Arbor Hill Gateway Properties

ALBANY COUNTY

ALBANY, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: E401048

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	8-22-2017	Decommission wells, GW monitoring no longer required	8-22-2017

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau B, 12th Floor
625 Broadway, Albany, New York 12233-7016
Phone: (518) 402-9768 • **Fax:** (518) 402-9773
Website: www.dec.ny.gov

M E M O R A N D U M

TO: File for Arbor Hill Gateway Properties – E401048
FROM: Larry Alden, Project Manager LJA
RE: Site Management Plan Revision
DATE: August 22, 2017

On July 27, 2017, I approved a request from the Albany Community Development Agency to abandon the groundwater monitoring wells at the Arbor Hill Gateway Properties ERP site (see attached). Since the wells will be decommissioned, long-term groundwater monitoring, sampling, and analysis will no longer be necessary at this site. The remaining Engineering and Institutional Controls will continue.

Ec: M. Komoroske, Chief, Section A
A. Barraza, Project Manager

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Bureau of Technical Support
625 Broadway, 11th Floor, Albany, NY 12233-7020
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July 27, 2017

Luis F. Perez
Albany Community Development Agency
200 Henry Johnson Boulevard
Albany, NY 12210

Re: Periodic Review Report, Arbor Hill Gateway Properties, E401048

Dear Mr. Perez:

I have reviewed the July 2017 Periodic Review Report for the AHGP site and have sent a separate approval letter. In that report, Arcadis recommended that the groundwater monitoring be discontinued and the monitoring well network be decommissioned.

Only one monitoring well in the network (MW-9) has had any exceedances of groundwater standards for several petroleum-related compounds over the past seven years, and those exceedances have been less than 100 ug/l (and often much lower than that). Groundwater contaminant concentrations have dropped since the removal of petroleum-contaminated soil and this is expected to continue in the future through natural biological activity.

Based on the above discussion, we agree that groundwater monitoring can be discontinued at this site. Please make arrangements to properly abandon the monitoring wells and provide us with documentation of that action when complete.

If you have any questions or comments, please feel free to contact me or Alicia Barraza (after August 24) at 518-402-9767.

Sincerely,

Lawrence J. Alden, P.E.
Project Manager
Remedial Bureau B
Division of Environmental Remediation

ec: M. Komoroske
A. Barraza

Albany Community Development Agency
200 Henry Johnson Boulevard • Albany, New York 12210

ARBOR HILL GATEWAY PROPERTIES ALBANY, NEW YORK

Site Management Plan

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ENVIRONMENTAL RESTORATION PROGRAM
PROJECT #E401048

April 2009

Prepared By:

Malcolm Pirnie, Inc.

43 British American Boulevard
Latham, New York
518-782-2100

4279016

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1. Introduction

The City of Albany, New York (City) was selected to receive an investigation grant under the 1996 Clean Water/Clean Air Bond Act Environmental Restoration Program (ERP) to conduct a Remedial Investigation/Alternatives Analysis (RI/AA) for the Arbor Hill Gateway Properties (site) in Albany, New York. The results of the RI/AA have been previously provided to the New York State Department of Environmental Conservation (NYSDEC) in January 2007 (Malcolm Pirnie, Inc., 2007). A Record of Decision (ROD) was signed in March 2007 to address the remaining on-site petroleum contamination, designated Operable Unit #01 (OU1). The ROD also required further investigation of the potential for soil vapor migration and vapor intrusion in adjacent buildings, designated Operable Unit #02 (OU2).

The City received a remediation grant under the New York State ERP to implement the remedy required by the NYSDEC's ROD for the site. This Site Management Plan (SMP) summarizes the scope of mitigation and monitoring, which includes:

- Placement of institutional controls to ensure public health and safety with respect to exposure to remaining on-site contaminants;
- Development of a soil management plan to protect future construction/utility workers from exposure to residual subsurface contamination;
- Long-term groundwater monitoring; and
- Annual certification of the SMP's components.

2. Site Description and Background

2.1. Site Location and Description

The site, located in the northeastern portion of the City of Albany, consists of six properties with a total land area of 0.5 acres. Figure 1 provides the location of the site and Figure 2 identifies the properties as designated by the City of Albany Tax Assessor's office. The parcel, located on the corner of Henry Johnson Boulevard and Colonie Street, was formerly operated as a garage for vehicle maintenance and repair and as a retail gasoline and diesel fuel sales facility. At present, all parcels have been collectively redeveloped as a memorial park.

2.2. Site History and Review of Selected Remedy

A Remedial Investigation (RI) was conducted at the site by Malcolm Pirnie, Inc. (Malcolm Pirnie) in 2006. The RI included the removal of 13 underground storage tanks (USTs) and approximately 1,850 tons of petroleum-impacted soil, soil borings, monitoring well installations, soil sampling, groundwater sampling, and soil vapor sampling. Analytical results showed the presence of petroleum related compounds at concentrations that exceeded the corresponding 6 NYCRR Part 375 Commercial Soil Cleanup Objectives (CSCOs) in soil samples collected along the site's eastern boundary in the vicinity of the former USTs. Groundwater samples collected from wells in the vicinity of the former USTs, former dispenser islands, and immediately across Henry Johnson Boulevard contained petroleum related compound at concentrations that exceeded the corresponding NYSDEC Class GA standards.

The March 2007 ROD for the Arbor Hill Gateway Properties presented the remedy selected by the NYSDEC, based on the results of the RI/AA Report, the criteria identified for evaluation of alternatives, and the public's input to the PRAP. Monitored Natural Attenuation (MNA) of the inaccessible residual petroleum contamination left in place after the tank and vessel closure actions was selected for the site. The components of the remedy include the placement of institutional controls in the form of an environmental easement on the property with periodic certification of institutional, institution of a soil management plan, the restriction of future groundwater use, monitoring of groundwater quality for a period of approximately five years to evaluate the improvement in water quality due to the removal of the contaminated soil from the site, and further soil vapor sampling to evaluate off-site vapor intrusion potential.

