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November 7, 2022

Mohawk Valley EDGE
584 Phoenix Drive
Rome, New York 13441

Attn: Christian Mercurio Email: cmercurio@mvedge.org

Re: Subsurface Investigation Work Plan
Parcel F4B – Former Air Force Facility 796 Site
Daedalien Drive
Rome, Oneida County, New York
ATL Report No. UT5571CE-01-06-22 Revision 2

Ladies/Gentlemen:

Enclosed is a copy of a revised Subsurface Investigation Work Plan prepared for the referenced site. This report was revised based on comments provided by representatives of the United States Environmental Protection Agency (USEPA) via email from Bob Morse (USEPA Region 2 Superfund and Emergency Management Division), dated October 3, 2022, and comments provided by the New York State Department of Health (NYSDOH) and New York State Department of Environmental Conservation (NYSDEC) via email from Heather Bishop (NYSDEC Division of Environmental Remediation), dated October 19, 2022. A summary of the comments and associated revisions is provided below.

USEPA – Hydrogeologist Comments

1. **General:** Please provide details on how investigation-derived waste (IDW) from soil borings and groundwater sampling will be managed.

   A paragraph has been added to the ends of Sections 3.2 and 4.3 to describe management of IDW.

2. **General:** Please provide details on deliverables from this investigation (i.e. a tech memo summarizing the results, updated groundwater flow maps)

   A description for the deliverables has been added to the end of Section 6.

3. **Section 4.3 pg 11 par. 1:** It is noted that groundwater sampling will be performed using bailers and the 3-well volume methodology. It is suggested that low-stress/low-flow sampling procedures be utilized instead, both for data quality and minimization of IDW/purge water.

   Section 4.3 has been revised to indicate use of low-stress/low-flow sampling procedures instead of bailers.

4. **Section 4.4.3 pg 12 par. 1:** "Third party data validation is not considered necessary…" This is not acceptable. The data needs to be validated.

   Sections 3.3.3 and 4.4.3 have been revised to indicate that third party data validation will be conducted for each laboratory analysis package.

5. **Section 6.0 pg 12 General:** Site samples should be compared to the lower of EPA MCLs (if available) and NYSDEC MCLs for soil and groundwater (as opposed to just NYSDEC values).

   The text in Section 6 referencing comparison of groundwater results has been revised to include USEPA Maximum Contaminant Limits (MCL) as listed in the National Primary Drinking Water Regulations (NPDWRs) and National Secondary Drinking Water Regulations (NSDWRs).

   The text in Section 6 referencing comparison of soil results has been revised as described in Comment 3 under "USEPA – Human Health Risk Assessor Comments."

6. **Section 6.0 pg 12 par. 2:** In addition to the NYSDEC MCLs for PFOA and PFOS, PFBS and HFPO/GenX compounds (if applicable) should be compared to their EPA Drinking Water Health Advisories of 2,000 ng/L and 10 ng/L, respectively.

   Section 6 has been updated to include these limits for comparison to PFBS and HFPO/GenX compounds results.

7. The PFAS analytical method needs to be **537.1** (the SIWP had 537).

   Section 4.4.3 revised to indicate 537.1 instead of 537.

USEPA – Human Health Risk Assessor Comments

1. Table 1 provides an overview of the area but further details are needed to understand potential exposures. The text states "Planned Playground Area along Northwest Side of Building" but does not identify potential exposures that may occur in this area e.g., paved, grass covered, etc.

   Per correspondence from Christian Mercurio, representing Mohawk Valley EDGE, the playground area is still in design and can be designed and constructed as needed to incorporate risk-based considerations. No additional information has been added to the Subsurface Investigation Work Plan, as details for playground construction will be determined at a later date.

2. **Section 1.6** requires further description of the proposed play area e.g., is this area paved, covered with grass, and are there plans to modify the area for play activities – mulch, rubber matting, etc.

   Reference response for item 1 under this section of comments.

3. **Section 6.0**. The text indicates that the soil results will be compared to the NYSDEC Unrestricted Use Soil Cleanup Objectives. It is also recommended that the comparison include EPA's Regional Screening Levels for Residential land use. This comparison will provide information to support EPA's decisions based on risk.

The text in Section 6 referencing comparison of soil results has been revised to include USEPA's Regional Screening Levels (RSL) for residential land use.

4. **Lead**. The text did not appear to identify sampling for lead. The text needs to clarify the plan to evaluate lead and the value that will be used for comparison.

   Section 3.3.4 has been added to describe lead assessment. In general, lead is included with the Target Analyte List (TAL) metals for which soil samples are being analyzed. If there are bare soil areas identified at the subject site that are not included in the soil sampling and analysis plan, additional soil samples will be collected from these areas.

5. **Sample Depths**. EPA requires that soil samples be collected from discrete depths: 0 to 6", 6 to 12", and 12 to 24". Please note that NYSDEC may have its own requirements for sample depths.

   As indicated in item 1 under "NYSDOH/NYSDEC Comments," NYSDOH/NYSDEC requested sample intervals of 0 to 2", 2 to 6", 6 to 12", and 12 to 24". Subsequent correspondence indicated USEPA is agreeable to these sampling intervals, to avoid duplication of sampling intervals by having to split between samples at 0 to 6" and samples at 0 to 2" and 2 to 6".

USEPA – General Comments

1. EPA will not be offering suggestions for design of the playground at this time. It is possible that we may offer suggestions after we have reviewed the Soil and Groundwater Investigation Report. In the meantime, please provide us with all possible details related to the construction of the playground.

   Reference response for item 1 under "USEPA – Human Health Risk Assessors Comments."

2. A Human Health Risk Assessment that evaluates future residential use may be required, depending on the results of the planned investigation.

   It is our understanding any Human Health Risk Assessment will be coordinated subsequent to the subsurface investigation work and sampling and analysis activities that are described in the SIWP.

USEPA – SVI

1. It may be useful to sample indoor air prior to the commencement of renovation activities, to provide a baseline for comparison to any subsequent indoor air sampling results obtained after completion of the renovation activities.

   Sub-slab vapor intrusion mitigation will be implemented and evaluated separately from this subsurface investigation work plan. Section 5 has been revised accordingly.

NYSDOH/NYSDEC Comments

1. At a minimum, to characterize site contaminants in surface soil, samples should be collected in the 0-2'' interval below ground surface (directly below any vegetative cover) in areas of uncovered grass or soil for full suite analysis with the exception of Volatile Organic

Compounds (VOCs). To evaluate potential for exposures to contaminants in shallow soil, samples should be collected from each of the following intervals for full suite analysis: 2''-6'', 6''-12'', and additionally from 12''-24''.

Section 3.3.1 has been revised to include these different sampling intervals for each of the 13 sampling locations.

Section 3.3.3 has been revised to include a full suite of analysis for soil samples, including VOC (except for 0 to 2" samples), semi-VOC, Target Analyte List (TAL) metals, hexavalent chromium, cyanide, pesticides, polychlorinated biphenyls (PCB), and PFAS.

2. We understand a sub-slab depressurization system (SSDS) will be installed in the subject building to mitigate potential exposures from soil vapor intrusion. Post-mitigation physical (pressure field differential) and chemical (summa indoor air analytical) testing should be performed to ensure the slab is depressurized in its entirety, and the indoor air concentrations are within background ranges.

   Sub-slab vapor intrusion mitigation will be implemented and evaluated separately from this subsurface investigation work plan.

3. A Community Air Monitoring Plan (CAMP) should be a component of the work plan and implemented during all ground intrusive activities. In addition, any exceedances of action levels should be reported to the NYSDOH & NYSDEC as soon as possible.

   Section 7.0 and Appendix D have been added to the SIWP. As indicated in these sections, the NYSDOH Generic CAMP will be implemented during the subsurface investigation work activities.

Please review and contact our office should you have any questions, comments, or need additional information.

Sincerely,
ATLANTIC TESTING LABORATORIES, Limited



Cheyenne J. Dashnaw, P.E.
Senior Engineer

CJD/cjd

Enclosures

cc: Bob Morse, USEPA Region 2 (Morse.Bob@epa.gov)
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SUBSURFACE INVESTIGATION WORK PLAN

PARCEL F4B – FORMER AIR FORCE FACILITY 796 SITE
DAEDALIEN DRIVE
ROME, ONEIDA COUNTY, NEW YORK

WBE certified company

PREPARED BY:

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ATL REPORT NO. UT5571CE-01-06-22 Revision 2

November 7, 2022

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1.0 INTRODUCTION

1.1 Purpose

Atlantic Testing Laboratories, Limited (ATL) was retained by Griffiss Local Development Corporation (GLDC) to prepare a Subsurface Investigation Work Plan and conduct soil and groundwater sampling to assess existing conditions at a portion of the site identified as Parcel F4B at the former Griffiss Air Force Base (GAFB). Specifically, the area to be investigated is the section of Parcel F4B developed with former Air Force Building 796 (herein referenced as the subject site).

The purpose of this Subsurface Investigation Work Plan is to summarize the planned scope of work for a subsurface investigation, describe proposed soil and groundwater sampling and laboratory analysis methods, and identify the approach for evaluation of data generated from the soil and groundwater sampling and analysis. The intent of the subsurface investigation is to evaluate existing soil and groundwater conditions in an effort to seek removal of the non-residential land use restriction from the subject site only (not inclusive of the adjacent former Air Force Building 798 or the remainder of Parcel F4B).

1.2 Site Description

The subject site includes a portion of the property identified as Parcel F4B, specifically the section developed with former Air Force Facility 796, located along Daedalien Drive, Rome, Oneida County, New York. The subject site is intersected by 43° 12’ 44” north latitude and 75° 23’ 55” west longitude. A Site Location Map is included in Appendix A.

The subject site is bounded by Daedalien Drive to the northwest, Phoenix Drive to the northeast, former Air Force Building 798 (currently BAE Systems) to the southeast, and Perimeter Road to the southwest. Available information indicates the current on-site structure (former Air Force Building 796) was constructed in 1982 and is comprised of approximately 22,400 square feet. This structure is located on the central area of the subject site. Other development includes asphalt-paved driveways and parking areas on the northwest and northeast sides, concrete walkways, and grass-covered lawn areas (with some trees). The Proposed Probe and Monitoring Well Location Plan, contained as Appendix B, shows an aerial overview with site features.

Water and wastewater services for the subject site are supplied by local municipal systems. The subject site is fully developed and it is not anticipated that excavation of soil or significant ground disturbance would be needed for planned future uses that are under consideration. A proposed plan for reuse of the subject site includes professional offices on the 2nd floor and educational/day care on the 1st floor. A playground area associated with the educational/day care facility would be located along the northwest side of the building (approximate extents of playground area are shown on the Proposed Probe and Monitoring Well Location Plan in Appendix B).

