Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Arbor Hill Gateway Properties Site
Operable Unit No. 01
City of Albany, Albany County, New York
Site Number E401048

March 2007

New York State Department of Environmental Conservation
ELIOT SPITZER, *Governor*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Arbor Hill Gateway Properties Environmental Restoration Site
Operable Unit No. 01
City of Albany, Albany County, New York
Site No. E401048
March 2007

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for Operable Unit # 01 of the Arbor Hill Gateway Properties site, an environmental restoration site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit # 01 of the Arbor Hill Gateway Properties environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous substances and/or petroleum products from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Arbor Hill Gateway Properties site and the criteria identified for evaluation of alternatives, the Department has selected monitored natural attenuation (MNA) of the inaccessible residual contamination, left in place after the tank and vessel closure actions. The components of the remedy are as follows:

- A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

- Imposition of an institutional control in the form of an environmental easement that will require (a) commercial use, including passive recreational use, which will also permit industrial use consistent with local zoning; (b) compliance with the approved site

management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

- Development of a site management plan which will include the following institutional and engineering controls: (a) development and distribution of a Health and Safety Plan for future subsurface construction activities and utility access and repairs, excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for soil vapor migration and vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts where warranted; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; (e) provisions for the continued proper operation and maintenance of the components of the remedy, including maintenance of the existing soil cover, placed during the Tank and Vessel Closure .

- The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

- The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

- Since the remedy results in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. Petroleum chemicals in the soil vapor and groundwater will be monitored in order to document reductions in contaminant concentrations and volumes. Water levels, field observations, chemical natural attenuation parameters (NAP), geochemical constituents, and microbiological parameters will be measured in the groundwater wells in order to monitor the type, rates, and likely results of the physical and biological processes. This program will allow the effectiveness of the natural attenuation to be monitored and will be a component of the long-term management for the site.

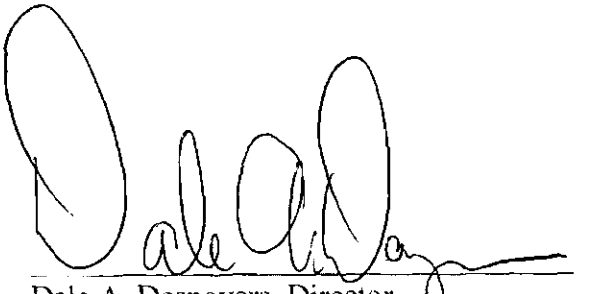
New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective.



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Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

Arbor Hill Gateway Properties Site
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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for the Arbor Hill Gateway Properties Site, Operable Unit No. 01, which encompasses 0.5 acres of property, made up of six parcels. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this proposed remedy.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

As more fully described in Sections 3 and 5 of this document, the operation of a vehicle maintenance, repair and refueling facility resulted in the disposal of hazardous substances, including petroleum related volatile organic compounds (VOCs). These hazardous substances contaminated the soil, soil vapor and groundwater media at the site, and resulted in:

- a threat to human health associated with potential exposure to contaminated site soils, soil vapor and groundwater.

- an environmental threat associated with the current impacts of contaminants to groundwater.

To eliminate or mitigate these threats, the Department has selected monitored natural attenuation (MNA), of the residual contamination left in place after the tank and vessel closure actions. MNA utilizes the on-going natural processes documented to be occurring at the site, including biological degradation to reduce and eliminate the contamination. Monitored natural attenuation will be used in conjunction with an environmental easement to address the soils and groundwater as the remedy for this site.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Arbor Hill Gateway Properties Site is 0.5 acres of property, primarily fronting on Henry Johnson Boulevard between Livingston Avenue and Colonie Street (Figure 1) in the City of Albany, Albany County. The site property is composed of six individual parcels which are all vacant lands (Figure 2). The site is located in a mixed residential / commercial area, with residences to the north, Livingston Avenue and businesses to the west, and Henry Johnson Boulevard (a.k.a. Northern Blvd, Rt. 9) and Colonie Street bordering the site to the south and east. The Henry Johnson Boulevard Properties ERP Site, E401049, is located three blocks to the southeast. The underlying near surface soil deposits at the site are fine to medium brown sands and silt, above silt and clay. Fill material consisting of sub-rounded gravel, sand, silt and brick is present in some areas of the site. Soils associated with the underground storage tanks and the utilities / road-bed corridor of Henry Johnson Boulevard consist of sand, silt and clay. Groundwater levels on the site indicate that the water table is at approximately 10' below ground surface. Groundwater, generally follows the topographical gradient of the area, flowing east across the site. The utilities corridor and the Henry Johnson Boulevard road structure, running northeast to southwest may locally effect the groundwater flow along this side of the site.