3. Engineering and Institutional Controls

3.1. Engineering Controls

Engineering controls are physical mechanisms that prevent or reduce exposure to contamination. Such mechanisms may include physical barriers that contain or stabilize contaminants, or eliminate exposure pathways to the contaminants.

The following engineering controls have been implemented at the site:

- **Cover System**. Following the tank and vessel closure actions, an area of the site along the eastern property boundary with residual contamination above applicable standards was left in place due to physical limitations of the excavation. While these areas are largely at or below the water table, approximately 8 to10 feet bgs, a surface cover system was established at the site in association with construction of the park at the site, consisting of clean general fill, followed by at least six inches of clean topsoil to eliminate a potential exposure pathway.

3.2. Institutional Controls

Institutional controls are non-engineering measures and usually, but not always, are legal controls intended to affect human activities in such a way as to prevent or reduce exposure to contamination. Such restrictions may include, but are not limited to, deed restrictions, restrictive covenants, or conservation easements. Each of these documents must be properly recorded with the appropriate county's land records to help ensure proper notice and effectiveness of the control.

The following institutional controls will be implemented and enforced in the form of an environmental easement:

- **Site Use Restriction**. The owner of the site will prohibit the site from being used for purposes other than commercial use, including passive recreational use, and industrial use consistent with local zoning. The environmental easement shall be binding on all future owners of the site and will consign consent to enforcement by the NYSDEC of all prohibitions and restrictions and agreement not to contest the authority of the NYSDEC to seek enforcement.

- **Soil Management Plan**. Any future excavation and/or removal of soil from the site will be conducted in accordance with the Soil Management Plan which describes procedures for soil excavation, stockpiling, disposal, and backfilling.

- **Groundwater Use Restriction**. The use of groundwater underlying the site as a source of potable or process water will be prohibited without necessary water quality treatment as determined by the NYSDOH, until groundwater is deemed acceptable by the NYSDEC based on long-term monitoring.

- **Groundwater Monitoring**. The site owner will monitor groundwater quality at each of the existing site monitoring wells to document contaminant concentrations and distribution. This program will allow the effectiveness of the natural attenuation to be monitored and will continue until data indicate that applicable groundwater standards have been achieved. Site monitoring wells will be sampled twice a year for a period of five years. If at the conclusion of the five year monitoring period, contaminant concentrations from site monitoring wells have been below applicable groundwater standards for two consecutive years, the NYSDEC will evaluate the need for continued monitoring. Additionally, if groundwater monitoring results indicate increased site related concentrations in the down-gradient wells located across Henry Johnson Boulevard and adjacent to a subsidized housing complex, the need to further investigate soil vapor intrusion in this area will be considered.

- **Notification**. The NYSDEC must be notified whenever intrusive activities are to be performed at the site which will extend below the cover system and possibly disturb contaminated soil.

- **Annual Certification Report**. The site owner will annually certify that the required institutional and engineering controls are in place and remain effective for the protection of public health and the environment. In any year in which an excavation extended below the cover system, the report will include a certification that all work was performed in accordance to the Soil Management Plan. A New York State Professional Engineer or other qualified environmental professional will inspect the site annually and certify the annual report.

4. Soil Management Plan

The objective of soil management is to set guidelines for management of soil material during any future excavation activities which would extend below the cover system at the site.

4.1. Nature of Contamination and Exposure Pathway

Based on data obtained from the RI/AA, residual petroleum contamination remains near the site's eastern boundary adjacent to and within the City and utility right-of-way. The main categories of contaminants that exceed 6 NYCRR Part 375 CSCOs are volatile organic compounds (VOCs) in addition to one semi-volatile organic compound (SVOC) which is associated with petroleum VOCs. Given the absence of buildings on the site and the placement of clean general fill and topsoil during park construction, direct contact, ingestion, or inhalation of VOCs from subsurface soil, groundwater, or soil vapor during future construction work and/or utility access and repairs is the only potential human exposure pathway to the residual contamination.

4.2. Site Use

As part of site redevelopment and the selected remedy, an environmental easement will be imposed which will require commercial use, including passive recreational use, and will also permit industrial use consistent with local zoning. The site's redevelopment as a memorial park is consistent with this restricted use. If, in the future, buildings are constructed on-site, the inhalation exposure pathway via vapor intrusion would have to be considered and remediated and/or mitigated as needed.

4.3. Surface Cover System

Although the bulk of the residual petroleum contamination is at or below the depth of the water table, at approximately 8 to10 feet below ground surface (bgs), the purpose of the surface cover system is to reduce the potential for human contact with contaminated soil and the potential for contaminated runoff from the property. The finished ground surface of the park is either paved or completed with at least six inches of clean topsoil and vegetated with either grass, trees, or shrubs.

4.4. Management of Soil and Long-Term Maintenance of Cover System

The purpose of this section is to provide environmental guidelines for management of subsurface soil and the long-term maintenance of the cover system during any future intrusive work which breaches the cover system. Subsurface soil and cover system management includes the following conditions:

- Any excavation below the cover system, including for the purposes of construction or utilities work, must be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of contamination. The repaired area must be covered with clean soil and reseeded or covered with concrete, asphalt, or pavers as originally present, to prevent erosion. A Community Air Monitoring Program (CAMP) in accordance with NYSDOH guidance must be implemented during any ground-intrusive activities that penetrate the existing site capping system.

