August 28, 2025

Brad Demo
Environmental Program Specialist 1
Department of Environmental Conservation
Division of Environmental Remediation
700 Delaware Avenue
Buffalo, New York 14209

Re: NYSDEC Notification and Work Plan
412 East Main Street (Former Cornell University Vineyard Research Lab)
Fredonia, New York
Voluntary Cleanup Program (VCP) Site No. V00417

Dear Mr. Demo:

This NYSDEC Notification and Work Plan provides a description of the procedures that will be implemented during all ground intrusive activities related to VCP Site No. V00417 located at 412 East Main Street (Former Cornell University Vineyard Research Lab) in the Village of Fredonia, New York (the Site). This Work Plan has been prepared in accordance with New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation "Technical Guidance for Site Investigation and Remediation" (DER-10).

Figure 1 presents the Site location and VCP boundary.

Project Background

Phase I Environmental Site Assessment (ESA)

A Phase I ESA was completed for the Site by C&S Engineers in March 2025. This Phase I ESA has identified the following Controlled Recognized Environmental Conditions:

- CREC – The prior use of the Subject Property as the Lake Erie Regional Center for Grape Research and Extension, which tested pesticides on grapes from 1964 until 2011 and entered the Voluntary Cleanup Program in 2000 to remediate pesticide and metal contamination to meet commercial use criteria.

This Phase I ESA has identified the following De Minimis Conditions:

- Staining on the concrete slab.

Phase II ESA

Following the identification of the CREC as stated above, C&S completed a Phase II ESA for the Site in 2024. A previous Phase II ESA for the Site conducted in 2018, also by C&S Engineers, was used to supplement the 2024 Phase II ESA. Together the Phase II ESAs identified the following within the VCP Area:

- One round of groundwater sampling was conducted for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), pesticides / herbicides, and metals at the three temporary wells. At GW-1 and GW-2, Manganese exceeded NYSDEC TOGS groundwater guidance values. At GW-2, the VOC toluene was detected at concentrations greater than laboratory detection limits but did not exceed TOGS limits. Concentrations of SVOCs, pesticides, and herbicides were not detected.
- Based the existing Voluntary Cleanup Agreement and Deed Restriction, the Site was cleaned up and maintained for commercial or industrial uses. The future anticipated site use as a health care facility is specifically noted in DER-10 as a commercial use; therefore, soil contaminant concentrations have been compared to the Commercial Use Soil Cleanup Objectives (SCOs) established by NYSDEC.
    - The 2018 sampling did not identify any contaminants exceeding Commercial Use SCOs in both surface and subsurface soil samples.
    - The 2024 sampling identified one surface soil sample, SB-04-0-6 in, as containing benzo(a)pyrene at a concentration exceeding its Commercial Use SCO. This exceedance occurs within the boundary of the former VCP Site, and as such will need to be remediated prior to or as part of construction.
    - The remaining 16 soil samples collected within the VCP (94% of the total samples collected) contained concentrations below the Commercial Use SCOs.

The location of SB-04 benzo(a)pyrene is shown on **Figure 2**. The Phase II ESA is provided in **Attachment A**.

Site Geography, Geology, and Hydrogeology

The soil lithology across the Site generally consists of:

Description	Approximate Depth (ft)
Organic materials and Topsoil transitioning to sand and clay mix, rocks throughout, tan to brown, moist	0-12"
Clay and Sand throughout, occasional gravel throughout, brown, moist	12-60"

Sand with silt, gravel throughout, coarse grain, brown, moist	60-120"

Groundwater elevation measurements taken during the 2018 Phase II ESA indicate that the depth to groundwater ranges from approximately 12 to 14 feet bgs. The topography of the Site indicates that groundwater generally flows north towards Lake Erie.

Material Types

The following wastes are anticipated to be generated / encountered during the construction:

- Non-hazardous Soil

Contractor Site Operations Plan

C&S will review all plans and submittals for this project and confirm that they are in compliance with this WP.

Pre-Construction Submittals

Prior to implementation of the remedy the following submittals will be reviewed:

- The Contractor's schedule to complete each element of the construction within the VCP.
- The Contractor's Site-specific Health and Safety Plan (HASP)
    - All construction work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.
    - The Owner and associated parties preparing the construction documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate Health and Safety Plan and for the appropriate performance of work according to that plan and applicable laws.
- U Dig ticket number along with associated documentation
- Backfill material geotechnical and chemical testing data
- At this time, C&S has not collected waste characterization samples.
- Disposal Facility Permit for material disposed at an off-site facility and letter of acknowledgement from the Disposal Facility stating they intend to accept the material.