1.3 Background Information

The following information was reviewed during preparation of this Subsurface Investigation Work Plan:

- Oneida County Clerk, New York Quitclaim Deed, entered into on August 21, 2001, between United States of America (by and through the Secretary of the Air Force) and Oneida County Industrial Development Agency, recorded at Liber 3032, pages 319-336
- Finding of Suitability for Early Transfer (FOSET) for AFBCA/DA, Parcel F4B, SAC Hill, dated March 2001
- Final Record of Decision (ROD) for the On-base Groundwater (OBGW) Area of Concern (AOC) (SD-52) at the Former GAFB, Rome, New York, dated April 2009
- Administrative Record File Number 594051, including redacted text, tables, and figures from Site Inspection Report for Aqueous Film Forming Foam (AFFF) Areas at Former GAFB, Rome, NY
- Figure 2-3, titled SD052-02 Building 775 Site Trichloroethylene (TCE) Plume (September 2020) and dated March 29, 2021, from 2020 Annual Performance Monitoring Report for OBGW Remediation, Former GAFB, Rome, New York
- Figure 7, titled Potentiometric Surface Map (May 19, 2020) and dated November 3, 2021, and Table 1, titled Site SD052-02 Building 775 Water Level Measurements (May 2020), from Site SD052-02 Site Status Report for Former GAFB, Rome, New York

Appendix C, General Summary of Historical Site Information, includes excerpts from the aforementioned documents that are considered relevant to the environmental subsurface conditions at the subject site and the information presented in this Subsurface Investigation Work Plan.

New York Quitclaim Deed and FOSET

The New York Quitclaim Deed for the Parcel F4B property identifies various environmental covenants pertaining to hazardous substances, hazardous wastes, environmental investigations and remedial actions, storage tanks, Installation Restoration Program (IRP) sites, and AOC, among others. The FOSET provides additional details for environmental conditions at the subject property and related findings associated with historic site use. Findings specific to Facility 796 include the following:

- Facility 796 was constructed in 1982.
- Hazardous waste were stored (90-day maximum) over a period of 1 year or more at Facility 796, including paraffinic petroleum hydrocarbon reported at 47 pounds in 1991 and 1992, and lead acid batteries reported at 3 pounds in 1991.
- A 125-gallon aboveground storage tank (AST), identified as tank number AST-796-1 for storage of diesel fuel for emergency power generation, was described as remaining in-service and having no reported spills as of the date of the FOSET.
- A 75-gallon AST, identified as tank number AST-796-2 for storage of diesel fuel for emergency power generation, was described as remaining in-service and having no reported spills as of the date of the FOSET.
- A 275-gallon underground storage tank (UST), identified as tank number UST-796 for storage of diesel fuel for emergency power generation, was described as closed through removal in 1997 and having no reported spills.
- Visual inspection form in FOSET reported no oil/water separators, no septic tank systems, and no dry wells for Facility 796.

- The property map in Exhibit B of the FOSET shows a portion of the northwest side of the subject site as affected by IRP Site ID SS-38. SS-38 is described in the FOSET report as an area of concern associated with TCE contamination from Building 775 pumphouse, suspected to have originated from a degreasing system. Further description in the FOSET report indicates a cosmoline degreasing vat was located in the degreasing room of Building 774 and the degreasing system utilized a monorail to carry equipment to the degreasing vat for solvent cleaning. The deed restricts access to all subsurface soils and groundwater at or below the groundwater interface at this AOC until cleanup actions are executed and determined to be satisfactory.

Relative to the overall Parcel F4B, property use has been restricted to industrial and commercial non-residential use unless permission is obtained from the United States Environmental Protection Agency (USEPA), New York State Department of Environmental (NYSDEC), and New York State Department of Health (NYSDOH). Further restrictions stated in the New York Quitclaim Deed indicate that the owner or occupant shall not extract, utilize, consume or permit to be extracted, any water from the aquifer below the surfaces of the ground unless such groundwater has been tested and found to meet all applicable standards and/or prior written approval is obtained from the NYSDOH. Two AOC and one IRP site have been described for Parcel F4B, including the following.

- AOC: SS-38, Building 775 (Pumphouse 3) Site – Restriction on access to subsurface soil and groundwater in this area until appropriate cleanup requirements are identified and cleanup actions are satisfactorily executed.
- AOC: SD-52, OBGW Site – Global groundwater restriction required for the subject site, Building 781 (Pumphouse 1) Site – Restriction on access to subsurface soil and groundwater in this area until appropriate cleanup requirements are met and cleanup actions are satisfactorily executed.

There were 9 IRP/AOC sites located on adjacent properties and identified to have potential impact to the Parcel F4B, including the following:

- LF-07 – Former Landfill No. 5 located west of the property
- LF-09 – Former Landfill No. 6 located west of the property
- LF-28 – Former Landfill No. 4 located west of the property
- SD-31 – Three Mile Creek located west of the property
- SS-34 – Building 786 (Nose Dock No. 5) located northwest of the property
- ST-37 – Former Building 771 (Pumphouse 6) located northwest of the property
- SD-41 – Building 782 (Nose Docks 1 and 2) located northwest of the property
- SS-46 – Glycol Storage and Use Area located northwest of the property
- LF-49C – 0.5-acre landfill located west of the property

Final ROD for the OBGW AOC (SD-52)

A Final ROD for the OBGW AOC at the Former Griffiss Air Force Base in Rome, New York, dated April 2009, includes details pertaining to remedies for 4 OBGW AOC sites at the former GAFB. These sites are designated as follows:

- SD-52, Ladfill 6 Operable Unit
- SD-52, Building 775 Operable Unit

- SD-52, Building 817/WSA Operable Unit
- SD-52, Apron 2 Operable Unit

The groundwater contaminant plume associated with SD-52, Building 775 Operable Unit is within in the vicinity of the subject site. The identified contaminant of concern for this OBGW site is trichloroethene. The selected remedy for the Building 775 OBGW site is described in the ROD as including the following:

- Installation of recovery wells to extract the groundwater from the Building 775 plume.
- The groundwater will then be discharged to a sanitary sewer for off-site treatment at a wastewater treatment facility or treated on-site and discharged to Three Mile Creek.
- Long-term maintenance of the treatment system that will require sampling of the influent and effluent volatile organic compounds (VOC) concentrations prior to discharge.
- Treatment performance monitoring during full-scale implementation.
- Institutional controls in the form of deed restrictions for affected groundwater.

As indicated in the excerpt from the ROD provided in Appendix C.3 (reference Section 3.1.12, Figure 3-5 excerpt), the subject site is within the boundary established for land use and institutional controls associated with the SD-52, Building 775 Operable Unit.

TCE Plume Data and Groundwater Elevation Data

Appendix C.4 includes a figure showing the approximated TCE plume for Site SD-52, Building 775 Operable Unit during the most recent groundwater monitoring event in 2020. As shown in this figure, the approximated TCE plume appears to be within the immediate vicinity of the subject site; however, available sampling and analysis data does not definitively identify the limits of the plume along the south/east sides where the plume nears the Building 796 area.

Appendix C.5 includes a figure showing potentiometric surface contours relative to groundwater elevations obtained for the Site SD-52, Building 775 Operable Unit in 2020. Appendix C.5 also includes a table showing groundwater elevations from measurements obtained from existing monitoring wells. Monitoring wells closest to the subject site indicate depths to groundwater ranging from 50 to 65 feet in May 2020, and an apparent groundwater flow direction towards the south/southwest.

Administrative Record File Number 594051

Administrative Record File Number 594051 includes redacted text, tables, and figures from a Site Inspection Report for AFFF areas at the former GAFB. Available information includes sampling and per- and polyfluoroalkyl aubstances (PFAS) analysis data from 2016/2017 for areas of concern relative to locations where AFFF was stored or released. While the subject site was not specifically an AOC, sampling and analysis was completed for nearby surrounding areas, including a monitoring well along Perimeter Road (monitoring well LF6MW-1), located approximately 250 feet west of the subject site. The sample collected from this monitoring well identified perfluorooctanoic acid (PFOA) at an estimated

concentration of 0.00815 parts per billion (ppb). Perfluorooctanesulfonic (PFOS) was not detected above the laboratory method detection limit (0.012 ppb).

2.0 AREAS OF INVESTIGATION

The intent of the subsurface investigation will be to assess soil and groundwater conditions at the Facility 796 portion of Parcel F4B, to assist in determining if site usage for this portion of the parcel can be modified to allow uses other than the current restriction for industrial or commercial non-residential. Soil sampling and analysis will provide data to evaluate potential for direct exposure to contaminants of concern in surface soil at the subject site. Groundwater sampling and analysis will further assess the potential for contaminants of concern from the groundwater plume associated with SD-52, Building 775 operable unit. Soil vapor intrusion has also been identified as a potential concern at the subject site. Based on project correspondence, soil vapor intrusion will be mitigated and assessed separately from the scope of work presented for the soil and groundwater sampling and analysis (reference Section 5 for additional discussion of soil vapor intrusion).

Areas of investigation for soil sampling and analysis will primarily include grass-covered portions of the site where there would be elevated potential for direct contact with on-site soil. Hardscape areas (e.g., asphalt, concrete) are not considered to be high risk potential for contact with on-site soil and will not be incorporated into the areas of investigation. The proposed subsurface investigation will include collection of shallow depth soil samples (within 0 to 2 feet depths). Reference Section 3 for additional description of the proposed soil sampling and analysis.

Areas of investigation for groundwater sampling and analysis will include areas to the north, west, and southwest of the subject building, where the groundwater contaminant plume associated with SD-52-2 OBGW site (Building 775) may encroach upon the subject site. It is proposed that 4 temporary monitoring wells be installed for 2 rounds of groundwater sampling and analysis. Two other existing monitoring wells at nearby locations will also be included in the groundwater sampling and analysis events. Reference Section 4 for additional description of the proposed groundwater sampling and analysis.

3.0 SOIL SAMPLING AND ANALYSIS

3.1 Proposed Soil Probe Locations

As described in Section 2, the subsurface investigation will include shallow depth soil sampling to assess conditions within areas of high risk potential for contact with on-site soil. Deeper probes will also be advanced for installation of temporary monitoring wells, in addition to collection of shallow depth soil samples at these locations. Proposed locations for probes to be advanced during the subsurface investigation are shown on the Proposed Probe and Monitoring Well Location Plan in Appendix B. These locations are approximate and subject to change if underground utilities or structures are identified at the planned locations. Relocation of probes to avoid identified utilities or structures will typically be an offset of 5 to 10 feet from the original planned location in a direction away from the subsurface component. A summary of the planned probe locations is provided in Table I.

Table I
Summary of Proposed Probe Locations

Probe Number[1]	General Location[2]	Proposed Depth (feet)
P-01	Grass-Covered Area on North Corner of Site	2
P-02	Planned Playground Area along Northwest Side of Building	2
P-03	Grass-Covered Area on Northwest Side of Site	2
P-04	Planned Playground Area along Northwest Side of Building	2
P-05	Planned Playground Area along Northwest Side of Building	2
P-06	Planned Playground Area along Northwest Side of Building	2
P-07	Grass-Covered Area on West Corner of Site	2
P-08	Grass-Covered Area Southwest of Building	2
P-09	Grass-Covered Area Southwest of Building	2
MW-01	Grass-Covered Area on North Corner of Site	55-70
MW-02	Planned Playground Area along Northwest Side of Building	55-70
MW-03	Grass-Covered Area on West Corner of Site	55-70
MW-04	Grass-Covered Area Southwest of Building	55-70

Notes:
1. Probe numbers MW-01, MW-02, MW-03, and MW-04 are proposed locations for temporary monitoring wells (reference Section 4).
2. Proposed probe locations are shown on the Proposed Probe and Monitoring Well Location Plan in Appendix B.