- Control of surface erosion and run-off of the entire property at all times, including during construction activities. This includes proper maintenance of the vegetative cover established on the property.

- Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.

- Soil excavated at the site may be reused as backfill material on-site provided it contains no visual, olfactory, or photoionization detector (PID) evidence of contamination, and it is placed beneath a cover system component as described in Section 4.3.

- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of contamination. One representative composite sample per off-site source should be collected. The sample should be analyzed for Target Compound List (TCL) VOCs, TCL SVOCs, pesticides, poly-chlorinated biphenyls (PCBs), and Target Analyte List (TAL) metals plus cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the corresponding 6 NYCRR Part 375 Commercial Soil Cleanup Objectives (CSCOs).

- Prior to any construction or utility access activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.

The contractor's site-specific Health and Safety Plan shall at a minimum, include the provisions provided in the Generic Health and Safety Plan for the Arbor Hill Gateway Properties provided in Appendix A.

4.5. Excavated and Stockpiled Soil Disposal

Soil that is excavated as part of development which cannot be used as fill below the cover system will be further characterized prior to transportation for off-site for disposal at a permitted facility. Any stockpiled soils will be placed on, and covered with, at a minimum 6 millimeter (mil) polyethylene sheeting for subsequent characterization and disposal in accordance with NYSDEC Spill Technology and Remediation Series (STARS) Memorandum #1. For excavated soil that will be sent for off-site disposal, with or without visual evidence of contamination (i.e., staining or elevated PID measurements), one composite sample and a duplicate sample will be collected for each 100 cubic yards of stockpiled soil.

The composite sample will be collected from five locations within each stockpile. A duplicate composite sample will also be collected. PID measurements will be recorded for each of the five individual locations. One grab sample will be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location will be selected at random. The composite sample will be analyzed by a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for pH (EPA Method 9045C), TCL SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The grab sample will be analyzed for TCL VOCs.

Soil samples will be composited by placing equal portions of soil from each of the five composite sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil will be thoroughly homogenized using a stainless steel scope or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and a chain-of-custody form will be prepared.

Additional characterization sampling for off-site disposal may be required by the disposal facility. To potentially reduce off-site disposal requirements/costs, the owner or site developer may also choose to characterize each stockpile individually. If the analytical results indicate that concentrations exceed the standards for RCRA characteristics, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation. If the analytical results indicate that the soil is not a hazardous waste, the material will be properly disposed off-site at a non-hazardous waste facility. Stockpiled soil cannot be transported on or off-site until the analytical results are received.

4.6. Subgrade Materials

Subgrade material used to backfill excavations or placed to increase site grades or elevation shall meet the following criteria:

- Excavated on-site soil which appears to be visually impacted shall be sampled and analyzed. If analytical results indicate that the contaminants, if any, are present at concentrations below the corresponding 6 NYCRR Part 375 CSCO values, the soil can be used as backfill on-site.

- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of contamination.

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).

- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.

- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, and cyanide. The soil will be acceptable for use as backfill provided that all parameters meet the corresponding 6 NYCRR Part 375 CSCOs.

Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area.

5. Long-Term Groundwater Monitoring Plan

5.1. Groundwater Monitoring

The selected remedy, MNA, results in untreated, inaccessible residual petroleum contamination left in place near the site's eastern boundary, which is anticipated to degrade naturally over time through biodegradation, volatilization, adsorption, and dispersion. This process has been observed in the last two rounds of groundwater sampling during the RI in which groundwater VOC concentrations decreased by an order of magnitude. To monitor the effectiveness of the remedy and the groundwater quality at the site, each of the site's monitoring wells will be sampled semi-annually for a period of five years. The existing monitoring well network (Figure 3) will satisfy the requirements of DER-10 to monitor at least one well at the source area (MW-9), at least one well down-gradient of the source but within the contaminant plume (MW-11), at least one well at the fringe of the contaminant plume (MW-10 and MW-12), at least one down-gradient sentinel well beyond the contaminant plume (MW-13 and MW-14), and at least one well at the centerline of the contaminant plume (MW-11).

The existing monitoring wells were all constructed with 10-foot screens that straddle the water table, at approximately 8 to10 feet bgs. Based on field observations during the RI, the majority of the residual contamination resides at or immediately below the water table, while a clay/silty clay unit underlies the screened interval of the site wells. Coupled with the fact that source removal has been completed, these data indicate that the depth interval of residual contamination is limited, and that wells screened at deeper intervals are not necessary for long-term monitoring. The review of natural attenuation parameters (NAP) from groundwater samples collected during the sampling rounds of the RI indicated that biodegradation is likely occurring at the site. These data indicated that pH is in the correct range for microbiological degradation, the reduction/oxidation (redox) suggests that biodegradational processes occurring at the site are primarily anaerobic, any oxygen in the groundwater is depleted via aerobic degradation processes which are not likely a significant contributor to natural attenuation at the site, and that denitrification and iron reduction are actively occurring and are important components of the intrinsic anaerobic biodegradation processes.

5.2. Groundwater Sampling and Analysis

Groundwater samples will be collected from existing monitoring wells in accordance with the USEPA Low Flow-Low Purge Sampling Protocol. A peristaltic pump will be used to collect the groundwater samples. Prior to sampling, the water level and (if

present) light non-aqueous phase liquid (LNAPL) thickness in each well will be measured using an oil-water interface probe. Field parameters including pH, specific conductivity, temperature, turbidity, oxidation-reduction potential (ORP), and dissolved oxygen will be measured during well purging using a flow-through cell system. Purged groundwater will be visually assessed for the potential presence of LNAPL. Groundwater samples will be sent to a NYSDOH ELAP and NYSDEC ASP-approved analytical laboratory under chain-of-custody procedures for analysis of the following parameters:

- TCL VOCs by USEPA Method 8260B; and
- Natural Attenuation Parameters (NAP), including: carbon dioxide, methane, dissolved organic carbon, nitrate, nitrite, sulfate, ferrous iron, alkalinity, and chloride.