Operable Unit (OU) No. 01, which is the subject of this document, consists of the total 0.5 acre on-site area, made up of six individual parcels of property. An operable unit represents a portion of the site remedy that for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. The remaining operable unit for this site is OU No. 02, the off-site potential soil vapor intrusion pathway. Off-site soil vapor and groundwater sampling and analysis has been performed. Low level soil vapor and groundwater contamination has been detected in off-site locations, which requires further investigation.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

According to historical maps and records, as many as four buildings, including the garage for vehicle maintenance repair and refueling, have been present on the site parcels. The garage facility was operating at the site as early as 1935 and as recently as 1995. The other buildings at the site were apparently demolished some time between 1951 and 1973. The garage was situated on the northeastern parcel of property at the corner of Henry Johnson Boulevard and Colonie Street and was a one story cement block and brick structure, occupying approximately 4,400 square feet with three service bays. A small attached cement block building was later added on the southwestern end of the structure. Six underground storage tanks (USTs), five of which were 1,500 gallon capacity for gasoline and one which was 2,000 gallon capacity for diesel were registered at the site. A 275 gallon, #2 fuel oil, above ground storage tank (AST) was also registered and present within the garage building. The garage building was demolished by the City of Albany in 2004, after the roof and other parts of the structure partially collapsed. The majority of the structural debris was disposed off-site. The fill pipes for four of the gasoline USTs were located in the southeast corner of the

building, the location of the fifth was unknown. The dispenser for the diesel UST was reportedly located adjacent to the block building. Two concrete pads, which were formerly the fuel pump dispenser islands, were located in front of the building along Henry Johnson Blvd.. A sub-floor maintenance pit 20 feet long, 6 feet wide, and 4.5 feet deep was in one bay, and a sump was present in the northern most bay of the main garage. A subsurface, 4 foot high crawl space area was present in the main structure from the maintenance pit to the northern end of the building and was reportedly used for petroleum product storage. The remnants of a hydraulic lift, including the fluid reservoir, and a floor drain with an unknown terminus were present in the southern block building attachment. A set of fuel oil fill and vent pipes were present on the northern end of the building along Colonie Street.

Water and a small quantity of product was present in each of the USTs. Three additional leaking USTs and two ASTs, which contained various amounts of petroleum products were found on-site during the tank and vessel closure action. One of the USTs was used as a waste oil storage vessel with piping to the maintenance pit. The maintenance pit, contained water and a non-aqueous phase liquid (NAPL) petroleum on the surface. The reservoir in the block building contained hydraulic fluid. Subsurface petroleum contamination appears to be the result of leaking underground storage tanks, discharges from the pits or reservoirs, improper disposal of products in the drains and the sumps, and/or poor housekeeping.

3.2: Remedial History

Phase I and II Environmental Site Assessments (ESAs) were conducted at the site as part of a Environmental Protection Agency (EPA) Brownfields Assessment Demonstration Pilot Program grant by the City of Albany. The ESAs included among other things, surface, sub-surface and groundwater sampling and analysis.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, and haulers.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. The City of Albany will assist the state in its efforts by providing all information to the state which identifies PRPs. The City will also not enter into any agreement regarding response costs without the approval of the Department.

SECTION 5: SITE CONTAMINATION

The City of Albany has recently completed a remedial investigation/alternatives analysis report (RI/AAR) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between April 2006 and October 2006. The field activities and findings of the investigation are described in the RI report.

In accordance with the ERP procedures, the first phase of the RI involved the registration and closure of all out of service petroleum storage tanks, and the removal and disposal of all hazardous substances within all tanks, containment vessels, sumps and pits on the property. Collectively, this was called the "Tank and Vessel Closure" phase and was performed in accordance with DER-10, the draft "Technical Guidance for Site Investigation and Remediation", as a non-IRM action. The action involved the closure of eleven USTs, one AST, the maintenance pit, the hydraulic reservoirs, the sumps, pump islands and all associated apparatus (see Figure 2 for Tank and Vessel locations). It also included the removal and disposal of 16,600 gallons of petroleum contaminated water and 1,850 tons of impacted soils.

