment is chosen by the Site safety and health officer in consultation with the safety and health manager. The level of protection is dependent on the hazards that are likely to be encountered on-Site.

3.1 PROTECTION LEVELS

DTCS utilizes four levels of protection as set forth in the OSHA guidelines, Appendix B of 1910.120.

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3.1.1 Level A

Level A provides the greatest level of skin, respiratory, and eye protection with the following minimum equipment:

- Full face, self-contained breathing apparatus (SCBA) or supplied air with escape SCBA
- Fully encapsulated chemical resistant suit
- Chemical resistant boots
- Chemical resistant inner and outer gloves

3.1.2 Level B

Level B provides the greatest level of respiratory protection, but a lower level of skin protection than Level A with the following minimum equipment:

- Full face SCBA or supplied air with escape SCBA
- Chemical resistant clothing
- Chemical resistant inner and out gloves
- Chemical resistant boots

3.1.3 Level C

Level C provides the same level of skin protection as Level B, but a lower level of respiratory protection with the following minimum equipment:

- Full face piece air purifying respirator with appropriate cartridge. Cartridges are chosen based on knowledge of hazardous material
- Chemical resistant clothing
- Chemical resistant inner and outer gloves
- Chemical resistant boots

3.1.4 Level D

Level D provides the lowest level of skin protection and no respiratory protection with the following minimum equipment:

- Coveralls
- Safety boots
- Gloves
- Safety glasses or splash goggles

4.0 WORK ZONES

DTCS utilizes the standard three-zone approach to Site control. These zones are the exclusion zone, the contamination reduction zone and the support zone. Movement of personnel and equipment through these zones shall be strictly regulated in order to prevent contamination of clean environments and to protect workers in the support zone from possible exposure.

4.1 EXCLUSION ZONE

The exclusion zone is the area of highest contamination. All personnel entering this zone must wear the appropriate level of protection as prescribed in the Site specific safety plan. The outer boundary of the exclusion zone, referred to as the Hotline, shall be determined based upon such considerations as; extent of surface contamination, safe distance in the case of fire or explosion, physical area necessary for workers to conduct operations in a safe manner and safe distance in the event of vapor or gas emissions. Upon determination, the Hotline shall be visibly marked and secured to prevent accidental entry by unauthorized personnel.

4.2 CONTAMINATION REDUCTION ZONE

The Contamination Reduction Zone is the area between the exclusion zone and the support zone. Its purpose is to protect the clean environment from contamination as workers enter and exit the exclusion zone. The outer boundary of this zone is referred to as the Coldline and shall be clearly marked. Decontamination stations shall be set up in this zone in a line known as the contamination reduction corridor. All personnel exiting the exclusion zone must follow the steps as prescribed in the decontamination procedures prior to re-entering the support zone.

4.3 SUPPORT ZONE

The support zone is the area furthest away from the exclusion zone. It is considered a clean, non-contaminated area where workers need not wear any protective equipment. The command post, equipment trailer, first aid station and lavatory facilities are all located in this area. This area is not, however, open to traffic. Only authorized personnel may enter.

5.0 AIR MONITORING

As the initial Site evaluation work plan entails minimal Site intrusive activities, specific air monitoring procedures would include only the periodic recording of total volatile organic compound or VOC concentrations with a Photoionization Detector (PID) or equivalent during Site activities.

6.0 SITE COMMUNICATIONS

Various methods of communication will be employed based upon Site conditions and work zones. Regardless of method of communication, personnel working in the exclusion zone will remain within constant view of support crews.

DTCS has a network of devices to aid in communications. All or some of the following devices may be used depending upon job Site requirements; hand held radios, headset transistor walkie-talkies and cellular telephones.

The following hand signals shall be standardized for use in emergencies and in event of radio communication breakdown.

Hand gripping throat - out of air, can't breathe
Grip partner's wrist - leave area immediately
Hands on top of head - need assistance
Thumbs up - I am all right, okay
Thumbs down - no, negative

Horn blasts may be used to gain the immediate attention of crews to indicate that dangerous conditions exist.