3.2 Soil Sampling Methodology and Screening

Soil probes for the locations of the temporary monitoring wells (proposed to extend to 55 to 70 feet below ground surface (bgs)) will be advanced utilizing Geoprobe Systems' Model 7822DT drill rig. Continuous soil samples will be collected at each of these probe locations, to depths of 20 feet bgs, for field screening and classification. Soil samples are not planned to be collected for the intervals between 20 feet and the groundwater table. The soil samples will be collected utilizing Geoprobe Systems' Macro-Core Soil Sampler system, by advancing a 1.75-inch diameter by 60-inch long steel sampling barrel equipped with expendable PVC liners.

Soil probes for the locations proposed to extend to 2 feet bgs will be advanced utilizing the Geoprobe Systems' Model 7822DT hammer direct push soil probing system, with similar sampling methods as previously described, or the locations will be manually sampled with hand tools (e.g., shovel, trowel, hand auger). It is anticipated that the Geoprobe equipment will be initially used for the monitoring well locations, while hand sampling is concurrently initiated at other locations. Shallow depth probe locations that remain after completion of monitoring well installation may then be sampled with the Geoprobe equipment.

Recovered soil samples will be visually and olfactively examined for characteristic indicators of petroleum or chemical contamination, and screened for the measurable presence of VOC, using a portable photoionization detector (PID) equipped with a 10.6 eV lamp.

Dedicated sampling equipment will be used for each probe location, to the extent practical. This would include the expendable PVC liners for Macro-Core Soil Sampler system, trowels for manual sampling, and mixing containers for homogenizing soil samples prior to transfer to laboratory-provided soil sample containers. All down-the-hole sampling tools will be

decontaminated between samples using phosphate-free detergent and tap water wash, tap water rinse, and distilled water rinse. Probe locations will be initially backfilled with excess material from the probes remaining subsequent to soil sample collection, and a clean sand material will be used for the balance of backfill.

Any investigation-derived wastes (IDW) associated with the soil sampling will be containerized on-site and labeled, for temporary storage prior to receipt of laboratory analysis results for the soil samples and conducting any applicable waste characterization sampling and analysis and waste profile. The owner will subsequently coordinate requisite waste sampling, analysis, handling, and disposal.

3.3 Sample Collection for Laboratory Analysis

3.3.1 Proposed Samples

A total of 52 soil samples are proposed to be collected for laboratory analysis. A summary of the planned soil sample locations and depths is provided in Table II.

Table II
Summary of Proposed Soil Samples for Laboratory Analysis

Sample Location	Sample Depth (inches)	Purpose for Samples
P-01	0 – 2 (below vegetative layer) 2 – 6 6 – 12 12 – 24	1 sample at each of the referenced probes and depths, to assess soil conditions at shallow depths for locations with high risk for direct contact with soil
P-02		
P-03		
P-04		
P-05		
P-06		
P-07		
P-08		
P-09		
MW-01		
MW-02		
MW-03		
MW-04		

Notes: 1. Proposed probe locations are shown on the Proposed Probe and Monitoring Well Location Plan in Appendix B.

Field QA/QC samples will include field duplicates at a frequency of 1 in 20 (1 field duplicate), matrix spike/matrix spike duplicates (MS/MSD) at a frequency of 1 in 20 (1 MS/MSD), and 1 trip blank per sample collection event.

3.3.2 Sample Management

Each collected sample requiring laboratory analysis will be identified with a sample label affixed to the sample container. Information contained on the sample label will correspond to information to be recorded on an individual entry to a chain-of-custody record. This information will include sample identification number, sample description, parameter(s) to be analyzed, date collected, time collected, number of containers, sample matrix, and

sample type (i.e., grab, composite). Sample labels will also be identified with the site name and project number. Each chain-of-custody form will include the site name, project number, company name, sampler's printed name and signature, and entries for signatures of personnel relinquishing and receiving samples.

Sample containers will be placed in a waterproof, high-strength plastic ice chest or cooler. Inert cushioning and packing material will be placed at the bottom of the cooler and between samples. Double-bagged crush ice will also be placed in the cooler with the samples, as applicable to maintain approximately 4 °C during storage and delivery to the laboratory.

Collected samples and chain-of-custody documentation will be sent to the laboratory via courier or overnight shipment through a commercial carrier. Based on the laboratory schedule, no samples will be shipped on Friday, Saturday, or Sunday. ATL will retain a carbon copy of the chain-of-custody documentation. The original chain-of-custody record will be placed in a waterproof zipper-sealed bag, and provided to the laboratory.

3.3.3 Laboratory Analysis

Soil samples that are collected for subsequent laboratory analysis will be submitted to a NYSDOH Environmental Laboratory Approval Program (ELAP) approved laboratory. The laboratory providing analysis will be one of the following.

Alpha Analytical
8 Walkup Drive
Westborough, Massachusetts 01581-1019
NYSDOH ELAP No. 11148

Pace Analytical Services, Inc.
575 Broad Hollow Road
Melville, New York 11747-5076
NYSDOH ELAP No. 10478

Contaminants of concern associated with the SS-38 AOC (shown in the FOSET report with delineated AOC encroaching onto the northwest side of Facility 796 site) included chlorinated solvents. Additional information in the FOSET report identified storage tanks with diesel at Facility 796 (albeit no reported spills) and storage of hazardous wastes (paraffinic petroleum hydrocarbon and lead acid batteries). Laboratory analysis for the soil samples to be collected during the subsurface investigation will include the contaminants of concern in addition to other typical contaminants of concern to assess risks relative to the intended site usage. The following laboratory analysis will be provided for the collected soil samples.

- VOC, in accordance with EPA Method 8260 (to include chlorinated solvents) [with the exception of soil samples collected from 0 to 2 inches]
- Semi-VOC, in accordance with EPA Method 8270 (base/neutral extractables)
- Target Analyte List (TAL) metals, in accordance with EPA Methods 6010 and 7471
- Hexavalent Chromium, in accordance with EPA Method 7196
- Pesticides and Polychlorinated Biphenyls (PCB), in accordance with EPA Methods 8081 and 8082

- Cyanide, in accordance with EPA Method 9012
- PFAS, in accordance with EPA Method 537.1

Field duplicate samples will be analyzed for the same parameters listed above. MS/MSD samples will be analyzed for the same parameters, with the exception of PFAS. Trip blanks will be laboratory analyzed for VOC only. The laboratory analysis report will be provided as a NYSDEC Analytical Services Protocol (ASP) Category B deliverable. Third party data validation will be conducted for each laboratory analysis package.

3.3.4 Lead Assessment

As lead analysis is included with the TAL metals, assessment for lead in soil will be completed using the sampling and analysis plan described in Sections 3.3.1 through 3.3.3. In the event that there are bare soil areas at the subject site, not otherwise included in the sampling and analysis plan, additional soil samples will be collected from the bare soil areas. The soil sampling for bare areas will be performed consistent with methods described in Appendix 13.3 of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (2012 Edition)*. Lead analysis results will be compared to standards and guidance values, as described in Section 6.0, along with evaluation relative to USEPA limits for a soil lead hazard of 400 ppm for play areas and 1,200 ppm for the rest of the yard.

4.0 GROUNDWATER SAMPLING AND ANALYSIS

4.1 Installation of Temporary Monitoring Wells

As described in Section 2, the subsurface investigation will include groundwater sampling to assess conditions where the groundwater contaminant plume associated with SD52-2 OBGW site (Building 775) may encroach upon the subject site. Proposed locations for temporary monitoring wells are shown on the Proposed Probe and Monitoring Well Location Plan in Appendix B. These locations are approximate and subject to change if underground utilities or structures are identified at the planned locations. Relocation of probes to avoid identified utilities or structures will typically be an offset of 5 to 10 feet from the original planned location in a direction away from the subsurface component. A summary of the planned temporary monitoring well locations is provided in Table I of Section 3.1.

The subsurface investigation will include the installation of 4 temporary monitoring wells at the subject site (MW-01, MW-02, MW-03, MW-04). Assessment of groundwater will include sampling of these 4 monitoring wells, in addition to sampling of 2 existing nearby monitoring wells. Additional details pertaining to the monitoring wells to be included in the sampling and analysis program for this assessment are provided in Section 4.3.

Monitoring wells will be advanced using a Geoprobe Systems' Model 7822DT drill rig. The monitoring wells will be installed in probes that are cased with 2.125-inch O.D. steel casing (1.5-inch I.D.) equipped with an expendable drive point to prevent slough from entering the interior cavity of the casing. The wells will be constructed with pre-packed screens (0.01-inch slots schedule 40 PVC screen) and 1-inch schedule 40 PVC well riser. The pre-packed screens will be installed to intercept the seasonal groundwater table, estimated at 55 to 65 feet bgs based on historical data from existing nearby monitoring wells. Silica sand will be placed within the open annular space around the outside of the temporary monitoring wells

and a bentonite slurry mix will be placed near the ground surface to limit direct surface water runoff. Since the monitoring wells will be used as temporary sampling points and will be located in grass-covered areas, well protectors are not planned unless specifically requested by GLDC. The PVC well riser will extend above the ground surface with a cap/plug installed.

Subsequent to installation, the monitor wells will be developed to facilitate future sampling and analysis. Development will include evacuating a sufficient volume of water to reduce turbidity and sediment associated with installation activities, and seat the well. The wells will be allowed to recover for at least 24 hours prior to sampling.

4.2 Survey for Locations and Elevations

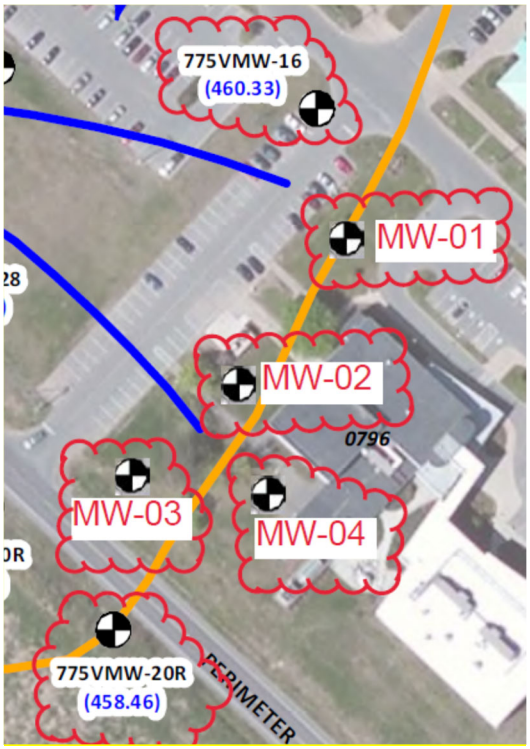
A survey will be completed to locate the 4 temporary monitoring wells and determine the ground elevation and top of casing/riser elevation at each well location. The 2 existing monitoring wells that are being sampled along with the temporary monitoring wells will also be surveyed concurrently. A scaled drawing will be provided to show the monitoring well locations. Data and information provided from the survey will be used to determine groundwater elevations during sampling events and evaluate groundwater flow direction via groundwater contours.

4.3 Groundwater Sampling Methodology and Field Measurements

The groundwater sampling and analysis for this assessment will include 2 rounds of sampling, with the first round soon after the monitoring wells are installed and the second round at 3 months following the first round. Each sampling event will include collection of groundwater samples from the 4 temporary monitoring wells that are proposed to be installed and from 2 existing nearby monitoring wells. Table III provides a summary of the monitoring wells to be sampled.