Construction Close-out Submittals

- Final topographic survey drawings of the excavation(s) completed within the VCP
- Waste hauler permit certificates (9A Permits for all trucking companies used to haul waste)
- Tabulated load summaries for all related out-going and in-coming materials
- Waste manifests or bills of lading for all related materials
- Shipment records of all backfill material imported to the Site

Soil/Materials Management Plan

Intrusive activities within the VCP will consist of:

- Excavation of soil in the area where benzo(a)pyrene exceedances Commercial Use SCO was detected.

Figure 3 shows the areas of intrusive activity.

Soil Screening Methods

- Visual, olfactory, and / or instrument-based (e.g., photoionization detector) soil screening will be performed by a C&S scientist under the direction of a Qualified Environmental Professional as defined in DER-10 during ground intrusive activities into potentially contaminated soil. Field evidence of impact is defined as having readily identifiable visual or olfactory signs of contamination, including product, tars, or elevated PID readings (i.e., sustained readings >5 parts per million; ppm).
- If impacted soil is encountered during intrusive work, NYSDEC will be contacted, and the contractor will be directed to stockpile the material on polyethylene sheeting in an accessible location near the impacted area.

Soil Staging Methods

- Silt socks will be used as needed near catch basins, surface waters, and other discharge points. Stockpiles will be covered with appropriately anchored tarps or poly sheeting at all times. Stockpiles will be periodically inspected and damaged tarp covers will be promptly replaced.

Materials Excavation and Load-Out

- A C&S scientist or engineer will observe and document during excavation and load-out from the SVOC contamination area.

- The Site Owner and its contractors are responsible for safe execution of all intrusive and other work performed under this WP; however, any entity performing intrusive work on the Site is required to abide by the requirements identified herein.

- The Contractor will investigate the presence of utilities and easements on the Site. It will be determined whether a risk or impediment to the planned work under is posed by utilities or easements on the Site.

- Loaded vehicles leaving the Site will be appropriately covered, manifested, and/or placarded in accordance with appropriate Federal, State, local, NYSDOT, and all other applicable transportation requirements. To the extent practicable, trucks will travel along routes that avoid residential areas.

- Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-site soil tracking.

- The Contractor will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

Materials Transport Off-Site

- All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

- Material transported by trucks exiting the Site will be secured with canvas-type truck covers. If loads contain wet material capable of producing free liquid, truck liners will be used.

- Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during site development.

Materials Disposal Off-Site

- Contaminated and regulated material will be transported and disposed off-site in a permitted facility in accordance with all local, State (including 6 NYCRR Part 360), and Federal regulations. At this time, SVOC contaminated soil is anticipated to be sent off-site for disposal.

- Contaminated and regulated material will be disposed at a facility which is permitted by the NYSDEC or governing body, to accept such materials. In the event that the materials

are sent to an out-of-state disposal facility samples will be collected to ensure compliance with the proposed disposal facilities permit requirements.

- The Contractor shall obtain and submit electronic copies of all transport manifests, bills of lading, and certified weight tickets for recycling and/or disposal of all materials to C&S within 3 calendar days of transport of any material. Receipts shall indicate at a minimum the following information: date, time, driver, remediation or recycling facility, quantity and type of material delivered, facility permit number, as appropriate, and roundtrip travel mileage from the work site to the facility.

Materials Reuse On-Site

- At this time, materials are not anticipated to be reused.

Backfilling From Off-Site Sources

- All material proposed for import onto the Site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, and will be in compliance with provisions in this S/MMP prior to receipt at the site.

- For each source of backfill that is imported to the Site, one of the following will be completed prior to importing the backfill.