7.0 EMERGENCY PROCEDURES

The following procedures shall be followed by all Site personnel in the event of an emergency. Any changes to this procedure shall be noted in the Site-specific plan. In all situations where there has been an evacuation of exclusion zone, reentry shall not be permitted until the following conditions have been met; the cause of the emergency has been determined and corrected, the Site hazards have been reassessed, the safety plan has been reviewed and all personnel have been apprised of any changes.

7.1 INJURY IN THE EXCLUSION ZONE

In the event of an injury in the exclusion zone, the emergency signal shall be sounded. All personnel in the exclusion zone will assemble at the contamination reduction corridor. First aid procedures will begin on-Site and if necessary, an ambulance will be called. No personnel will be allowed to re-enter the exclusion zone until the exact nature and cause of the injury has been determined.

7.2 INJURY IN THE SUPPORT ZONE

In the event of an injury in the support zone, on-Site first aid procedures will begin immediately and an ambulance called if necessary. The Site safety and health officer shall determine if the nature and cause of the injury or loss of the injured person will jeopardize the smooth running of the operations. If so, the emergency signal will be sounded and all personnel will follow the same procedure as outline above.

7.3 FIRE OR EXPLOSION

In the event of fire or explosion, the emergency signal shall be sounded and all personnel will assemble at the contamination reduction corridor. The fire department will be called and all personnel will be evacuated to a safe distance.

7.4 PROTECTIVE EQUIPMENT FAILURE

In the event of protective equipment failure, the affected worker and his/her buddy will leave the exclusion zone immediately. In the event of any other equipment failure, the Site safety and health officer will determine if this failure affects the operation. If so, the emergency signal will be sounded and all personnel will leave the exclusion zone until such time as it is deemed safe.

8.0 STANDARD SAFETY PRACTICES

The following guidelines will be followed by all personnel at all times; any changes must be approved by the safety and health manager.

- All employees will attend the daily safety meetings prior to Site entry.

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- The buddy system will be utilized at all times.
- There will be no eating, drinking, smoking, or use of smoking material (i.e. matches) within the work area(s). COVID safety practices will be utilized (see Attachment A).
- Only authorized personnel will be allowed in designated work zones and will wear the proper personal protective clothing and equipment as prescribed in the Site safety plan.
- The Site safety and health officer will be appraised of any unusual circumstances immediately.

Such circumstances include but are not limited to the following; unusual odors, emissions, signs of chemical reaction, and discovery of conditions or substances not mentioned in the Site safety plan. The Site safety officer will then determine if these conditions warrant a shut down of operations.

9.0 DAILY SAFETY MEETINGS

Daily safety meetings will be conducted by the Site safety and health officer prior to commencement of work. All personnel, regardless of job classification are required to attend.

9.1 DISCUSSIONS

1. Overview of safety and health plan.
2. Detailed discussion of substances of concern with emphasis on exposure limits, exposure symptoms and exposure hazards.
3. Review of standard safety precautions and work practices.
4. Review of work plan.
5. Review of hand signals and emergency signals.

Personnel will sign a daily attendance sheet, which shall include an overview of the topics discussed.

10.0 SITE SPECIFIC PLAN

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10.1 DETAILED SITE INFORMATION

- **Plan Date** TBA
- **Job Name** 230 Plaza, LLC
- **Client** 230 Plaza, LLC
Post Office Box 54
Stony Point, New York 10980
- **Client Contact/Phone No.** 845-429-8231
- **Site Address** 214-250 NYS Route 59
Nanuet, New York 10954
- **Cross Street** Smith Street
- **Site Access** Direct

10.2 CONTAMINANTS ON SITE/ACTION LEVELS

The following substances are known or suspected to be on Site, primarily in Site wastes. The primary hazards of each are identified, associated primarily with direct skin contact and inhalation.