All groundwater sample collection, handling activities, and QA/QC sampling will be conducted in accordance with the previously approved QAPP for the Arbor Hill Gateway Properties RI/AA (Malcolm Pirnie, Inc., 2006).

5.3. Groundwater Monitoring Well Decommissioning

If, at the conclusion of the five year monitoring period, contaminant concentrations from site monitoring wells have been below applicable groundwater standards for two consecutive years, the NYSDEC will evaluate the need for continued monitoring. After such time that the NYSDEC determines that long-term groundwater monitoring is no longer necessary at the site, the groundwater monitoring well network will be decommissioned in accordance with the following procedures:

- Removing the flush-mount protective casing around the well and the concrete pad in which the protective casing is set.
- Excavating to a depth of approximately 2 feet bgs and then cutting the PVC well casing to a depth of 2 feet bgs.
- Filling and sealing the well bore with cement-bentonite grout. A tremie pipe shall be lowered to the bottom of the well and raised slowly as the grout material is introduced. The tremie pipe shall be kept full continuously from start to finish of the grouting procedure, and the discharge end of the tremie pipe shall be continuously submerged in the grout until the zone to be grouted is completely filled. The top of the grout material should be terminated 2 feet bgs.
- Backfilling the upper two feet of the well bore with topsoil and/or the soils previously excavated from the wellhead and compacting to avoid settlement.

- Replacing surface cover with appropriate in-kind materials (i.e. grass, concrete or asphalt).

6. Reporting

The property owner shall complete and submit to the NYSDEC an annual certification report by January 15th of each year. The annual certification report shall contain:

- Certification that the institutional controls put in place, pursuant to name of legal document, are still in place, have not been altered and are still effective; that the remedy and protective cover and all other engineering controls have been maintained; and that the conditions at the site are fully protective of public health and the environment. A New York State Professional Engineer or other qualified environmental professional will inspect the site annually and certify the annual report.
- In years where excavation has extended below the cover system, the report will include a certification that all work was performed in accordance to the Soil Management Plan.
- A summary of the semi-annual groundwater monitoring results and trend analysis.
- Description of site conditions and maintenance activities.
- Recommendations for any changes to the Site Management Plan.

The annual report will be submitted by a professional engineer, geologist, or such other expert acceptable to the NYSDEC until the NYSDEC notifies the property owner in writing that this certification is no longer needed.

The certification report will be distributed to:

Mr. Randy Hough
Project Manager
NYSDEC
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7016

Mr. Albert DeMarco
Public Health Specialist
NYSDOH
Bureau of Environmental Exposure Investigation
Flanigan Square
547 River Street
Troy, NY 12180-2216

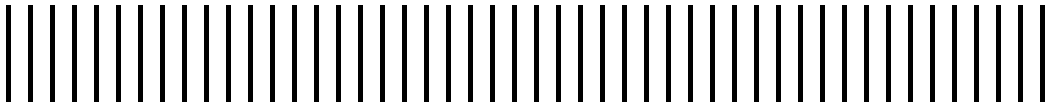
7. References

Malcolm Pirnie, Inc., 2006, Quality Assurance Project Plan – Arbor Hill Gateway Properties, Albany, New York.

Malcolm Pirnie, Inc., 2007, Remedial Investigation/Alternatives Analysis Report – Arbor Hill Gateway Properties, Albany, New York.

Albany Community Development Agency
OU1 Site Management Plan - Arbor Hill Gateway Properties

Figures



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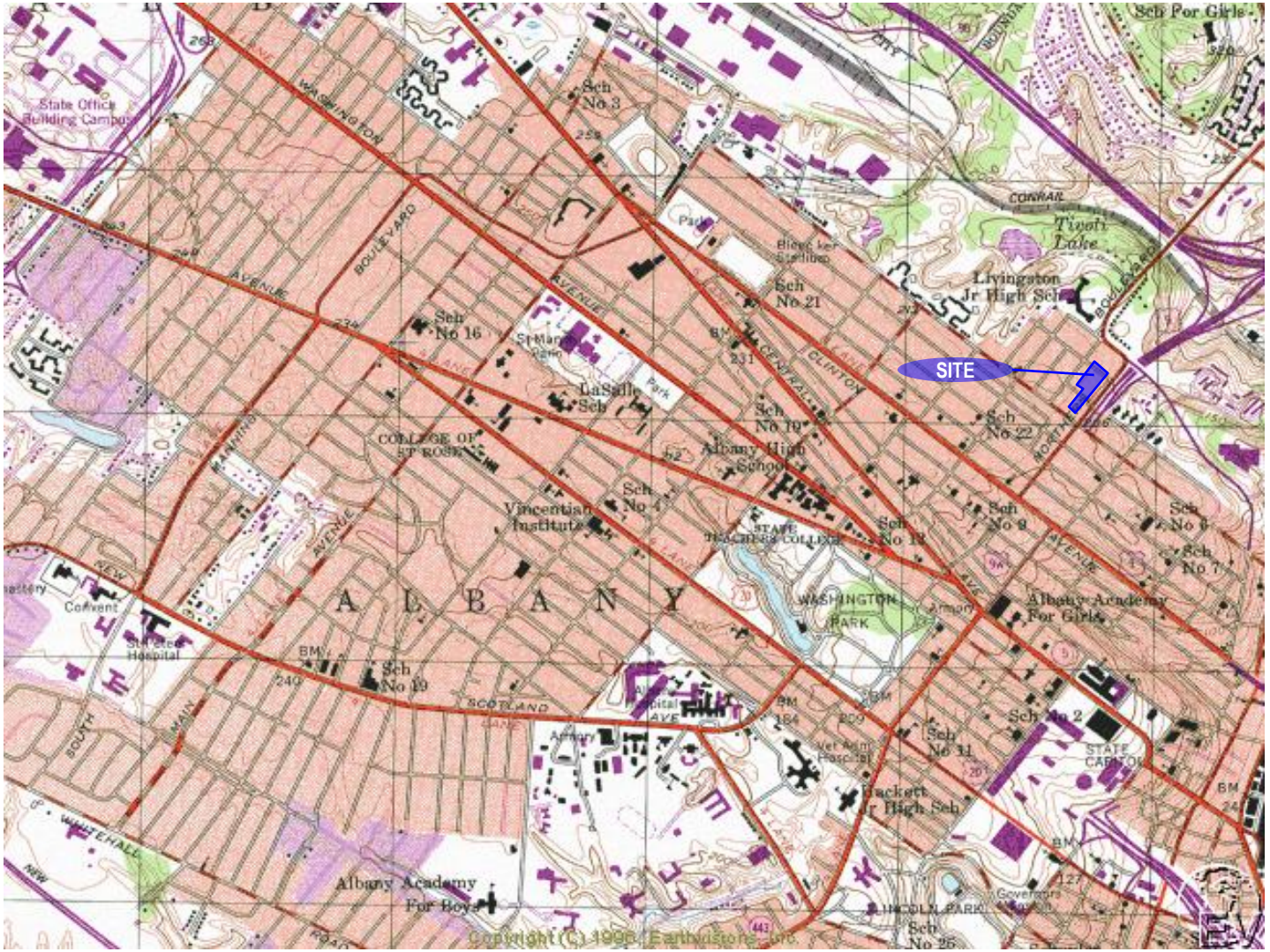
MALCOLM PIRNIE