    - Documentation will be provided to NYSDEC as to the source of the material and the consistency of the material in accordance with the exemption for no chemical testing listed in DER-10 Section 5.4(e)(5); OR

    - Chemical testing will be completed in accordance with the following table:

DER-10 5.4(e)10

Recommended Number of Soil Samples for Soil Imported to or Exported from a Site			
Contaminant	**VOCs**	**SVOCs, Inorganics, PCBs/Pesticides & Emerging Contaminants**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
0-50	1	1	3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	

1000	Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER

Taken from DER-10 - Table 5.4(e)10

- Imported fill will be tested for PFAS as a composite sample per the table above.
- For materials that must undergo laboratory analytical testing, the results for each new source of fill will meet the values provided in Appendix 5 of DER-10 for Commerical Use and will receive approval by the NYSDEC prior to being imported to the Site.
- Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

Excavation Contingency Plan

- If underground tanks or other previously unidentified contaminant sources are found during development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager will be promptly notified of the discovery.
- Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes [TAL metals, TCL volatiles and semi volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.
- Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. C&S will consult with the NYSDEC to determine management procedures for unknown or unexpected contaminated media. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline.

Air Monitoring

When intrusive subsurface work is being performed for the SVOC remediation, the CAMP included in **Attachment A** will be implemented.

The action threshold for VOCs established in the CAMP is 5 ppm above background. If this value is exceeded for a 15-minute average, work will be halted. Work may resume once instantaneous

readings fall below 5 ppm. The action level for dust is 100 (µg/m^3) over background during a 15-minute average. If this limit is exceeded, dust suppression techniques will be employed, including using water to wet the area.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 µg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 µg/m^3or less at the monitoring point.

Dust and Odor Control Plan

- This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis is not anticipated to be necessary due to lack of extensive petroleum or chemical impacts. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated.

- NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project.

- All necessary means will be employed to prevent on-site and off-site nuisances. At a minimum, these measures will include:

    - limiting the area of open excavations and size of soil stockpiles

    - shrouding open excavations with tarps and other covers

- using foams to cover exposed odorous soils.

- If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include:
    - direct load-out of soils to trucks for off-site disposal
    - use of chemical odorants in spray or misting systems
    - use of staff to monitor odors in surrounding neighborhoods

Construction Quality Assurance Plan

Documentation and Monitoring

- C&S will document the movement and handling of soil from the SVOC contamination area. Contractor will notify the Construction Manager and C&S a minimum of 72 hours prior to start of intrusive work involving handling of contaminated materials.
- C&S will be responsible for all appropriate communication with NYSDEC and NYSDOH.
- C&S will provide documentation and certifications on all work completed on the VCP site as required by Section 5.8 of DER-10 .
- C&S will prepare daily logs that describe environmental activities relevant to the VCP. Daily logs will include:
    - A description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of CAMP results, odor and dust excursions and corrective actions, and all complaints received from the public.
    - A summary of any and all complaints with relevant details (names, phone numbers);
    - Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the WP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the WP will be addressed directly to NYSDEC Project Manager via personal communication.
- C&S will prepare monthly progress reports on the construction within the VCP for NYSDEC review. Monthly progress reports may include:
    - Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (e.g., tons/cubic yards of material exported and imported, etc.);

- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

Confirmatory Sampling

SVOC Contamination Area

To determine the extent of benzo(a)pyrene contamination, at least one round of sampling, and possibly a second round will be conducted. The first round of sampling will consist of the collection of soil from one foot below grade at the original location of benzo(a)pyrene detection and the four cardinal directions around the location. Samples will be analyzed for USEPA Target Compound List (TCL) Semi Volatile Organic Compounds (SVOCs). If any of the five samples from the first round detect SVOCs in concentrations exceeding Commercial Use SCOs, NYSDEC will be consulted to determine locations of future samples. Based on those results, final excavation dimensions must be submitted for approval by NYSDEC .

Should you have any questions or require additional information, please feel free to contact either of the undersigned.

Sincerely,

C&S ENGINEERS, INC.