SUBSTANCE	PRIMARY HAZARDS
<i>Volatile Organics</i>	
Trichloroethene (TCE) Tetrachloroethene (PCE)	Eye, skin and respiratory irritation. Nausea, vomiting, headache
Cis-1,2-Dichloroethylene	Skin irritation, gastrointestinal or respiratory tract irritation.

Action Levels

Action levels shall be determined by monitoring of work zone breathing space with a portable Photoionization detector (PID) or comparable instrument. Measurement of a sustained concentration above ambient (background) conditions shall initiate action. The following criteria shall be used to determine appropriate action:

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VOCs in Breathing Zone (sustained and above background)	Level of Respiratory Protection
0 – 5 ppm	Level D
5 – 200 ppm	Level C
200 – 1000 ppm	Level B - air line
1000+ ppm	Level B - SCBA

If the above criteria indicate the need to increase from Level D to a higher level of personal protection, all work in that particular Site area will be immediately suspended until the required protective equipment is made available, or until Level D conditions return.

10.3 EMERGENCY INFORMATION

10.3.1 EMERGENCY RESPONDERS

10.3.1.1 HOSPITAL

Name: Montefiore Nyack Hospital

Address & Telephone Number:

160 N Midland Ave, Nyack, NY 10960
(845) 348-2000

Distance from Site: 7.2 Miles

10.3.1.2 EMERGENCY TELEPHONE NUMBERS

Police 911 on Cellular Phone

Fire 911 on Cellular Phone

Ambulance 911 on Cellular Phone

10.3.1.3 REGULATORY AGENCIES

EPA Telephone Number 1-800-424-8802

NYSDEC Spills Hotline 1-800-457-7362

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10.4 FIRST AID

First Aid available at the following stations:

First Aid Kit TRUCK

Emergency Eye Wash TRUCK & ON SITE

10.5 WORK ZONES

10.5.1 COMMAND POST

Command post will be mobile.

10.6 SITE COMMUNICATIONS

10.6.1 TELEPHONE

Command Post Telephone - Cellular Phone
Number (845)943-0159

10.6.2 HAND SIGNALS

See Section 6.0

10.7 ENVIRONMENTAL MONITORING

10.7.1 MONITORING EQUIPMENT

Refer to RI Work Plan

10.8 PERSONAL PROTECTIVE EQUIPMENT

10.8.1 EXCLUSION ZONE, PROTECTION LEVEL

PROTECTIVE EQUIPMENT:	Level D
RESPIRATORY	None
HANDS	Nitrile or Leather
FEET	Steel Toed Boots
SUIT	None

**10.8.2 CONTAMINATION REDUCTION
CORRIDOR (DECON LINE)**

PROTECTIVE EQUIPMENT:	Level D
RESPIRATORY	None
HANDS	Nitrile or Leather
FEET	Steel Toed
SUIT	None

10.9 DECONTAMINATION

10.9.1 DECONTAMINATION PROCEDURE

STATION 1 SOAPY WATER

STATION 2 WATER

11.0 KEY PERSONNEL

SAFETY AND HEALTH MANAGER / ON-SITE SUPERVISOR

Deborah J. Thompson

FOREMEN

TBA

FIELD PERSONNEL

Will Vary

12.0 WORK PLAN

12.1 JOB OBJECTIVE

The objective is to execute a Remedial Investigation Work Plan (RIWP) which includes soil, soil gas and groundwater sampling to further characterize the extent of historical contamination identified on-Site under the BCP. Upon completion of field work, a Remedial Action Plan or RAP will be generated to address documented contamination.

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ATTACHMENTS

DT CONSULTING SERVICES, INC.