Table III
Monitoring Wells for Sampling

Monitoring Well Identification	General Location	Depth to Groundwater Measurement – May 2020 (feet btoc)	Groundwater Elevation – May 2020 (feet AMSL)
MW-01	Reference photo snapshot below and Appendix B	---	---
MW-02		---	---
MW-03		---	---
MW-04		---	---
775VMW-20R		62.65	458.46
775VMW-16		60.61	460.33



Notes: btoc = below top of casing
AMSL = above mean sea level

For the groundwater sampling, which will include collection of samples for PFAS analysis, work procedures will be implemented to ensure no sampling equipment components or sample containers come in contact with aluminum foil, polyethylene, glass, or polytetrafluoroethylene materials. Low-stress/low-flow sampling procedures (e.g., inertial pump, submersible pump) will be utilized for sample collection. Samplers will avoid wearing clothing that contains PTFE material or that have been waterproofed with potential PFAS materials, and wear clothing that have been laundered multiple times. Bug spray and sunscreen, if planned to be used, shall be carefully selected to avoid types that could potentially contain PFAS.

Prior to sample collection, measurements for groundwater depth measurements and general water quality parameters (pH, oxidation reduction potential, dissolved oxygen) will be obtained. Monitoring wells will be initially purged, and samples will be collected using low-stress/low-flow sampling procedures (e.g., inertial pump, submersible pump). ATL will attempt to evacuate a minimum of three well volumes of groundwater from each of the monitoring wells, and allow for recovery to within 20% of the initial static water level prior to obtaining groundwater samples. If a monitoring well is evacuated dry twice (initial evacuation and a second evacuation after recovery to within 20% of initial static water level) prior to removal of 3 well volumes, samples will be collected after recovery from the second evacuation.

Any IDW associated with the monitoring well installation and groundwater sampling events will be containerized on-site and labeled, for temporary storage prior to receipt of laboratory analysis results for the groundwater samples and conducting any applicable waste characterization sampling and analysis and waste profile. The owner will subsequently coordinate requisite waste sampling, analysis, handling, and disposal.

4.4 Sample Collection for Laboratory Analysis

4.4.1 Proposed Samples

A total of 6 groundwater samples from each of the 2 sampling events are proposed to be collected for laboratory analysis. Field QA/QC samples will include field duplicates at a frequency of 1 in 20 (1 field duplicate), matrix spike/matrix spike duplicates (MS/MSD) at a frequency of 1 in 20 (1 MS/MSD), and 1 trip blank per sample collection event (1 trip blank for soil and groundwater sample combined – applicable to the first sampling event).

4.4.2 Sample Management

Each collected sample requiring subsequent laboratory analysis will be identified with a sample label affixed to the sample container. A ballpoint pen will be used to record information on the sample labels, to avoid potential PFAS cross-contamination from permanent markers or other types of writing instruments. Sample labeling, chain-of-custody procedures, storage, and transport will be similar to the methods described for soil samples (reference Section 3.3.2).

4.4.3 Laboratory Analysis

Groundwater samples that are collected for subsequent laboratory analysis will be submitted to a NYSDOH ELAP approved laboratory, likely to be the same laboratory for which soil samples are being sent (reference Section 3.3.3).

Laboratory analysis for the groundwater samples to be collected during the subsurface investigation will include the following.

- VOC, in accordance with EPA Method 8260 (to include chlorinated solvents)
- PFAS, in accordance with EPA Method 537.1

Field duplicate samples will be analyzed for the same parameters listed above. MS/MSD and trip blanks will be laboratory analyzed for VOC only. The laboratory analysis report will

be provided as a NYSDEC ASP Category B deliverable. Third party data validation will be conducted for each laboratory analysis package.

5.0 SOIL VAPOR INTRUSION CONSIDERATIONS

Soil vapor intrusion has been identified as a potential concern for the subject site. Currently, plans for the site include installing a soil vapor intrusion mitigation system during renovations for the on-site building. Installation of this system and associated monitoring and assessment will be separate from the work activities described in this work plan.

6.0 DATA EVALUATION AND SITE MANAGEMENT

Laboratory analysis results for soil samples collected during the subsurface investigation will be reviewed, and compared to NYSDEC Unrestricted Use Soil Cleanup Objectives (SCO). For consideration of modification of property use restrictions (currently industrial and commercial non-residential), laboratory analysis results for the soil samples will be compared to the NYSDEC Unrestricted Use SCO and the USEPA's Regional Screening Levels (RSL) for residential land use. In the event that there are exceedances for the soil samples, additional investigation, site evaluation, and/or remediation/mitigation may be deemed necessary.

Laboratory analysis results for VOC in groundwater samples will be compared to the most restrictive of standards and guidance values listed in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 and the USEPA Maximum Contaminant Limits (MCL) as listed in the National Primary Drinking Water Regulations (NPDWRs) and National Secondary Drinking Water Regulations (NSDWRs). Laboratory analysis results for PFAS in groundwater samples will be evaluated relative to guidance provided in NYSDEC's draft "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs" document, dated June 2022 (unless a more current version is adopted prior to completion of assessment). Specifically, values for PFOA and PFOS will be compared to limits of 10 parts per trillion (ppt). Additionally, Perfluorobutanesulfonic Acid$PFBS) and Hexafluoropropylene Oxide (HFPO) Dimer Acid and its Ammonium Salt (HFPO/GenX) compounds will be compared to the USEPA Drinking Water Health Advisories of 2,000 ng/L and 10 ng/L, respectively.
A site investigation report will be prepared for the subsurface investigation and sampling and analysis, to include the following:

- Summary of observations recorded during field activities
- Computer-generated boring logs with field soil classifications, subsurface stratigraphy, PID readings, and groundwater observations
- Description of sampling methodologies
- A copy of the laboratory reports and associated sample custody documentation
- A boring location plan depicting the approximate boring locations, monitoring wells, and other pertinent site features
- A drawing showing monitoring wells sampled, with groundwater elevation contours and flow direction (note this drawing will only include monitoring wells that are included in the sampling program, not others that have been installed in the area)
- Tabular summary of laboratory analysis results, with comparison standards and guidance values as previously described in this section

7.0 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) will be implemented during the subsurface investigation work activities. As the scope of work includes drilling and soil sampling, with work activities confined to localized areas of drilling, it is anticipated the NYSDOH Generic CAMP will be sufficient for air monitoring during the work. A copy of the NYSDOH Generic CAMP is included as Appendix D.

APPENDIX A

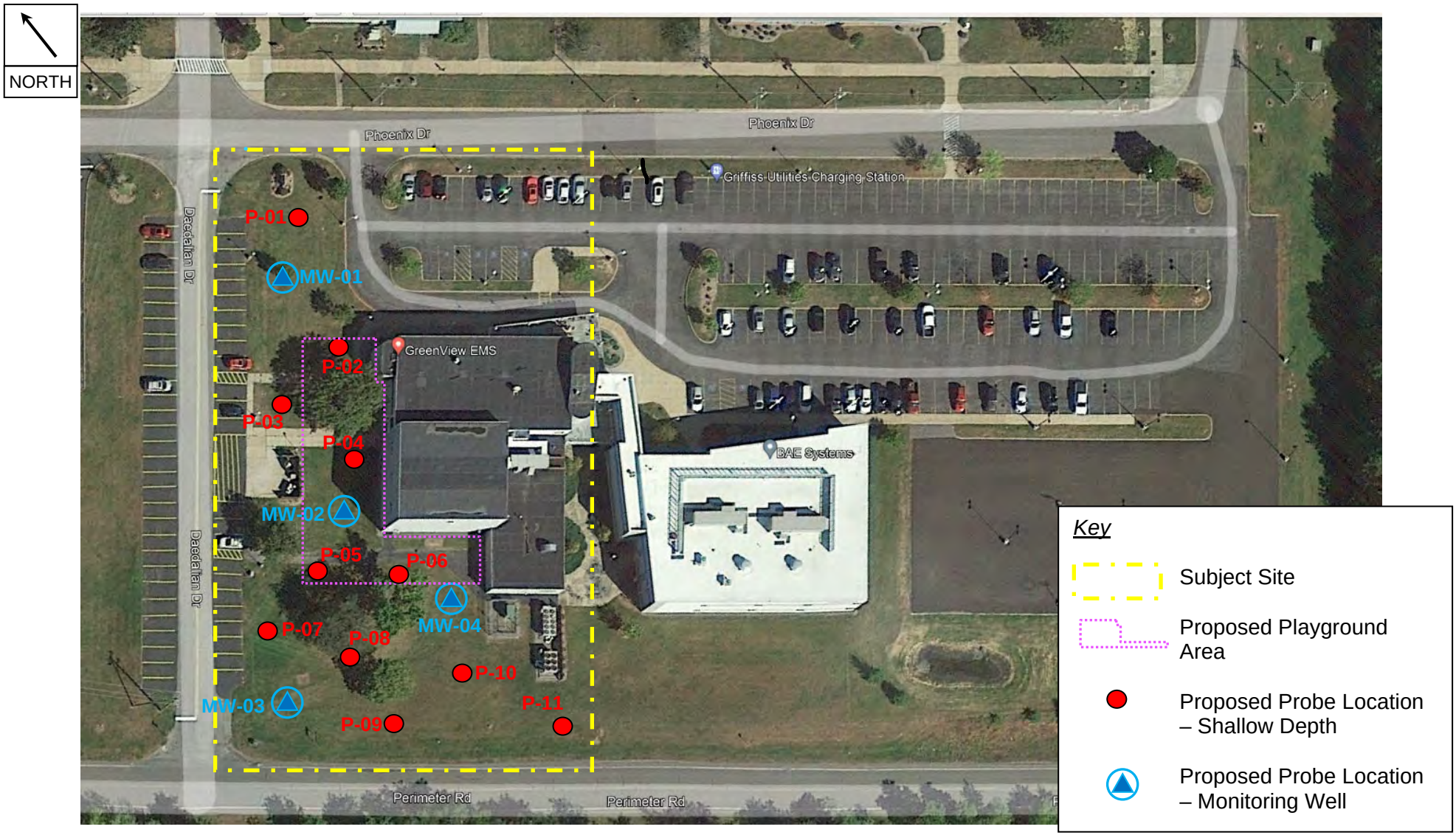
SITE LOCATION MAP



Site Location Map	Drawn by: CJD	Scale: Not to scale	Project No.: UT5571	Date: May 2022
Parcel F4B – Former Air Force Building 796 Daedalien Drive Rome, Oneida County, New York	***ATLANTIC TESTING LABORATORIES*, Limited**			
	Albany, NY	Binghamton, NY	Canton, NY	Elmira, NY	Plattsburgh, NY
	Poughkeepsie, NY	Syracuse, NY	Rochester, NY	Utica, NY	Watertown, NY

APPENDIX B

PROPOSED PROBE AND MONITORING WELL LOCATION PLAN



Proposed Probe and Monitoring well Location Map	Drawn by: CJD	Scale: Not to scale	Project No.: UT5571	Date: July 2022

Parcel F4B – Former Air Force Building 796
Daedalien Drive
Rome, Oneida County, New York

***ATLANTIC TESTING LABORATORIES*, Limited**

Albany, NY	Binghamton, NY	Canton, NY	Elmira, NY	Plattsburgh, NY
Poughkeepsie, NY	Syracuse, NY	Rochester, NY	Utica, NY	Watertown, NY

APPENDIX C

GENERAL SUMMARY OF HISTORICAL SITE INFORMATION

C.1 Information from New York Quitclaim Deed
C.2 Information from FOSET
C.3 Excerpt from Final ROD for SD-52
C.4 Groundwater Elevation Data (May 2020)
C.5 TCE Plume Data (September 2020)

<u>Note:</u> The contents of this appendix section include excerpts copied from documents that were sourced and reviewed during preparation of the Subsurface Investigation Work Plan for which this appendix section is incorporated. The specific excerpts copied include sections of the source documents that were considered pertinent to development of the Subsurface Investigation Work Plan. The document sources, in their entirety, should be reviewed and relied upon if there is a need to more fully understand the context and details of information provided in these referenced documents.