Cody A. Martin
Project Environmental Scientist

Daniel E. Riker
Department Manager

FIGURES

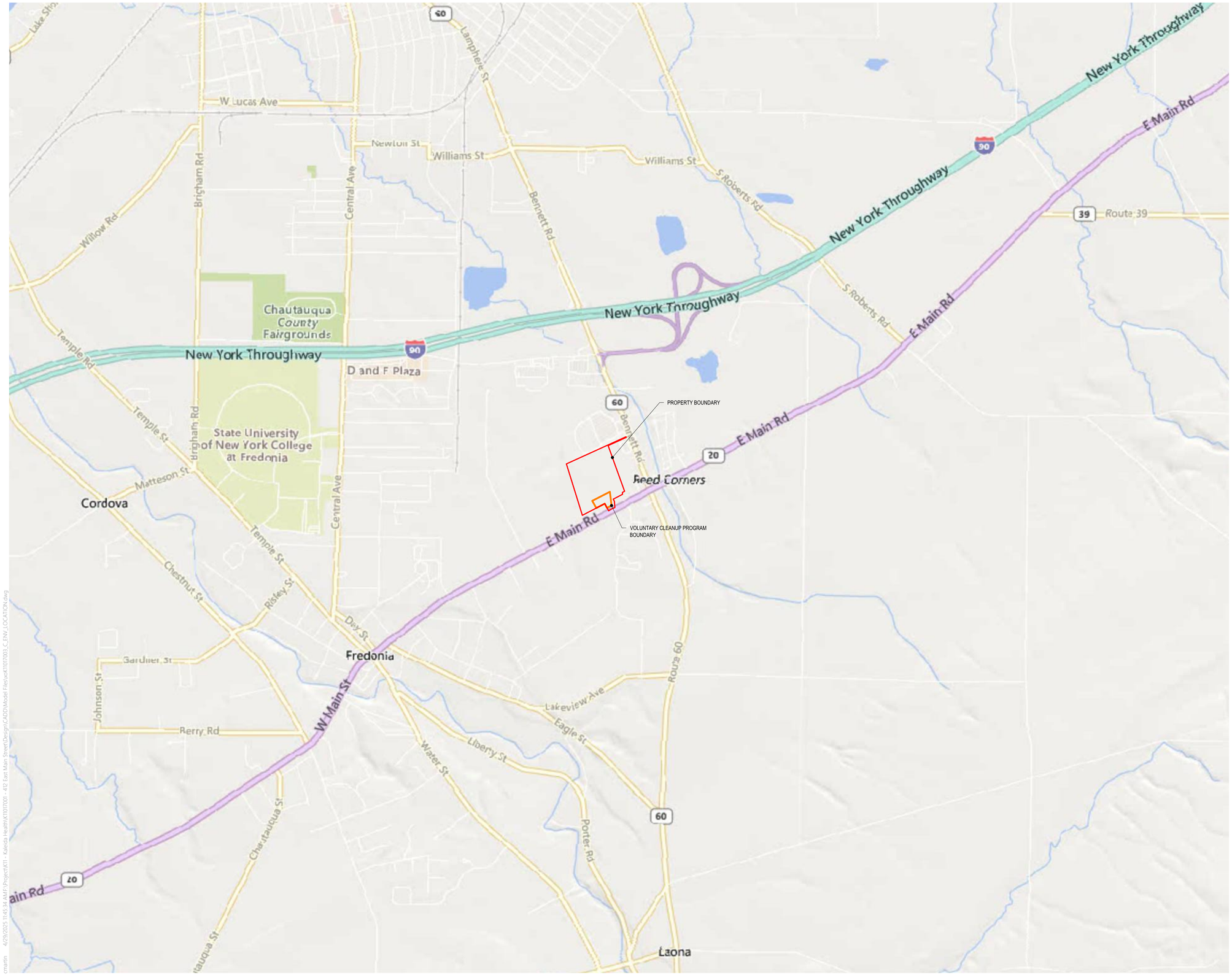

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Figure 1

Site Location

N

0 1000' 2000'

1" = 1000'

When printed on 24 in. by 36 in.