SOURCE: 7.5 MINUTE TOPOGRAPHIC MAP
ALBANY QUADRANGLE, NEW YORK
UNITED STATES GEOLOGIC SURVEY 1980.

SCALE IN FEET

0 1000 2000 4000

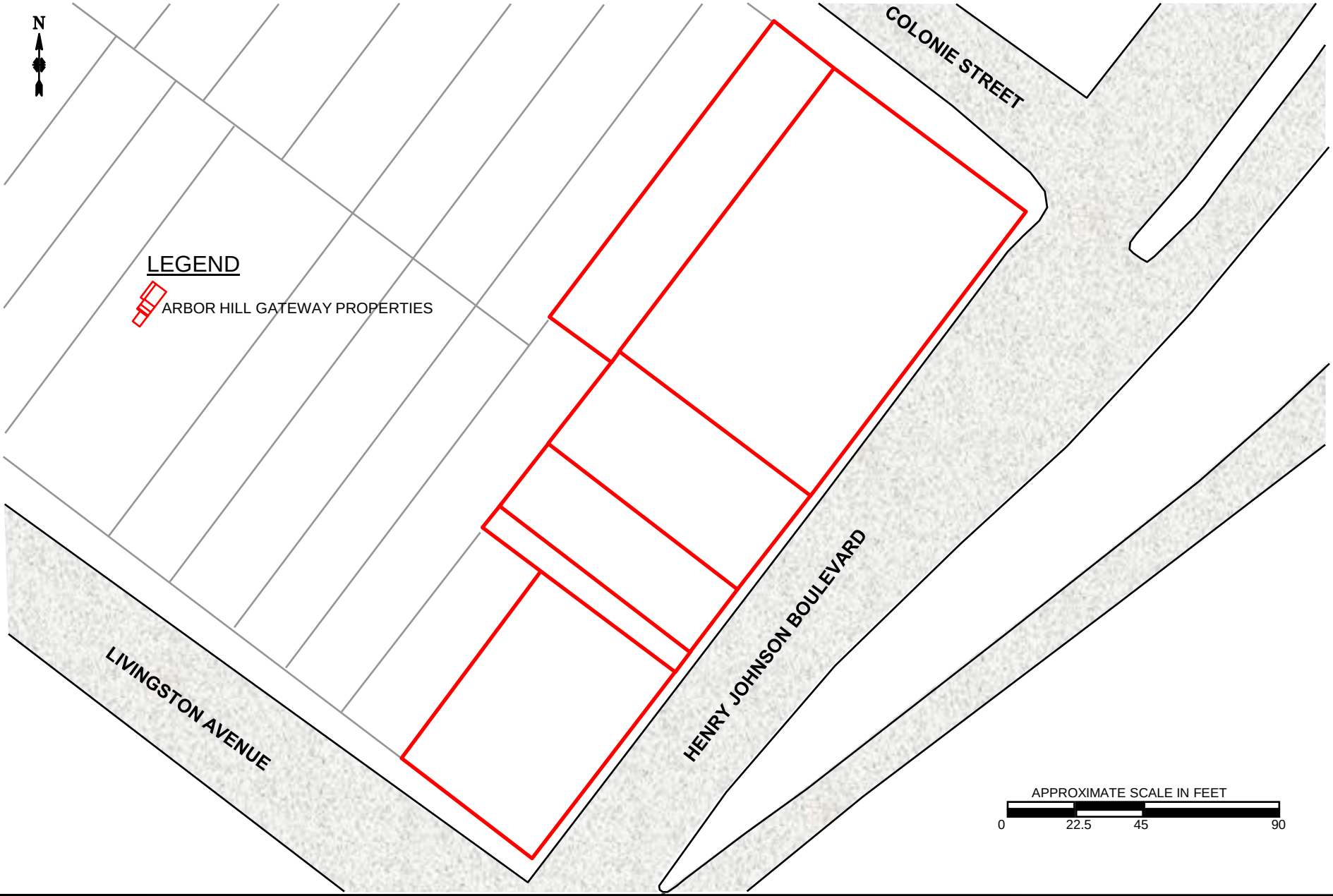
MALCOLM PIRNIE

ARBOR HILL GATEWAY PROPERTIES
ALBANY, NEW YORK

OU1 SITE MANAGEMENT PLAN

SITE LOCATION

FIGURE 1



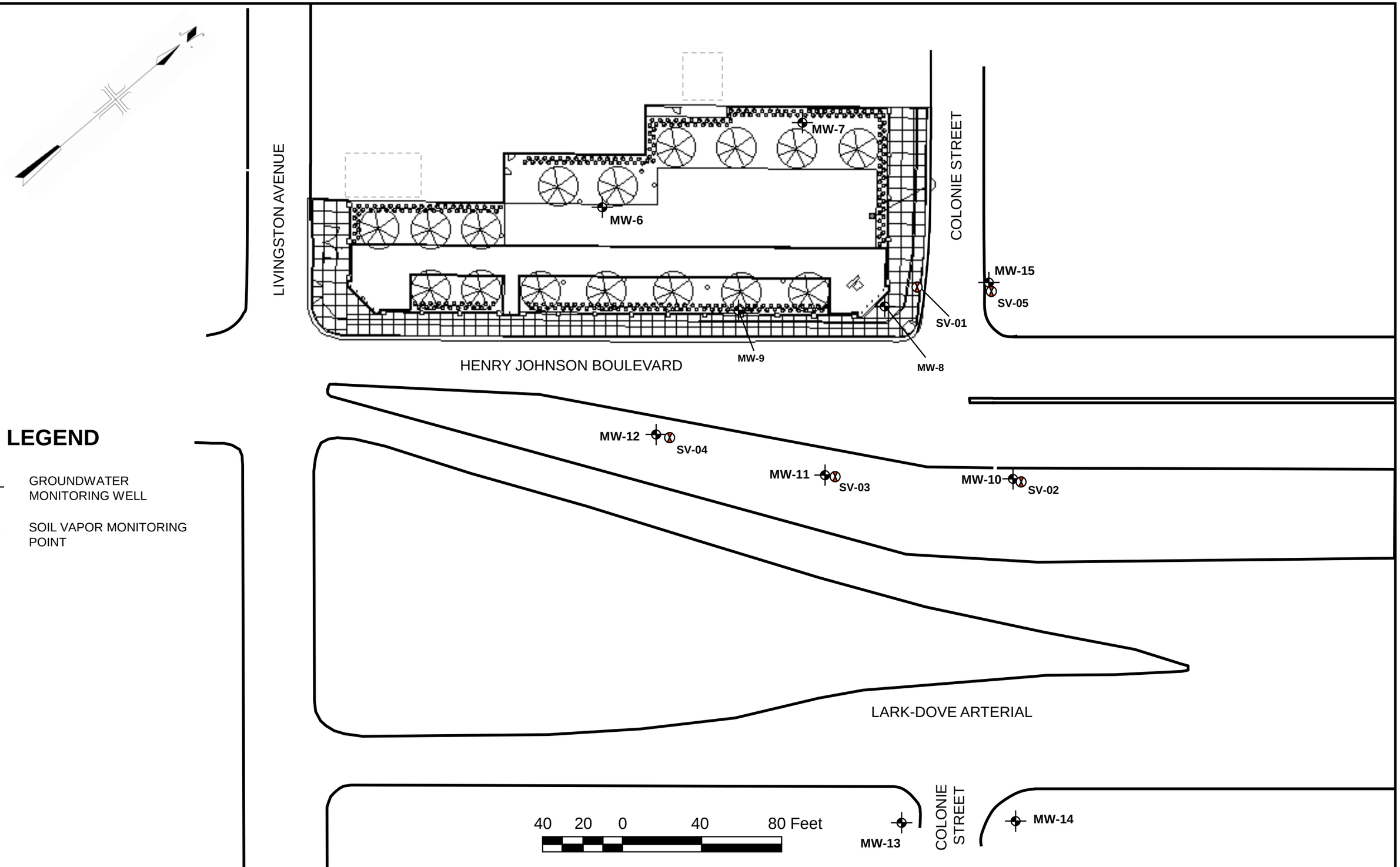
MALCOLM PIRNIE

ARBOR HILL GATEWAY PROPERTIES
ALBANY, NEW YORK

OU1 SITE MANAGEMENT PLAN

ASSESSMENT PROPERTIES

FIGURE 2



ALBANY COMMUNITY DEVELOPMENT AGENCY
ALBANY, NEW YORK

ARBOR HILL GATEWAY PROPERTIES ERP
OU1 SITE MANAGEMENT PLAN

PROJECT SAMPLING LOCATIONS

FIGURE 3

Albany Community Development Agency
200 Henry Johnson Boulevard • Albany, New York 12210

ARBOR HILL GATEWAY PROPERTIES
ALBANY, NEW YORK

Site Management Plan
Appendix A:
Generic Health & Safety Plan for Subsurface Work

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ENVIRONMENTAL RESTORATION PROGRAM
PROJECT #E401048

April 2009

Prepared By:

Malcolm Pirnie, Inc.

43 British American Boulevard
Latham, New York 12110
518-782-2100

4279016

Contents

Figures

Tables

1. Introduction

1.1. Objective

This Generic Health and Safety Plan (HASP) has been prepared as a generic appendix to the Site Management Plan (SMP) for future subsurface work that will breach the soil cover system at the site. The purpose of this document is to provide hazard information and minimum Health and Safety protocols and procedures that will be implemented during subsurface work activities to promote worker safety and protect the general public.