The illustration below shows the layout of pages presented in this appendix section.

Source reference from which document excerpt was copied

Section of source document from which excerpt was copied	*Document Excerpt*

Excerpts from New York Quitclaim Deed
Source: New York Quitclaim Deed Entered into on August 21, 2001, between United States of America (through the Secretary of the Air Force) and Oneida County Industrial Development Agency Oneida County Clerk, Recorded at Liber 3032, pages 319-336

Environmental Covenants (Section VII, D, Items 1-3)

D. Environmental Covenants.

1. Pursuant to Section 120(h)(3) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. § 9620(h)(3), the following is notice of hazardous substances on the Property and the description of remedial action taken concerning the Property:

The Grantor has made a complete search of its files and records. Exhibit C contains a table with the name of hazardous substances stored on the Property for one (1) year or more. Exhibit D contains a table with the name of hazardous substances known to have been released or disposed of on the Property.

Both tables declare the quantity in kilograms and pounds of the hazardous substance stored for one year or more, or known to have been released, or disposed of on the Property; and the date(s) that such storage, release, or disposal took place. Exhibit E contains a table with the name of hazardous wastes stored on the Property for one (1) year or more.

2. The United States covenants and warrants that all remedial action necessary to protect human health and the environment with respect to hazardous substances on the Property has been taken before the date of this Deed, except with respect to Areas of Concern SS-38 and SD-52 as identified on Exhibit B-2. Any additional remedial action found to be necessary after the date of this Deed for contamination on the Property existing prior to the date of this Deed shall be conducted by the United States. The foregoing covenant shall not apply in any case in which the Grantee of the Property, or any part thereof, is a potentially responsible party with respect to the Property before the date on which any grantee acquired an interest in the Property, or is a potentially responsible party as a result of an act or omission affecting the Property.

3. The Grantee covenants and agrees that it will not spread or exacerbate environmental contamination or open exposure pathways to humans or the environment, and that it will not disrupt environmental investigations and remedial activities, or jeopardize the protectiveness of those remedies, such as:

a) surface application of water in the area of an IRP site that could impact the migration of contaminated ground water;

b) subsurface drilling or use of ground water in the area of an IRP site unless the Grantor determines that there will be no adverse impacts on the IRP remediation process;

c) construction that would interfere with, negatively impact, or restrict Grantor's rights of access for purposes of the IRP remediation process.

Environmental Covenants (Section VII, D, Items 4-5)	4. The transaction documents will restrict property use to industrial and commercial non-residential use unless permission is obtained from the United States Environmental Protection Agency (USEPA), New York State Department of Environmental Conservation (NYSDEC), and New York State Department of Health (NYSDOH). 5. The owner or occupant of the Property shall not extract, utilize, consume or permit to be extracted, any water from the aquifer below the surfaces of the ground within the boundary of the property unless such groundwater has been tested and found to meet all applicable standards and/or such owner or occupant obtains the prior written approval from the NYSDOH. The owner or occupant will ensure that the aquifer will not be managed in any way that could spread or exacerbate environmental contamination or open exposure pathways to humans or the environment. The costs associated with obtaining use of such water, including the costs of studies, analysis or remediation, shall be the sole responsibility of the owner, its successors and assigns, without any cost whatsoever to the United States Government.
Environmental Covenants (Section VII, D, Items 12-13)	12. Four (4) aboveground storage tanks (ASTs), two (2) former ASTs, twenty-three (23) former underground storage tanks (USTs) and one (1) former other storage tank (OST) are or were located on the property to be transferred. These are listed in Table 5.1 of the FOSET. The Grantee will be restricted from construction activities in the subsurface soils of UST-769, USTs-773-1 thru 5, USTs-775-1 thru 5, USTs-779-1 thru 5 and USTs-781-1 thru 5, until the NYSDEC STARS Memo cleanup requirements are met and cleanup actions are executed by the Air Force to the satisfaction of the NYSDEC Spills Program personnel. Scheduling shall be properly coordinated with the Air Force and the NYSDEC to ensure protection of human health and the environment. The Grantee will allow the Air Force, NYSDEC, USEPA and their representative's access to this site to fully investigate the site. 13. There are nine (9) IRP/AOC sites located on adjacent property that may impact the property to be transferred. a) LF-07 is former Landfill No. 5 located west of the property. b) LF-09 is former Landfill No. 6 located west of the property. c) LF-28 is former Landfill No. 4 located west of the property. d) SD-31 is Three Mile Creek located west of the property. e) SS-34 is Building 786 (Nose Dock # 5), located northwest of the property. f) ST-37 is former Building 771 (Pumphouse 5), located northwest of the property. g) SD-41 is Building 782 (Nose Docks 1 and 2), located northwest of the property. h) SS-46 is the Glycol Storage and Use Area, located northwest of the property. i) LF-49C is a 0.5 acre hardfill located west of the property.

Environmental Covenants (Section VII, D, Items 14-16)

14. There are two (2) Area of Concern (AOC) sites in the parcel being transferred.

    a) SS-38 is the Building 775 (Pumphouse # 3) site. The Grantee will be restricted from access to subsurface soils and groundwater in this area until the Base Realignment and Closure (BRAC) Cleanup Team (BCT) identifies appropriate cleanup requirements, and cleanup actions are executed by the Air Force to the satisfaction of the BCT. Scheduling shall be properly coordinated with the Air Force and BCT members to ensure protection of human health and the environment.

    b) SD-52 has been designated as the on-base groundwater site. The global groundwater restriction is required for this site.

15. There is one (1) IRP site located on the property to be transferred.

    SS-54 is the Building 781 (Pumphouse 1) site. The Grantee will be restricted from access to subsurface soils and groundwater in this area until the NYSDEC Spill Technology and Remediation Series (STARS) Memo cleanup requirements are met, and cleanup actions are executed by the Air Force to the satisfaction of the NYSDEC Spills Program personnel. Scheduling shall be properly coordinated with the Air Force and NYSDEC Spills Program personnel to ensure protection of human health and the environment.

16. The Grantee will allow the Air Force, NYSDEC and USEPA and their representatives access to the AOC and IRP sites noted above. The Grantee will be prohibited from any extraction, utilization, or consumption, or permit to be extracted, any water from the aquifer below the surface of the ground within the property boundary unless the groundwater has been tested and found to meet all applicable standards and/or such owner or occupant obtains the prior written approval from the New York State Department of Health. The aquifer will not be managed in any way that could spread or exacerbate environmental contamination or open exposure pathways to humans or the environment. The Grantee and its successors and assignees will be required to comply with all applicable Federal and State laws and regulations with regard to activities effecting the groundwater in the aquifer.

Appendix C.1

Excerpts from New York Quitclaim Deed
Source: New York Quitclaim Deed Entered into on August 21, 2001, between United States of America (through the Secretary of the Air Force) and Oneida County Industrial Development Agency
Oneida County Clerk, Recorded at Liber 3032, pages 319-336

Notice of Hazardous Substances Stored (Exhibit C)

EXHIBIT C

NOTICE OF HAZARDOUS SUBSTANCES STORED

Notice is hereby given that the table and information provided below contain a notice of hazardous substances that have been stored for one (1) year or more on the Property at Griffiss Air Force Base.

Building Number	Substance Stored	Regulatory Synonym(s)	CAS Registry Number	Year	Quantity (kg/year)
774	Acetone	2-propanone	67-64-1	Multi	115
	Dimethyl formamide	N,N-dimethylformamide	68-12-2	1993	23
	Ethyl benzene	Not listed	100-41-4	1985	13
	Isobutyl acetate	Not listed	110-19-0	Multi	6
	Isobutyl alcohol	1-propanol	78-83-1	Multi	6
	Lead	Not listed	7439-92-1	1985	6
	Methylene chloride	Dichloromethane	75-09-2	1986	45
	Methyl ethyl ketone	2-Butanone	78-93-3	Multi	88
	n-butyl acetate	Not listed	123-86-4	1975	8
	n-butyl alcohol	1-Butanol	71-36-3	Multi	15
	Phosphoric acid	Not listed	7664-38-2	1989	45
	Strontium chromate	Not listed	7789-06-2	1975	8
	Toluene	Benzene, methyl-	108-88-3	Multi	84
	1,1,1-trichloroethane	Ethane, 1,1,1-trichloro-; methyl chloroform	71-55-6	Multi	4580
	Trichloroethylene	Trichloroethene	79-01-6	1978	139
	Xylene	Benzene, dimethyl	1330-20-7	Multi	60

Notice of Hazardous Substances Released/Disposed of (Exhibit D)

EXHIBIT D

NOTICE OF HAZARDOUS SUBSTANCES RELEASED/DISPOSED OF

Notice is hereby provided that the table and information set out below provide notice of hazardous substances that are known to have been released or disposed of on the Property at Griffiss Air Force Base, and the dates the release took place. The information contained in this notice is required under the authority of regulations promulgated under section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C. § 9620(h).

Substance	CAS Registry Number	Quantity	Date	Hazardous Waste ID Number	Response/Remarks
Chlorinated Solvents - Primarily (trichloroethylene -TCE)	N/A	Unk.	Unk.	F001	IRP Site ID - SS38, On-going investigation; plume delineation complete - August 2000. Feasibility Study planned.

Notice of Hazardous Waste Stored (Exhibit E)

EXHIBIT E

NOTICE OF HAZARDOUS WASTE STORED

Notice is hereby given that the table and information provided contain a notice of hazardous waste that have been stored (90 day maximum) over a period of one (1) year or more on the Property at Griffiss Air Force Base.

Building Number	Waste Stored	Regulatory Waste Number	Year	Quantity (lbs.)
774	Waste PD-680; 0.12N HCl3/N Isopropyl	D001	1988-1991	5021
	1,1,1-Trichloroethane	F001	1988-1990	3272
796	Paraffinic Petroleum Hydrocarbon	D001	1991,1992	47
	Lead Acid Batteries	D008	1991	3

Section 2 – Property Description

2. PROPERTY DESCRIPTION

Parcel F4B is shown on the map (Exhibit 2) and is comprised of 25.45 acres. This FOSET addresses only 20.68 acres within Parcel F4B. The remaining 4.77 acres, including Buildings 776 and 780, have been previously transferred to the OCIDA. Further reference to Parcel F4B ("the property") in this document refers to the aforementioned 20.68 acres. The property includes the following facilities:

Facility Number	Air Force Use	Construction Year	Square Footage
769	Emerg. Elect. Power Gener. Plant (demolished)	1984	64
770	Squadron Operations	1959	14,259
773	Hydrant Fueling Building (demolished)	N/A	N/A
774	Avionics Shop	1959	18,990
775	Hydrant Fueling Building (demolished)	N/A	N/A
777	Electric Power Station Building (demolished)	1976	216
778	Wing Headquarters	1959	20,348
779	Hydrant Fueling Building (demolished)	N/A	N/A
781	Hydrant Fueling Building (demolished)	N/A	N/A
788	Squadron Operations	1961	234
796	Flight Simulator Building	1982	20,100
5022	Equipment Pad	1989	252
5023	Equipment Pad	1989	252
5660	Demineralized Water Storage (25,000 gallons/removed)	N/A	N/A

Section 4 – Environmental Condition of the Property

4. ENVIRONMENTAL CONDITION OF THE PROPERTY

The category designation for the property is now considered Department of Defense Environmental Condition Category 7. Category 7 areas are those areas that are not evaluated or require additional evaluation. The United States Environmental Protection Agency (USEPA) has concurred that additional evaluation is required.