ATTACHMENT A

**Summary of Sector Specific Workplace Safety Standards to Address
COVID-19**

DT Consulting Services, Inc. (DTCS)

**Standards that Apply to All Workers while performing Fieldwork or Remediation
Activities**

1. There will be zero tolerance for sick workers reporting to work. If you are sick, stay home! If you feel sick, go home! If you see someone sick, send them home!
2. Staff must self-screen for COVID symptoms prior to reporting to a construction/remediation site.
 - a. Symptoms (per CDC on June 3, 2020) include:
 - i. Fever or chills
 - ii. Cough
 - iii. Shortness of breath or difficulty breathing
 - iv. Fatigue
 - v. Muscle or body aches
 - vi. Headache
 - vii. New loss of taste or smell
 - viii. Sore throat
 - ix. Congestion or runny nose
 - x. Nausea or vomiting
 - xi. Diarrhea
3. Prior to starting a shift/arriving at the site, each employee will self-screen to ensure that they:
 - a. Have no signs of a fever or a measured temperature above 100.3 degrees or greater, a cough or trouble breathing within the past 24 hours
 - b. Have not had "close contact" with an individual diagnosed with COVID-19. "Close contact" means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic.
 - c. Have not been asked to self-isolate or quarantine by their doctor or a local public health official.

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- d. Employees exhibiting symptoms or unable to self-certify should leave the work site and seek medical attention and applicable testing by their health care provider. They are not to return to the work site until cleared by a medical professional.
4. Document self-screening of DTCS staff in the daily field notes a brief documentation of COVID screening.
- a. For example: *“Employee Name* performed COVID self-screening in compliance with DTCS current employee guidance before arriving at the site.
5. Sub-contractors working directly with DTCS must provide their own COVID screening protocols ahead of arriving onsite or if screening protocols are not in place, any sub-contractors must self-screen and inform DTCS management of that screening prior to arriving on site.
- a. Document self-screening of sub-contractor in the daily field notes a brief documentation of COVID screening.
 - i. For example: *“Sub-contractor Name* performed COVID self-screening before arriving at the site.
6. General Onsite Protocols:
- a. No handshaking
 - b. It is recommended to wear a facemask when representing the company at all times on a “site”. It is required to wear a facemask when:
 - i. social distancing (6 feet) can-not be maintained
 - ii. indoors
 - iii. in a “public space”
 - iv. working or interacting with the “public”
 - v. indicated it is required by the client or a contractor
 - c. Must implement social distancing by maintaining a minimum distance of 6-feet from other individuals
 - d. Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing
 - e. Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
 - f. Cover coughing or sneezing with a tissue, then throw the tissue in the

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trash and wash hands, if no tissue is available then cough into your elbow

- g. Avoid touching eyes, nose, and mouth with your hands
- h. If you or a family member is feeling ill, stay home!

DTCS Led Investigative/Remedial Activities

1. Assign a site-specific COVID-19 Officer (this person may also be the Health and Safety Officer)

2. PPE
 - a. Hand sanitizer will be available onsite if soap/water/paper towels are not available.
 - i. Frequent use of handwashing or alcohol-based hand sanitizers should be encouraged

 - b. Gloves should be available and used at all times.

 - c. Eye protection is recommended as applicable

 - d. Facemasks
 - i. Facemasks must be worn at all times during indoor activities by DTCS staff and subcontractors
 - ii. Facemasks must be worn at all times by DTCS staff and subcontractors when social distancing cannot be ensured (less than 6' of distance)
 - iii. Facemasks must be worn in "public places" per guidance from the New York State Department of Health; the project manager will determine ahead of time if a site is considered a "public place".
 - iv. Facemasks must be available on the employee or subcontractor's person during all other site related activities but are not required to be worn if social distancing (6') is maintained, activities are outdoors, not located in a "public place" or as otherwise required by a contractor or client.

 - e. Any trash generated during the day's site activities should be removed from the site by DTCS staff or disposed of in a trash receptacle designated as acceptable by the client.