The following topics are presented and discussed in this Generic HASP:

- Organizational roles and responsibilities;
- Analysis of potential risks associated with subsurface work;
- General overview of safety practices and programs;
- Discussion of site control procedures, including decontamination and site monitoring; and,
- Contingency plans.

2. Roles and Responsibilities

2.1. City of Albany

In the event of subsurface construction work or utility access for repairs or upgrades, the City will provide this SMP and HASP to all applicable contractors and subcontractors to ensure that appropriate soil management and health and safety protocols are followed to prevent human exposure to residual petroleum contamination at the site.

2.2. Subcontractors

Subcontractors for any future subsurface work at the site will be required to read, understand, and conform to the policies, requirements, and information presented in this Generic HASP and Appendices, including:

- Following the guidelines for personal protective equipment (PPE), engineering controls, and work practices identified in the Generic HASP and subcontractor's HASP;
- Understand and comply with 29 Code of Federal Regulations (CFR) Part 1910 and 1926 rules and regulations as applicable to the tasks the subcontractor will be performing;
- Notify the City of identified or potential safety or health hazards, emergencies, or injuries;
- Comply with applicable OSHA and/or New York State training and medical surveillance requirements.
- Comply with the SMP.

Subcontractors shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations. In accordance with 1910.120(b)(1)(iv) and (v), the City will inform subcontractors of the site emergency response procedures, and any potential fire, explosion, health, safety or other hazards by making this Generic HASP and site information obtained by others available during regular business hours. All contractors and subcontractors are responsible for:

1. Developing their own Health and Safety Plan, including a written Hazard Communication Program and any other written hazard specific or safety programs

required by federal, state and local laws and regulations, that details subcontractor tasks, potential or actual hazards identified as a result of a risk analysis of those tasks, and the engineering controls, work practices and personal protective equipment to be utilized to minimize or eliminate employee exposure to the hazard;

2. Providing their own personal protective equipment;

3. Providing documentation that their employees have been health and safety trained in accordance with applicable federal, state and local laws and regulations;

4. Providing evidence of medical surveillance and medical approvals for their employees; and

5. The contractor and/or subcontractor shall designate their own Site Safety Officer (SSO). The subcontractor SSO is responsible for ensuring that their employees comply with their own specific HASP and taking any other additional measures required by the SMP.

Providing a copy of this Generic HASP and Appendices to subcontractors does not establish, nor is it intended to establish, a "joint employer" relationship between the Contractor and Malcolm Pirnie. This allowance does not establish, nor is it intended to establish, a direct or indirect employer/employee relationship with subcontractor's employees.

3. Site Information, Hazards, and Control

3.1. Nature of Contamination and Exposure Pathway

Based on data obtained from the RI/AA, residual petroleum contamination remains near the site's eastern boundary adjacent to and within the City and utility right-of-way. The main categories of contaminants that exceed 6 NYCRR Part 375 CSCOs are volatile organic compounds (VOCs) in addition to one semi-volatile organic compound (SVOC) which is associated with petroleum VOCs. Given the absence of buildings on the site and the placement of clean topsoil during park construction, direct contact, ingestion, or inhalation of VOCs from subsurface soil, groundwater, or soil vapor during future construction work and/or utility access and repairs remains the only potential human exposure pathway to the residual contamination.

3.2. Emergency Information

Local emergency information is provided in Table 1. Hospital directions are provided in Figure 1.

Table 1.
Emergency Information

Local Resources	Service Name	Telephone Number
Emergency Medical Services	Mohawk Ambulance Service	Emergency 911
Hospital (see attached map)	Albany Medical Center	Emergency 911
Fire Department	Albany Fire Department	Emergency 911
Police/Security	Albany Police Department	Emergency 911
Hazmat/Spill/Other Response	Albany Fire Department	Emergency 911

3.3. Hazard Analysis

Potential chemical exposure during future subsurface work from the residual petroleum contamination would be to volatile organic compounds (VOCs), primarily benzene, ethylbenzene, toluene, and xylenes (BTEX) in both soil and groundwater at concentrations estimated up to 1,000 parts per million (ppm) for soil and 200 parts per billion (ppb) for groundwater. The lowest permissible exposure limits for these compounds for an 8-hour time weighted average are approximately 10-200 ppm, depending on the compound. During routine excavation and utility access, the route of exposure would be contact with contaminated soil or groundwater. However, the

potential for contact is low and will be controlled through the use of appropriate PPE and work practices.

3.4. Safety Procedures and Site Control Measures

3.4.1. Work Zones

The contractor or subcontractor's SSO will coordinate access control and security for subsurface work at the site. A safe perimeter will be established at the boundary of any excavation and/or safe distance from excavators and other heavy equipment. These boundaries will be identified by safety cones, caution tape, and or temporary fencing.

3.4.2. Environmental Monitoring

Given the potential for exposure of the residual soil contamination, and to confirm that work activities do not generate airborne contaminants, VOCs and particulate matter (dust) will be monitored on a continuous basis during all ground-intrusive activities. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. VOC monitoring will be conducted using a MiniRae 2000 photoionization detector (PID). The PID will be calibrated at least daily using the span calibration gas recommended by the manufacturer. The PID will calculate 15-minute running average concentrations. These averages will be compared to the action levels specified below. 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) will be used for the particulate monitoring. The equipment will be equipped with an audible alarm to indicate exceedance of the action levels summarized below. Any fugitive dust migration will also be visually assessed during all work activities.

Action Levels - VOCs

- 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 will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

- 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 will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will 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.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, all work activities will be stopped.