Section 5.1 – Hazardous Substances Notification

BUILDING 796

One (1) hazardous waste satellite storage area (less than 90 days) was located within Building 796, a flight simulator building. STW-796 was sampled to confirm closure under project JREZ95-0036 (Assess/Close Hazardous Waste/Material Storage Areas). Clean closure has been obtained and final closure of the site was approved by the NYSDEC, Division of Solid and Hazardous Materials, on August 11, 1999. A listing of hazardous waste known to have been stored at this accumulation point is provided in Exhibit 6, Notice of Hazardous Waste Stored. A Hazardous Waste Notice will be given in the deed of the type and quantity of hazardous waste and the time at which storage for one (1) year or more took place.

Section 5.2 – Installation Restoration Program (IRP) Sites, Areas of Concern (AOCs) and Areas of Interest (AOIs)

5.2 Installation Restoration Program (IRP) Sites, Areas of Concern (AOCs), and Areas of Interest (AOIs)

5.2.1 Subject Property

The United States Air Force (USAF), USEPA, and NYSDEC entered into a Federal Facility Agreement (FFA) effective August 21, 1990, under Section 120 of CERCLA.

There are three (3) IRP sites located within the property. The IRP site descriptions are listed as follows:

IRP Site ID	Site Class	Site Name
SS-38	AOC	Building 775-Pumphouse 3, TCE Contamination
SD-52	AOC	On-base Groundwater Contamination
SS-54	IRP	Building 781-Pumphouse 1

SS-38, Building 775, Pumphouse 3, TCE Contamination, is an AOC located within the property. OTH-774 was a cosmoline degreasing vat located in the degreasing room of Building 774 on the southeast side of the building. This degreasing system utilized a monorail to carry equipment to the degreasing vat for solvent cleaning when the building was used as an armament and electronics shop. Chlorinated solvents that have contributed to the groundwater contamination are suspected to have originated from this area. No evidence of the degreasing system was found during the Basewide EBS site inspection in April 1994. This AOC was recommended for further delineation of groundwater contamination (chlorinated solvents southwest of Building 774) by the Air Force in its draft final RI report dated December 1996. Additional groundwater samples were collected during the summer of 1997 under the Supplemental Investigations (SI) program. The final SI report was issued to the regulators on July 24, 1998. Additional supplemental plume delineation investigations were performed in the spring of 2000. The results of the plume delineation for this AOC were provided to the regulators on August 24, 2000, and reveal that the plume extends beyond the building and the parcel boundaries. A draft Feasibility Study (FS) was forwarded to the regulators for their review on March 1, 2001 for this site in conjunction with adjacent AOC site LF-09, Landfill No. 6, under the On-base Groundwater Contamination AOC (SD-52). A listing of hazardous substances known to have been released/disposed of is provided in Exhibit 7, Notice of Hazardous Substances Released/Disposed of.

The deed will restrict access to all subsurface soils and groundwater at or below the groundwater interface at this AOC until the cleanup actions are executed by the Air Force to the satisfaction of the Base Realignment and Closure (BRAC) Cleanup Team (BCT). Scheduling shall be properly coordinated with the Air Force and BCT members to ensure protection of human health and the environment. See Exhibit 2 for the extent of restricted area.

Section 5.2 – IRP Sites, AOCs and AOIs [continued from previous page]

SD-52, On-base Groundwater Contamination, is an AOC and the groundwater on the property was investigated and analytical results are presented in the Draft Final RI report dated December 1996. Additional work was performed during the summer/fall of 1997 under the SI program and the final SI report was issued to the regulators on July 24, 1998. A draft FS was forwarded to the regulators on March 1, 2001 that addresses groundwater contamination attributed to site SS-38 and adjacent downgradient AOC site LF-09, Landfill No. 6.

The deed will restrict access to all subsurface soils and groundwater at or below the groundwater interface at this AOC until the cleanup actions are executed by the Air Force to the satisfaction of the Base Realignment and Closure (BRAC) Cleanup Team (BCT). Scheduling shall be properly coordinated with the Air Force and BCT members to ensure protection of human health and the environment. See Exhibit 2 for the extent of restricted area.

SS-54, Building 781-Pumphouse 1 - Project # JREZ 93-0054, Site Assessment and Implementation of Corrective Measures Pursuant to Site Closure at Pumphouse 1, 2, 3, 4, has characterized the extent of the soil and groundwater contamination at this IRP site. Project # JREZ2000-7007, Remediation of Petroleum Contaminated Sites will address petroleum contamination at the site that is associated with NYSDEC Spill Number 9202658 in 2001.

The deed will include a restriction for this site (restricted area is depicted on Exhibit 2) that does not allow construction activities in the subsurface soils or groundwater until the NYSDEC Spill Technology and Remediation Series (STARS) Memo cleanup requirements are met, and cleanup actions are executed by the Air Force to the satisfaction of the NYSDEC Spills Program personnel. Scheduling shall be properly coordinated with the Air Force and the NYSDEC to ensure protection of human health and the environment.

All of the AOIs within the boundaries of the property have been classified as No Further Study or Covered Under Other Programs as a result of the AOI investigations.

The deed will include provision for access for the Air Force, NYSDEC and USEPA and their representatives to the AOCs and IRP site noted above. The deed will restrict property use to industrial and commercial non-residential use. The deed will prohibit the extraction, utilization, or consumption of any water from the aquifer below the surface of the ground within the property boundary unless the groundwater has been tested and found to meet all applicable standards and/or such owner or occupant obtains the prior written approval from the New York State Department of Health. The deed also will include provisions that the aquifer will not be managed in any way that could spread or exacerbate environmental contamination or open exposure pathways to humans or the environment. The deed will include provisions that the transferee and its successors and assignees will be required to comply with all applicable Federal and State laws and regulations with regard to activities affecting the groundwater in the aquifer.

5.2.2 Adjacent Property

There are nine (9) IRP sites located on adjacent property, which may impact the subject property. The IRP site descriptions are listed below.

IRP Site ID	Site Class	Site Name
LF-07	AOC	Landfill No. 5
LF-09	AOC	Landfill No. 6
LF-28	AOC	Landfill No. 4
SD-31	AOC	Three Mile Creek
SS-34	AOC	Building 786 (Nose Dock #5) - Soil Contamination
ST-37	AOC	Building 771, Pumphouse 5
SD-41	AOC	Bldg 782, Nose Docks 1 & 2
SS-46	AOC	Glycol Use/Storage Areas
LF-49C	IRP	Landfill Area

Section 5.2 – IRP Sites, AOCs and AOIs [continued from previous page]

LF-07, Landfill No. 5, is an AOC located west of the property. The USAF recommended in its draft final RI report dated December 1996 that a FS to evaluate potential remedial actions was required to mitigate chemicals of concern in the groundwater and soil. Based upon discussions and agreements with the regulators, a presumptive remedy will be implemented which will cap Landfill 5 and perform long term groundwater monitoring. A Record of Decision (ROD) for capping the landfill and confirmatory groundwater monitoring was signed by the USEPA on June 5, 2000.

LF-09, Landfill No. 6, is an AOC located southwest of the property. The USAF recommended in its draft final RI report dated December 1996 that a FS be performed to evaluate potential remedial actions required to mitigate chemicals of concern in the groundwater and soil. Based upon discussions and agreements with the regulators, a presumptive remedy will be implemented which will cap Landfill No. 6 and perform long term groundwater monitoring. Also recommended was the delineation of a chlorinated solvent plume in the northern area of Landfill No. 6 as part of the On-base Groundwater Contamination AOC. Additional work was performed during the summer/fall of 1997 under the SI program and a landfill cap evaluation was performed during the summer of 1997. The final SI report was issued to the regulators on July 24, 1998. Additional supplemental plume delineation investigations were performed in the spring of 2000 in conjunction with the plume delineation work being performed for SS-38, Building 775, Pumphouse 3, TCE Contamination. The results of the plume delineation for this AOC were provided to the regulators on August 24, 2000. A final Proposed Plan was issued for public comment on November 17, 2000. A draft final ROD was issued to the regulators on February 28, 2001 for their final review and concurrence.

LF-28, Landfill No. 4, is an AOC located southwest of the property and a removal action was completed in 1997. The site consisted of an underground vault comprised of a five (5) foot diameter vertical culvert pipe covered by a concrete cap of 1 to 1.5 foot thickness into which approximately 1 cubic yard of radio tubes were disposed in the 1950s and 1960s. The vault and surrounding soils were removed during the removal action. A ROD for No Further Action for the landfill and confirmatory groundwater monitoring was signed by the USEPA on June 5, 2000.

SD-31, Three Mile Creek, is an AOC located southwest of the property. The USAF recommended in its draft final RI report dated December 1996 that a FS be performed to evaluate potential remedial actions required to mitigate chemicals of concern in the surface water and sediments. The draft FS was issued in January 1999. Additional sampling of the off base portion of the creek was performed in the fall of 1999. A draft FS addendum report was issued to the regulators on March 20, 2000. Additional sampling to delineate the vertical extent of the sediment contamination is scheduled for spring of 2001.

SS-34, Building 786 (Nose Dock #5) - Soil Contamination, is an AOC located northeast of the property. Liquids used in the area include oils, solvents, and fuels. An aboveground storage tank (AST) for storage of liquid wastes was located on the east side of Building 786. In 1990, the AST and the surrounding contaminated soil were removed and the tank was replaced with three underground storage tanks (USTs). A draft final RI report was issued in December 1996. Additional contaminated surface soil will be removed in 2001 in the immediate area of the former AST. Petroleum contaminated subsurface soils and groundwater require further investigation which will be performed under project number JREZ97-6042B, Close Spill Sites. A proposed plan to document the proposed removal action will be issued prior to the removal action.

ST-37, Building 771, Pumphouse 5, is a Source Removal Site located northwest of the property. Construction of the Industrial Access Road has occurred adjacent to the Pumphouse 5 site. A source removal action has been completed at Pumphouse 5 and residual contamination in the soil and groundwater is being addressed under project JREZ96-0021, Close Pumphouse 5. Excavation of remaining contaminated soil, placement of backfill and closure of the site will be performed under project JREZ2000-7007, Remediation of Petroleum Contaminated Sites.