3. "Social" Distancing

- a. All individual work crew meetings / tailgate talks should be held outside and follow social distancing
- b. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- c. In instances where it is possible, workers should maintain separation of 6 feet from each other per CDC guidelines
- d. Multi person activities will be limited where feasible
- e. In work conditions where required social distancing is impossible to achieve, employees shall be supplied PPE including, as appropriate, a standard face mask, gloves, and eye protection. Be sure to use your own water bottle, and do not share
- f. Please maintain Social Distancing separation during breaks and lunch

Protocol if COVID Positive or COVID Symptoms are Discovered

- 1. DTCS shall direct workers with COVID-19 related symptoms to leave the site immediately and contact their healthcare provider. The local board of health will make appropriate notifications to those who had direct prolonged contact with the COVID-19 positive workers. DTCS shall work with the local board of health to identify any potential job site exposures, including:
 - a. Other workers, vendors, inspectors, or visitors to the work site with close contact to the individual
 - b. Work areas
 - c. Work tools and equipment
 - d. Common areas such as tables and sanitary facilities
- 2. Upon learning of an infection, DTCS staff and/or subcontractors must immediately notify the designated COVID-19 safety officer and the owner
 - a. Keep all employee names confidential as required by law
- 3. After a worker with COVID-19 related symptoms has been asked to leave the job site, DTCS staff shall take immediate steps to sanitize any common areas and direct work places that may have been in close contact with the infected worker.
 - a. Sanitation will be conducted with personnel, equipment, and material approved for COVID-19 sanitization.

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- b. Identified areas should remain isolated from any other workers until sanitation process has been completed and area is deemed safe for use.
- c. Workers who leave during the work day due to COVID-19 symptoms and develop COVID-19 as confirmed by laboratory testing or diagnosis by a healthcare provider shall not return to the site until either released from isolation by healthcare provider or public health official.
- d. All impacted workers should follow CDC and DOH recommended steps concerning return to work. Workers who are considered close contacts to a COVID-19 case by public health authorities should not return for 14 days and are subject quarantine by public health.
- e. Other employees may be sent home while a workspace is being cleaned but will return to work after cleaning unless advised otherwise by a health care provider
- f. Other employees should be asked to contact their health provider if they have any questions
- g. Remind other employees to continue to practice proper sanitation and monitor for flu like symptoms

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ATTACHMENT B

DT CONSULTING SERVICES, INC.

Community Air Monitoring Plan

Job Name/Site Number: 230 Plaza LLC/Site #C344083

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1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been prepared by DT Consulting Services, Inc. (DTCS) to support the implementation of Remedial Investigation activities associated with the Remedial Investigative Work Plan (RIWP) generated for the Subject Property located at 250 East Route 59, Nanuet, Rockland County, New York. A Site Plan is provided as Figure 1. Details related to the investigative activities are presented in the RIWP, to which this CAMP is included as an attachment and as a supporting plan. This CAMP fulfills the routine monitoring requirements provided in the New York State Department of Environmental Conservation (NYSDEC) document entitled Division of Environmental Remediation *Technical Guidance for Site Investigation and Remediation* (DER-10) issued on May 3, 2010 (NYSDEC 2010). Appendix 1A of DER-10 (included in Attachment A) provides general guidance and protocols for the preparation and implementation of a CAMP. Appendix 1B of DER- 10 (included in Attachment A) supplements the contents of Appendix 1A of DER-10 and provides additional requirements for fugitive dust/particulate monitoring. This CAMP identifies the required air monitoring to protect the community during the implementation of proposed investigative activities.

1.1 CAMP Objectives

The overall objective of the CAMP is to establish requirements for protection measures for downwind receptors from potential airborne releases of constituents of concern during intrusive and/or potential dust generating Site activities. As summarized in the SC/IRM Work plan, laboratory analysis indicates that constituents of concern at the Site include volatile organic compounds (VOCs). This CAMP identifies potential air emissions, and describes air monitoring procedures, the monitoring schedule, data collection, and reporting requirements for the SC/IRM actions to be completed by DTCS. DTCS will implement this CAMP and will provide all labor, materials, and equipment necessary to implement the monitoring program specified in this CAMP, as well as any required contractor worker documentation and monitoring described in the Environmental Health and Safety Plan prepared for the implementation of the project.