Action Levels – Particulate Matter

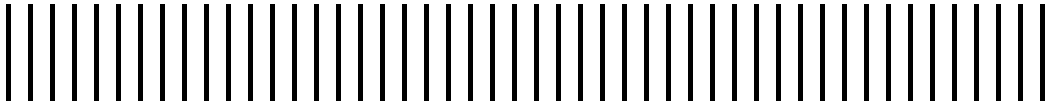
- If the downwind PM-10 particulate level is 0.1 milligrams per cubic meter (mg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 0.15 mg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 0.15 mg/m3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 0.15 mg/m3 of the upwind level and in preventing visible dust migration.

All 15-minute average readings will be recorded and be available for review by the New York State Department of Environmental Conservation (NYSDEC) or the NYS Department of Health (NYSDOH). Instantaneous readings, if any, used for decision purposes will also be recorded.

Albany Community Development Agency
OU1 Site Management Plan Generic HASP
Arbor Hill Gateway Properties

Figures



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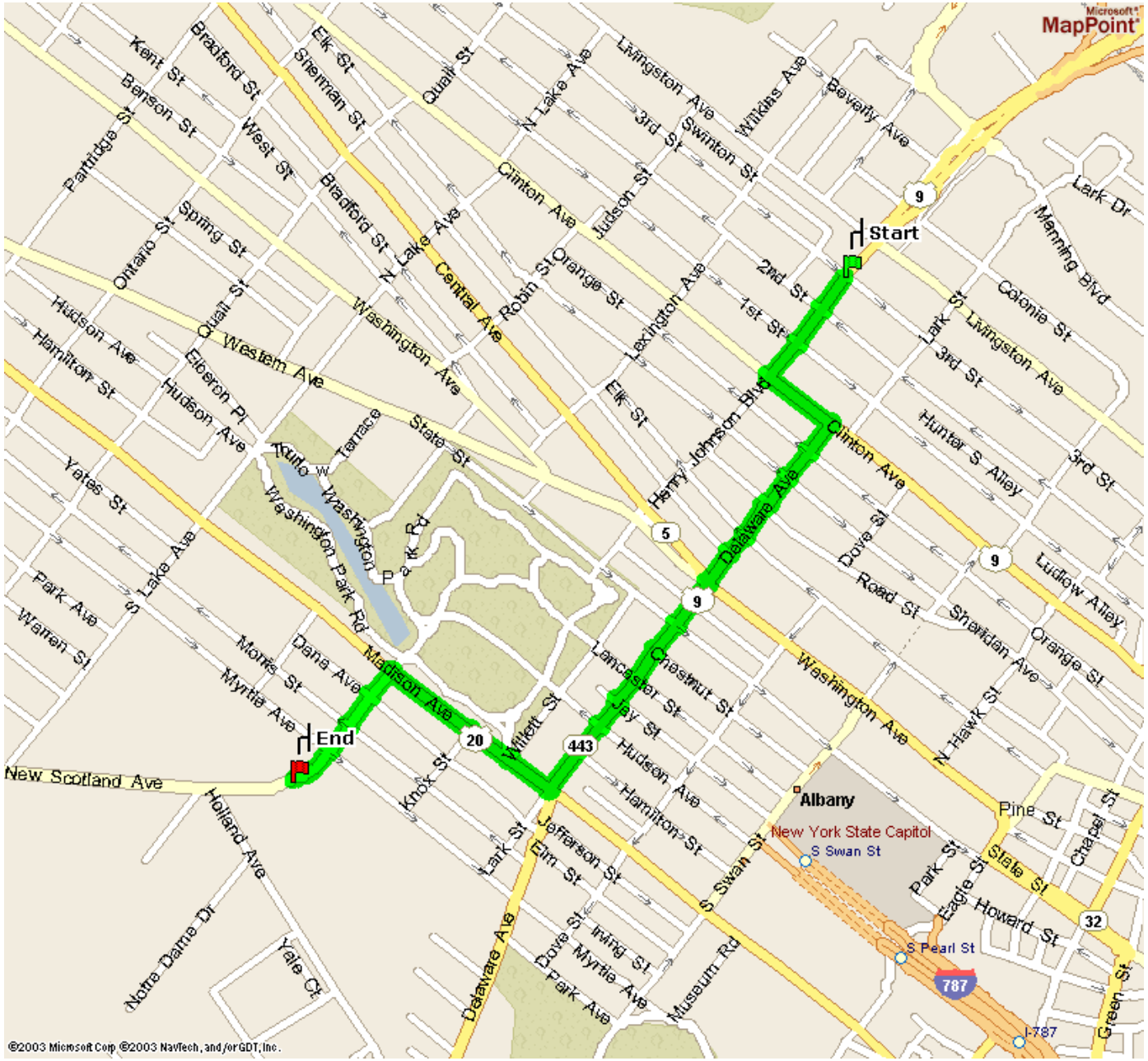

MALCOLM PIRNIE

ARBOR HILL GATEWAY PROPERTIES
ALBANY, NEW YORK
DIRECTIONS TO ALBANY MEDICAL CENTER
43 NEW SCOTLAND AVE.

FIGURE 1

ARBOR HILL GATEWAY PROPERTIES
HEALTH AND SAFETY PLAN

DIRECTIONS TO ALBANY MEDICAL CENTER

1. Start out going Southwest on US-9/HENRY JOHNSON BLVD toward CLINTON AVE.

2. Turn LEFT onto US-9/CLINTON AVE.

3. Turn RIGHT onto US-9W/LARK ST.

4. Turn RIGHT onto MADISON AVE/US-20.

5. Turn LEFT onto NEW SCOTLAND AVE.

Estimated travel time is THREE MINUTES.
Estimated distance to Albany Medical Center is 1.4 MILES.