Former Cornell University Vineyard Research Lab Voluntary Cleanup Program

Sources: 2025 Microsoft Corporation; 2025 TomTom

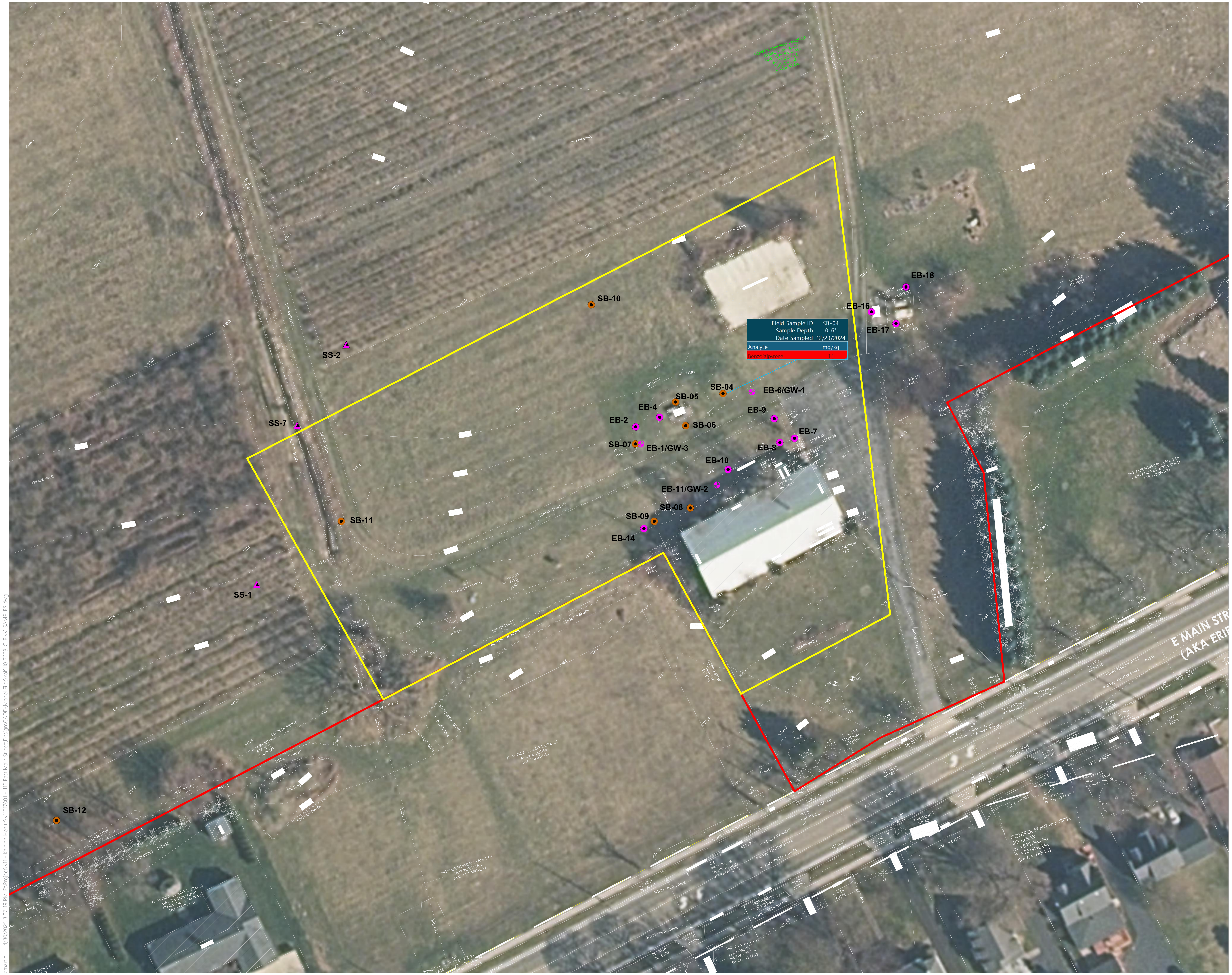

Figure 2

Previous Investigations

Property Boundary

Volunteer Cleanup Program Boundary

2018 Investigation

Soil Boring Location

Soil Boring and Temporary Groundwater Monitoring Well Location

Surface Soil Location

2024 Investigation

Soil Boring Location

0 30' 60'

1" = 30'

When printed on 24 in. by 36 in.