1.2 Revisions to the CAMP

Any changes to the scope or procedures in this CAMP will be formally documented as a revision to this document. A revision number will be indicated on the front page of any revised document and will serve as a historical record of any and all revisions

made to the document. For changes requiring immediate resolution during the implementation of this CAMP, approval will be secured from the NYSDEC and, if applicable, the Responsible Party.

1.3 Potential Air Emissions Related to Investigative Activities

Intrusive investigation activities have the potential to generate localized impacts to air quality. Investigative components that are considered intrusive for the purposes of this CAMP and that have the potential to generate air emissions are anticipated to include, but may not be limited to the following:

- ✓ Installation of soil borings or groundwater monitoring wells;
- ✓ Sampling of soils and groundwater; and
- ✓ Soil vapor/soil gas sampling.

2.0 COMMUNITY AIR MONITORING PLAN

Real-time air monitoring for VOCs and particulate levels will be performed at representative locations, upwind and downwind during Site investigative activities. Furthermore, continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, the installation and sampling of soil borings, monitoring wells and/or soil gas sampling. In addition, during work hours, hourly or more frequent monitoring for Site-related odors at the perimeter of the work area will be performed.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil samples, the collection of groundwater samples from Site monitoring wells and/or soil gas sampling. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Exceedances of action levels observed during performance of the CAMP will be reported to the DEC Project Manager and included in the Daily Report.

2.1 Selection of Monitoring Locations

Upwind and downwind monitoring station locations for VOCs and PM₁₀ will be determined daily based on data from published information (predictions of prevailing and predominant wind direction) for the Site and the nature and location of the anticipated construction activities.

An upwind location (station “UPW”) for both VOCs and PM₁₀ will be confirmed at the start of each workday, based upon the use of the meteorological data and the location of the proposed construction activities. A downwind location (station “DWN 1”) (based upon prevalent wind direction) for both VOCs and PM₁₀ will also be selected. Another downwind monitoring location (regardless of wind direction) will be used to monitor for both VOCs and PM₁₀ at the closest sensitive receptor (i.e., nearest occupied building [NOB]), determined at the date of investigative activities. If wind directions shift radically during the workday and for an extended period such that the upwind direction and downwind locations no longer fall within acceptable guidelines (+/-60 degrees compass change from the original wind direction), the monitoring stations will be relocated so that the upwind and downwind locations are maintained. Any changes will be documented in the CAMP reports.

2.2 VOC Monitoring

VOCs will be monitored continuously during the intrusive and/or potential dust-generating investigative activities with instrumentation equipped with electronic data-logging capabilities. A real-time VOC monitor (RAE MultiRae 3000 or equivalent) equipped with a Photoionization Detector (PID) will be used for monitoring. All 15-minute average concentrations, as well as any instantaneous readings taken to facilitate activity decisions, will be recorded, stored on-Site and summarized in a CAMP report.

2.3 Total Particulates Monitoring

Total particulates will also be monitored continuously during intrusive and/or potential dust-generating investigative activities using instrumentation equipped with electronic data-logging capabilities. The particulate monitoring equipment will also be equipped with an audible alarm to indicate exceedances of the action levels identified below in Section 2.5. A TSI DustTrak II 8530 (or equivalent) will be used to conduct the real-time PM₁₀ monitoring during the SC/IRM activities. All 15-minute average concentrations, as well as any instantaneous readings taken to facilitate activity

decisions, will be recorded and summarized in a CAMP report. Fugitive dust migration will be visually assessed during all work activities, and reasonable dust suppression techniques will be used during any activity that may generate fugitive dust.