The second phase of the RI involved the collection of soil, groundwater and soil vapor samples for laboratory analysis to evaluate the effectiveness of the Tank and Vessel Closure actions and to determine the impacts from the historical disposal, on the other site parcels and at off-site downgradient areas.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the soil, soil vapor and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the Department's Soil Cleanup Objectives (SCO) for Restricted Use - Commercial ("NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives").

- Soil Vapor sample results were compared to the collected ambient air sample and in addition the concentrations of VOCs in the samples were compared to typical background levels of VOCs in outdoor air using the background levels provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006. The background levels are not SCGs and are used only as a general tool to assist in data evaluation.

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site still require remediation. These are summarized in Section 5.1.2. More complete information can be found in the RI report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the RI report, soil, soil vapor and groundwater samples were collected to characterize the nature and extent of contamination. As seen in Figure 3, the main categories of contaminants that exceed their SCGs in subsurface soils are volatile organic compounds (VOCs). As seen in Figures 4 and 5, the main categories of contaminants that exceed their SCGs in groundwater are volatile organic compounds (VOCs) and one semi-volatile compound (SVOC), which is associated with the petroleum VOCs. For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil. Air samples are reported in micrograms per cubic meter ($\mu g/m^3$).

Figures 3 , 4 and 5 also summarize the degree of contamination for the contaminants of concern in the post-Tank and Vessel Closure subsurface soils and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Tank and Vessel Closure

As outlined in Section 5.1, a Tank and Vessel Closure remedial action was performed as the first phase of the RI. The Tank and Vessel Closure actions were implemented in accordance with the ERP State Assistance Contract requirements, and were conducted as per Section 5.5-Underground Storage Tank Closures of Draft DER-10, "Technical Guidance for Site Investigation and Remediation", as a non-IRM activity. This action was designed and implemented to eliminate the major source areas of site contamination by closure of the tanks and vessels and removing the impacted soils as per the guidance. Sidewalk opening permits were obtained to gain access to these areas.

Excavation of the USTs began based on known tank location and the presence of fill pipes located at grade. The registered USTs were located, their contents pumped out, the tanks purged of volatile vapors, removed from the excavation, cleaned, rendered unusable and disposed as scrap metal. Five USTs that were not indicated on the registration were also located and removed during the excavation activities. These included two 275 gallon tanks that likely contained kerosene, two tanks that contained gasoline (750 and 500 gallon capacity), and one 1,500 gallon tank which contained waste oil and appeared to have been partially filled with sand. Additionally, remnants of the registered 275 gallon heating oil tank that was reportedly removed from the site after the demolition of the former vehicle maintenance facility were discovered within the maintenance pit (see Figure 2 for on-site Tank and Vessel locations). A total of approximately 15,000 gallons of gasoline contaminated water and 1,600 gallons of waste petroleum products were pumped from the various tanks and vessels and/or the excavation area and disposed of off-site during these activities. All tanks were cleaned, rendered unfit for use and shipped off-site as scrap metal. The City of Albany

registered the additional tanks in its name upon completion of the Tank and Vessel Closure activities. Other actions completed during this activity included:

- Removal of the concrete floor slabs of the former vehicle maintenance facility.
- Removal of the sump.
- Removal of the maintenance pit.
- Removal of floor drain and associated piping.
- Removal of the former hydraulic lifts and tank/reservoirs.
- Removal of the fuel dispenser islands and associated piping.
- Removal of petroleum-affected soil within the vicinity of USTs, former fuel dispensing area, and former vehicle maintenance facility.