Section 5.2 – IRP Sites, AOCs and AOIs [continued from previous page]

SD-41, Building 782 (Nose Docks 1 & 2), is an AOC located adjacent to Buildings 782 and 783. The site consists of two (2) areas of contaminated soil, the first associated with releases from an oil/water separator (OWS) located near the northern corner of Building 782, and the second in the vicinity of a soil fire that occurred during trenching operations between the Nose Docks and Apron 1. Stained soil has been excavated in the past to a depth of 2 feet; however, contamination below this level is known to exist. A draft final RI report was issued in December 1996. Additional investigations are presently being performed under project JREZ97-6003, Remedial Action for Former Underground Storage Tank Sites.

SS-46, Glycol Use and Storage Area, is an AOC that was recommended by the USAF for no further action in the draft final RI report dated December 1996. This AOC is primarily associated with glycol usage in the vicinity of Apron 2, northwest of the property. Regulator concurrence has not been obtained. Additional groundwater sampling will be performed at this site under project JREZ2002-7040, Long Term Monitoring for AOCs, to ascertain the possible presence of glycol contaminated groundwater.

LF-49C, Hardfill Area, is an IRP site consisting of a 0.5-acre hardfill located west of the property. An earth cap was installed over the hardfill in 1998. Upon final completion of the project, a closure report will be forwarded to the NYSDEC Division of Solid Waste for concurrence and final closure.

The USAF has evaluated the risks associated with these adjacent sites and has determined that the subject property can be used pursuant to the proposed transfer with acceptable risk to human health or the environment, and without interference with the environmental restoration process.

Table 5.1 – Storage Tanks (portion of table for tanks at Building 796)

Tank Number/ Contents	Tank Capacity (gallons)	Location/Use	Releases/ Spill Number /Status	Tank Status/ Removal Project Number	*Tank Closure Date
AST-796-1/ Diesel	125	B/796 - Diesel fuel for emergency power generation	None	In-service	N/A
AST-796-2/ Diesel	75	B/796 - Diesel fuel for emergency power generation	None	In-service	N/A
UST-796	275	B/796 - Diesel fuel for emergency power generation	None	Removed/ Project # JREZ960042A	1997

Section 9 – Finding of Suitability for Early Transfer

9. FINDING OF SUITABILITY FOR EARLY TRANSFER

The proposal to transfer this property has been adequately assessed and evaluated for: (a) the presence of hazardous substances and contamination on the property, (b) environmental impacts anticipated from the intended use of the property, and (c) the adequacy of use restrictions and notifications to ensure that the intended use is consistent with protection of human health and the environment. The anticipated future use of this property does not present a current or future risk to human health or the environment, subject to inclusion and compliance with the appropriate restrictions on use and disclosures as addressed above. The property, therefore, is suitable for early transfer.

Additionally, the proposal to defer inclusion of the CERCLA 120(h)(3)(A)(ii)(I) covenant has been adequately assessed and evaluated to assure that, with respect to CERCLA AOC sites SS-38 and SD-52: (a) the transfer will not delay environmental response actions, (b) the reuse of the property will not pose a risk to human health or the environment as it pertains to CERCLA, and (c) the federal government's obligation to perform all necessary CERCLA response actions will not be affected by the early transfer of this property.

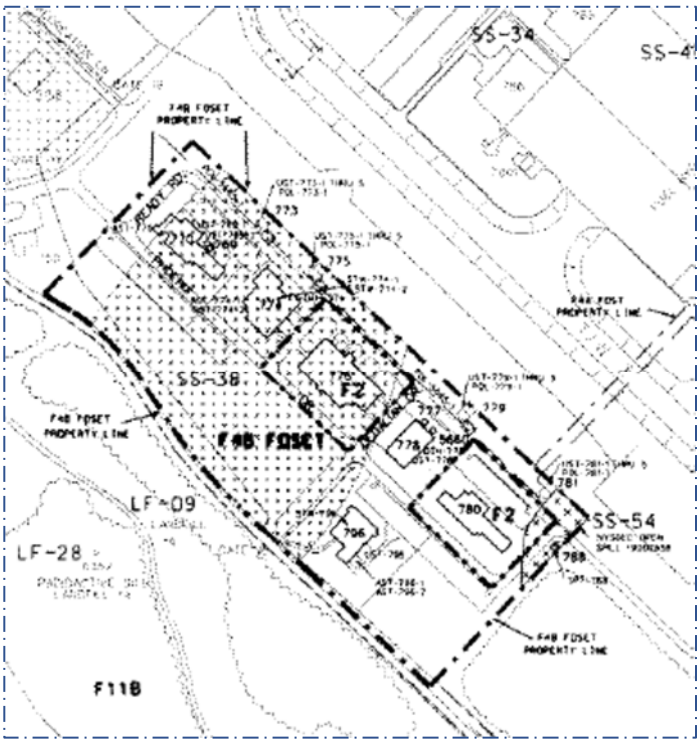
Exhibit 1 – Visual Inspection Form for Facility 796

Exhibit 1

Griffiss AFB
FINDING OF SUITABILITY FOR EARLY TRANSFER (FOSET)
VISUAL SITE INSPECTION FORM

GRIFFISS AFB FACILITY INSPECTION		**Date:** January 2001
Facility #: 796	**Construction Year:** 1982	**Sq. Ft.:** 20,100
Inspected By: AFBCA/DA - Griffiss		
Facilities Current Function: Vacant		
Prior Facility Use: Flight Simulator Building		
Point of Contact: N/A		
Known Features: Underground Storage Tanks: One (1), UST-796, removed 1997, project # JREZ960042A Aboveground Storage Tanks: Two (2), AST-796-1 and AST-796-2 Oil/Water Separators: None Septic Tank Systems: None Drywells: None Other Features: None		
Hazardous Material Storage Facility: Bench Stock: None Flammable Locker: None Storeroom: None Other: None		
Hazardous Waste Storage Areas: HWAP: STW-796 SAP: None WPP: None Other: None		
Exterior Inspection: Good building condition, snow cover on ground		
Interior Inspection: Good condition		
Comments:		

Exhibit 2 – Property Map (snapshots showing subject site and legend for hatched areas)



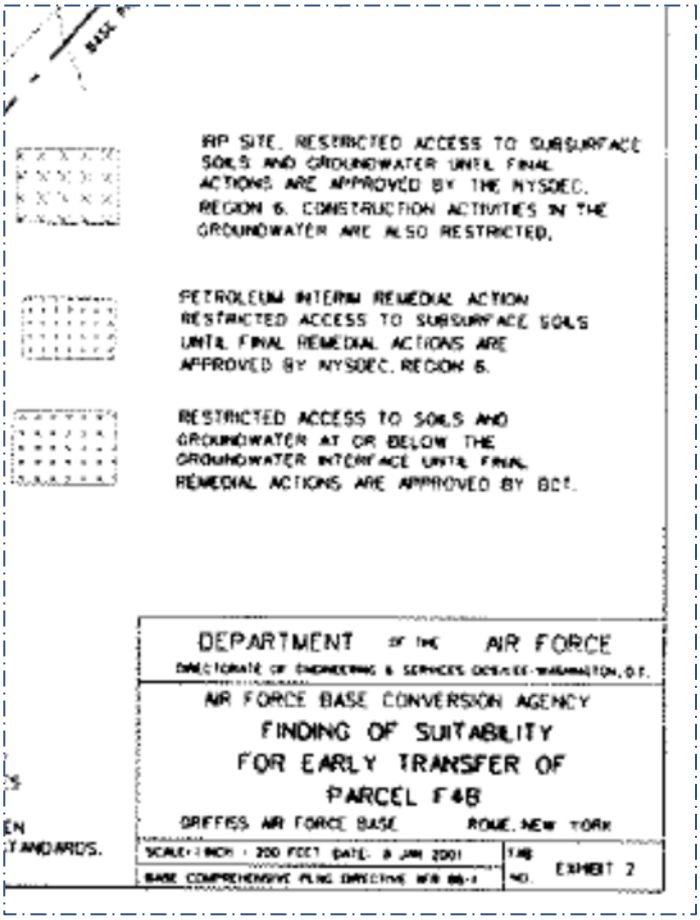


Exhibit 11 – Summary of Environmental Factors by Facility (portion showing Facility 796 and Parcel F4B)

Facility/ Parcel ID	FACTOR	CONTENTS/DESCRIPTION	CURRENT STATUS
779	POL-779-1	Pritchard Type I hydrant fueling - Pumphouse # 2	Removed -1995
781	UST-781-1	Jet fuel - 50,000 gallon	Removed -1995
	UST-781-2	Jet fuel - 50,000 gallon	Removed -1995
	UST-781-3	Jet fuel - 50,000 gallon	Removed -1995
	UST-781-4	Jet fuel - 50,000 gallon	Removed -1995
	UST-781-5	Jet fuel - 2,000 gallon	Removed -1995
	POL-781-1	Pritchard Type I hydrant fueling - Pumphouse # 1	Removed -1995
788	SPT-788	Concrete septic tank	Cleaned and closed in place - 1997
796	AST-796-1	Diesel fuel - 125 gallon	In-service
	AST-796-2	Diesel fuel - 75 gallon	In-service
	UST-796	Diesel fuel - 275 gallon	Removed -1997
	STW-796	Hazardous Waste Satellite Storage Area (< 90 Day)	Closed 1999
Parcel F4B	SD-52	On-base Groundwater Contamination	Feasibility Study Review
Parcel F4B	SS-54	Building 781-Pumphouse 1	Under Investigation
Parcel F4B	SS-38	Building 775-Pumphouse 3, TCE Contamination	Under Investigation
Parcel F4B	POL-5685-1	Jet fuel transfer pipeline for SAC Hill	Closed 1995