2.4 Periodic Monitoring for Odors

During work hours, hourly or more frequent walks around the perimeter of the work area will be performed to qualitatively monitor for the presence and intensity of Site-related odors. Perimeter checks will be performed more frequently, as necessary, depending on the nature and location of work being performed. If odors are noted at the perimeter of the work area, work will continue and odor, vapor, and dust controls will be employed to abate emissions. Additionally, construction techniques will be evaluated and modified, if necessary and appropriate, and more frequent checks of the perimeter of the work area will be performed. If odors persist at the perimeter of the work area at an unacceptable intensity, work will be stopped while activities are re-evaluated. The source or cause of the odors will be identified and additional odor, vapor, and dust controls will be employed. Work will resume provided that the controls are successful in mitigating the intensity of odors at the perimeter of the work area.

2.5 Action Levels

The action levels provided below are to be used to initiate corrective actions, if necessary, based upon the real-time monitoring. If the action levels are exceeded at the perimeter locations for VOCs or PM₁₀, work will be suspended and engineering controls will be implemented to bring concentrations back down to acceptable levels. Each piece of monitoring equipment will have alarm capabilities (audible and/or visual) to indicate exceedances of the action levels specified below. All readings will be recorded and available review.

Action Levels for Organic Vapors

If the ambient air concentration of total VOCs at the downwind perimeter of the work area, Exclusion Zone, or opposite the nearest occupied building exceeds 5 parts per million (ppm) above the background (upwind) concentration for the 15-minute average, work activities will be temporarily halted while monitoring continues. If total VOC concentration readily decreases (through observation of instantaneous readings) below 5 ppm above the background concentration, work activities will resume with continued monitoring.

If the ambient air concentration of total VOCs at the downwind perimeter of the work area, Exclusion Zone, or opposite the nearest occupied building persists at levels in excess of 5 ppm but less than 25 ppm above the background (upwind) concentration: (1) work activities will be halted; (2) the source of the elevated total VOC concentration will be identified; (3) corrective actions will be implemented to reduce or abate the emissions; and (4) air monitoring will be continued. Once these activities have been implemented, work activities will resume provided the following two conditions are met:

- The 15-minute average VOC concentrations remain below 5 ppm above background (upwind); and
- The total VOC concentration 200 feet downwind of the work area/Exclusion Zone or half the distance to the nearest potential receptor or residential/commercial structure whichever is less but in no case less than 20 feet) is below 5 ppm over the background (upwind) concentration for the 15-minute average.

If the ambient air concentration of total VOCs at the downwind perimeter of the work area, Exclusion Zone, or opposite the nearest occupied building exceeds 25 ppm above the background (upwind) concentration, work activities will stop, and corrective actions will be implemented to reduce or abate the emissions. When work shutdown occurs, as directed by the Environmental Monitor, corrective actions will be implemented to ensure that vapor emission does not impact the nearest occupied structure at levels exceeding the action levels specified herein. If following work shutdown, or as the result of an emergency, VOC concentrations persist above 5 ppm above background (upwind) 200 feet downwind (or half the distance to the nearest occupied structure), then air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20-foot zone).

Action Levels for PM₁₀

If the ambient air concentration of PM₁₀ at the downwind perimeter of the work area or nearest occupied building exceeds 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) above the background (upwind) concentration, or if airborne dust is observed leaving the work area, dust suppression techniques will be employed. Work will continue with dust suppression techniques provided the

downwind PM₁₀ concentration does not exceed 150 µg/m³ above the background (upwind) concentration. If, after implementation of dust suppression techniques, the downwind PM₁₀ concentration is greater than 150 µg/m³ above the background (upwind) concentration, work will be stopped while activities are re-evaluated. Work will resume provided the dust suppression techniques and other controls are successful in: (1) reducing the downwind PM₁₀ concentration to less than 150 µg/m³ above the background (upwind) concentration; and (2) preventing visible dust from leaving the work area.

2.6 Instrument Calibration

Calibration of the VOC and PM₁₀, instrumentation will be conducted in accordance with each of the equipment manufacturer's calibration and quality assurance requirements. The VOC and PM₁₀ monitoring equipment will be calibrated or zeroed, respectively, daily (at a minimum), and such calibrations will be recorded in the field logbook.