Upon removal of the USTs and other vessels, the excavation was visually inspected for stained soils, which, if present, were excavated with further side-wall screening using a field instrument equipped with a photoionization detector (PID) for measuring volatile organic compounds. Excavation continued, and measurements were taken, until indications of petroleum were no longer present in the soil, or the excavation walls reached the edge of the site property and/or adjacent sidewalks and streets. The vertical extent of the excavations was defined by the water table depth at the time of the Tank and Vessel Closure and by the presence of a distinct known, uncontaminated geological soil horizon. The horizontal extent of the excavation was defined to the south and west of the former fuel dispensing area by the sidewall screening, while the northern and eastern extent of the excavation was defined by proximity to Colonie Street and Henry Johnson Boulevard, respectively, as well as the underground utilities. The utility corridor along Henry Johnson Blvd. includes a 6" natural gas line, sanitary/storm sewer lines, and potable water lines. The potential encroachment onto the heavily trafficked Henry Johnson Boulevard roadway, was also a major concern. Petroleum impacted soil was left in place around the underground utilities along the eastern sidewall (adjacent to Henry Johnson Blvd.), and the northeast corner of the excavation near Colonie Street. Confirmation samples (CS) which characterize the material left in place include CS-04, 06, 07, 13, 19-23, and 26-29. Of these samples, sample CS-06 had the highest concentrations of VOCs and SVOCs and was collected from a dark gray to black sand 1 to 2 feet above the water table. The complete analytical results for these samples can be found in Table 3-2 of the RI/AAR.

The excavated petroleum-impacted soil was directly placed in dump trucks for immediate transport to the off-site disposal facility. A total of 1,850 tons of petroleum impacted soil were excavated from around and under the various tanks, pits and sumps during this action. After the removal of the petroleum-impacted soils, the soils from the side-walls of the excavation were screened visually and with a PID. Confirmation sampling was conducted to verify that the 6 NYCRR Part 375 Commercial Soil Cleanup Objectives (CSCOs) were achieved, and/or to characterize petroleum-impacted soil that was left in the ground due to proximity to adjacent streets and utilities.

The excavation area was backfilled with clean material consisting of 1,700 tons of stone dust and approximately 22 tons of bank sand. Additionally, crusher run gravel was placed at the surface of the excavated areas under the former dispenser islands and the sidewalk adjacent to Henry Johnson Boulevard.

Waste Materials

During the Tank and Vessel Closure activities 15,000 gallons of gasoline contaminated water and 1,600 gallons of waste petroleum products were pumped from the various tanks and vessels and/or the excavation area and disposed of off-site.

Surface Soil

No site-related surface soil contamination of concern was identified during the RI/AAR. Therefore, no remedial alternatives need to be evaluated for surface soil.

Subsurface Soil

During the Tank and Vessel Closure activities, thirty-three post-excavation confirmation samples (CS) were collected from the bottom and sidewalls of the excavation area and from test-pits on other parts of the site area, to determine if residual contamination levels were below soil cleanup objectives (see Figure 6 for CS and Test Pit locations). Six additional soil samples were collected during the installation of the off-site groundwater monitoring wells. VOCs were not detected at concentrations above the soil cleanup objectives in the bottom confirmation samples at any location, in the test pit samples or in the subsurface off-site soils. One of the post-Tank and Vessel Closure confirmation samples from the sidewall, contained VOCs above the soil cleanup objectives (see Figure 3).

Subsurface soil contamination identified during the RI/AAR will be addressed in the remedy selection process.

Groundwater

Two rounds of samples were collected from ten groundwater monitoring wells during the RI. Four wells were installed on-site, two upgradient of the excavation and two within the excavation footprint in the proximity of the residual soil contamination left in place (MWs-8 and 9). Six new wells were installed off-site at side gradient or downgradient locations from the residual contamination area. The depth to groundwater was between 4 and 14'. Groundwater samples were analyzed for contaminants of concern and for Natural Attenuation and Geochemical parameters. Natural attentuation parameters included; alkalinity, chloride, sulfate, dissolved organic carbon, carbon dioxide, methane and nitrate-nitrite. Geochemical parameters included; hardness, dissolved solids, kjeldhahl nitrogen, and total organic carbon. VOCs were detected above the groundwater standards in both the on-site wells installed within the excavation area during the first round of sampling and in one well (MW-9, GW depth at 8') during the second. One SVOC compound (naphthalene) was detected in MW-9 above standards from the first round of samples. VOCs were detected above standards in two of the closest downgradient wells (MW-11 and 12) installed within the US Route 9 median in the first round , and in one well (MW-11) during the second. The contaminant concentrations showed an order of magnitude decrease for most VOC compounds over the time period between the two rounds of sample collection and analysis (see Figures 4 and 5). The

sample results indicate that the VOC contamination has not been significantly mobilized by the groundwater flow and that various natural processes are at work reducing the VOC mass at and around the site.
Groundwater contamination identified during the RI/AAR will be addressed in the remedy selection process.