Section 3.2.12, Figure 3-5

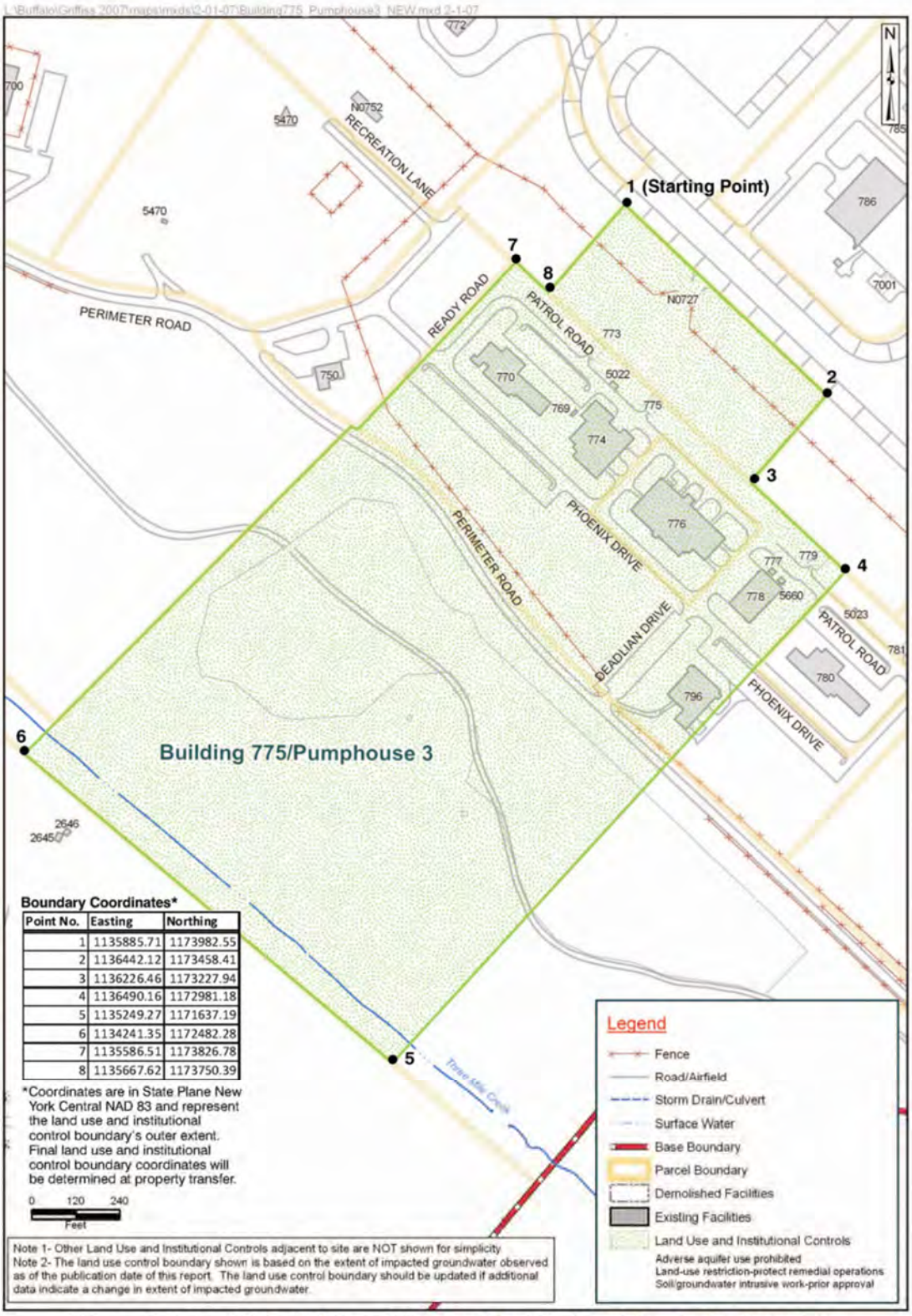
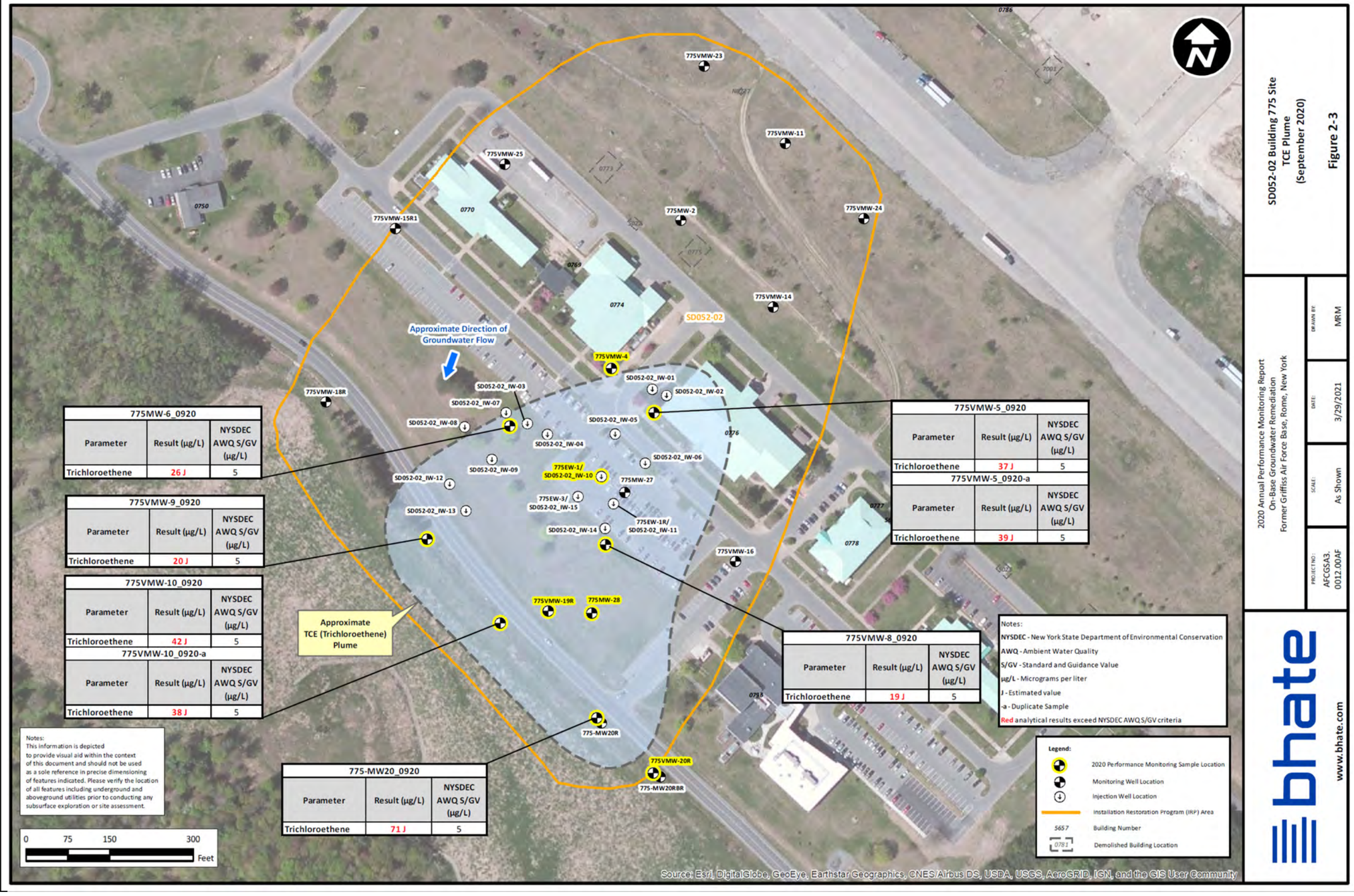


Figure 3-5 Building 775 Land Use and Institutional Controls Boundary

Figure 2-3, SD052-2 Building 775 Site, TCE Plume (September 2020)



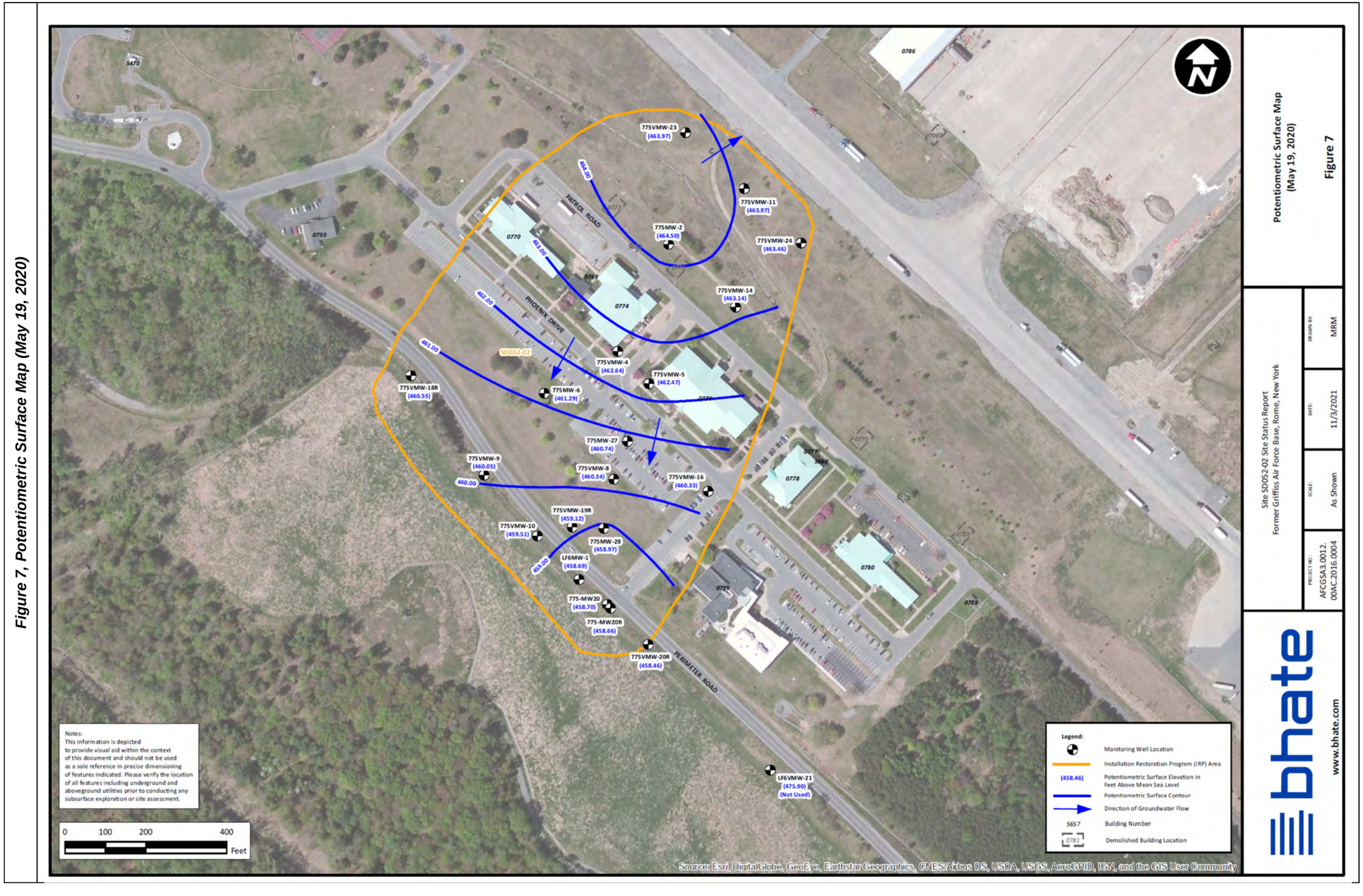


Figure 7, Potentiometric Surface Map (May 19, 2020)

Table 1

Table 1
Site SD052-02 Building 775
Water Level Measurements (May 2020)

Well Identification	Top of Casing (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
Date		**5/19/20**	**5/19/20**
775MW-2	515.65	51.15	464.5
775MW-6	518.02	56.73	461.29
775-MW20	520.35	61.65	458.7
775-MW20R	519.48	60.82	458.66
775MW-27	515.99	55.25	460.74
775MW-28	517.68	58.71	458.97
775MWEW-1R	515.55	55.11	460.44
775MW-EW3	515.16	54.65	460.51
775VMW-4	518.51	55.87	462.64
775VMW-5	518.64	56.17	462.47
775VMW-8	518.22	57.88	460.34
775VMW-9	513.63	53.58	460.05
775VMW-10	517.22	57.71	459.51
775VMW-11	486.6	22.63	463.97
775VMW-14	515.85	52.71	463.14
775VMW-16	520.94	60.61	460.33
775VMW-18R	510.71	50.16	460.55
775VMW-19R	517.46	58.34	459.12
775VMW-20R	521.11	62.65	458.46
775VMW-23	486.77	22.8	463.97
775VMW-24	485.4	21.94	463.46
LF6MW1	519.33	60.64	458.69
LF6VMW-21	497.74	21.84	475.9

Notes:
ft = Feet
btoc = Below top of casing
amsl = Above mean sea level

APPENDIX D

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

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 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.

December 2009

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^{o} C (14 to 122^{o} 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.