3.0 MONITORING SCHEDULE/DATA COLLECTION/REPORTING

The following identifies the monitoring schedule and data collection/reporting requirements.

3.1 Monitoring Schedule

Community air monitoring will be conducted prior to initiating investigative activities to establish adequate baseline data and until such time that intrusive and/or potential dust generating activities are complete. The frequency of community air monitoring will be relative to the level of Site work activities being conducted and may be adjusted as the work proceeds and in consideration of the monitoring results. Air monitoring for VOCs and dust may be discontinued during periods of heavy precipitation that would otherwise result in unreliable data or damage to monitoring equipment.

3.2 Data Collection and Reporting

Community air monitoring data will be collected continuously from VOC and PM₁₀ monitors during all intrusive and/or potential dust-generating activities by the electronic data-logging systems, except as discussed above in Section 3.1. The data management software will be set up to continuously monitor instantaneous readings

and record average concentrations (calculated for continuous 15-minute increments: i.e., 08:00 to 08:15, 08:15 to 08:30, etc.). Results of the perimeter/community air monitoring for total organic vapors and particulates (both instantaneous readings and 15- minute average concentrations) will be recorded by the monitoring instruments (data loggers).

The Environmental Monitor will prepare a CAMP reports that will include, but not be limited to, the following:

- A brief memorandum summarizing the air monitoring work activities and results for the monitoring period. A summary of the qualitative perimeter monitoring for the presence and intensity of Site-related odors will also be included. The memorandum will be supported by two attachments: (1) Attachment A showing air monitoring station daily locations; and (2) Attachment B presenting graphs of the 15-minute time-weighted average VOC and particulate concentrations recorded at each of the sampling stations (one graph for each station showing the results relative to action levels).

In the event that an exceedance of a community air monitoring action level (for either PM₁₀ or VOCs), the Environmental Monitor will notify DEC (via telephone) as soon as possible (i.e., real time). Within 24 hours of the observed exceedance, the Environmental Monitor will send a follow-up e-mail to DEC's representative, and the Responsible Party summarizing the data, the cause of the exceedance, and any corrective measures implemented (or to be implemented) as a result of the exceedance. The information will also be documented in the CAMP report.

Odor complaints received from the public will be evaluated and verified based on the following:

- Date and time of complaint;
- Location and nature of work activities being performed at the Site;
- Location and nature of non-project-related work activities being performed in the surrounding community; and
- Prevailing wind direction and other local meteorological conditions.

Regardless of the outcome of this evaluation, all associated parties will be notified of odor complaints within 24 hours. In response to a verified odor complaint, perimeter monitoring will continue and additional odor, vapor, and dust controls will be employed to mitigate Site-related odor emissions. Construction techniques will also be evaluated and modified, if necessary and appropriate.

The time and outcome of each perimeter check will be documented in a daily odor monitoring log, specifically noting the presence or absence of Site-related odors and identifying the intensity and general location(s) along the perimeter of the work area where odors (if any) are noted. The time and outcome of any odor complaints from the public will also be documented in the daily odor monitoring log.

FIGURES

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ATTACHMENTS

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ATTACHMENT A

APPENDIX A
NYSDEC DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATION
AND REMEDIATION (DER-10) MAY 3, 2010.

APPENDIX 1A OF DER-10

Appendix 1A

New York State Department of Health Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

APPENDIX 1B OF DER-10

Appendix 1B

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:
 - (a) Objects to be measured: Dust, mists or aerosols;
 - (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
 - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
 - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
 - (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
 - (f) Particle Size Range of Maximum Response: 0.1-10;
 - (g) Total Number of Data Points in Memory: 10,000;
 - (h) Logged Data: Each data point with average concentration, time/date and data point number
 - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
 - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
 - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
 - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
 - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.