Former Cornell University Vineyard Research Lab Voluntary Cleanup Program

Sources: 2025 Microsoft Corporation; 2025 TomTom

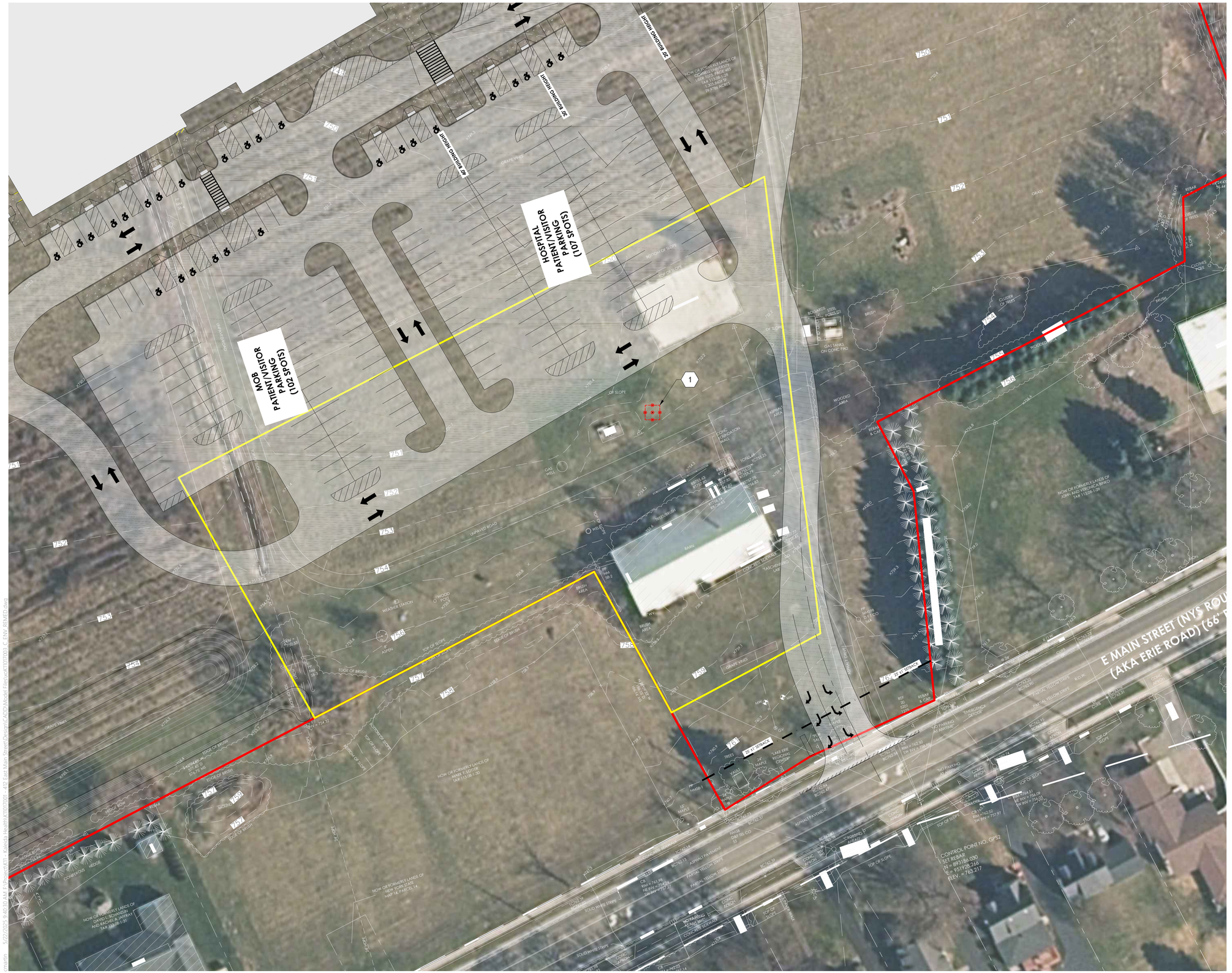

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Figure 3

Construction Activity (VCP Area)

🟥	Property Boundary
🟨	Volunteer Cleanup Program Boundary
●	Confirmatory Soil Sample Location

Notes

1. SVOC contamination removal and confirmatory soil sampling.

1" = 30'

When printed on 24 in. by 36 in.

Former Cornell University Vineyard Research Lab Voluntary Cleanup Program

Sources: Concept Plan, Northern Chautauqua Hospital, CPL, 2/12/2025

ATTACHMET A
Community Air Monitoring Plan

Community Air Monitoring Plan

for

Marine Drive Apartments East Site
90 Erie Street
Buffalo, Erie County, New York

October 2024

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.

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.

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.

<u>VOC Monitoring, Response Levels and Actions</u>

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, such as isobutylene. 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.

<u>Particulate Monitoring, Response Levels, and Actions</u>

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 mcg/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 mcg/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 mcg/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.

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$_{o}$ C (14 to 122$_{o}$ F); and
(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 PM-10 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.

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.