Soil Vapor/Air

Five soil vapor probes were installed at side gradient or downgradient locations from the residual contamination area. The probes were placed near the new monitoring wells, at depths below three feet and at least one foot above the encountered groundwater levels (see Figure 4 for locations). The soil vapor sampling was performed to determine the potential off-site impacts to this media from the residual soil and groundwater contamination on-site. Based upon the contemplated use of the site as an open air park with no buildings, on-site soil vapor exposure is not considered an issue. Petroleum related VOCs were detected in all of the soil vapor samples and in the ambient air, with the majority of the individual compounds detected at less than 10 ug/m^3 (see RI/AAR Table 6-5 for results).

On-site soil vapor contamination identified during the RI/AAR will be addressed in the remedy selection process.

5.2: Interim Remedial Measures

There were no IRMs performed at this site during the RI/AAR.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 8.0 Exposure/Risk Assessment of the RI/AAR report, which is available at the document repositories listed in Section 1.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are no known completed exposure pathways for the site. Potential exposure pathways are discussed below.

Subsurface Soil

Direct contact and ingestion or inhalation of VOCs from the soils are potential exposure pathways for future site and utility workers who may contact subsurface soil during construction work and/or utility upgrades and repairs. Site visitors and trespassers could potentially be exposed to contaminants in the subsurface soils in dust and to VOC vapors during future site construction activities.

Soil Vapor

Volatile petroleum related chemicals remaining in the subsurface soil as described in the Tank and Vessel Closure and in the groundwater, have the potential to be a continuing source for soil vapor contamination which can pose a potential threat to construction and/or utility workers.

Groundwater

Direct contact and ingestion or inhalation of VOCs from the groundwater are potential exposure pathways for site and utility workers who may contact groundwater during future construction work and/or utility upgrades and repairs. Site visitors and trespassers could potentially be exposed to VOC vapors from the groundwater during future site construction activities. Groundwater in the area is not utilized as a potable water source.

5.4: Summary of Environmental Assessment

Contaminated subsurface soils at the site exist in a band along the east side at a depth below four feet, and are covered with fill material. Groundwater contamination at the site is not being readily mobilized and thus is not emerging to surface water. Therefore, viable exposure pathways to fish and wildlife receptors are not present.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles. The protection of groundwater SCOs were determined not to be applicable, since the on-site source of

groundwater contamination was largely removed during the tank and vessel closure remedial action, the residual contamination in the on-site soils would be addressed by the proposed remedy for the site, the proposed remedy would impose an environmental easement restricting the use of groundwater as a source of potable or process water, the proposed remedy includes treatment to address off-site migration, and based upon the two RI sampling rounds groundwater quality has improved since the source area removal.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of construction and/or utility workers at or around the site to petroleum related VOCs in subsurface soils, soil vapor and groundwater;

- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards and;

- the Department's Soil Cleanup Objectives - (SCO) for Restricted Use - Commercial ("NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives")

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements. Potential remedial alternatives for the Arbor Hill Gateway Properties were identified, screened and evaluated in the AA report which is available at the document repositories established for the site.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soils , groundwater and soil vapor at the site.

Alternative 1: No Further Action

The No Further Action alternative recognizes the actions completed during the Tank and Vessel Closure phase of the RI, which removed the majority of the contaminant source area, leaving a small volume of residual hazardous substances on the site. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative 2: Monitored Natural Attenuation (MNA)

Present Worth: *$74,000*
Capital Cost: *$0*
Annual Costs:
(Years 1-5): *$17,000*

Alternative 2 would consist of the Monitored Natural Attenuation of the residual contaminants in the soils, soil vapor and groundwater. MNA is utilized in combination with contaminant source removal, which was achieved during the Tank and Vessel Closure. Natural attenuation is a set of physical, chemical and biological processes including biodegradation, volatilization, adsorption and dispersion, continuously on-going at the site, as documented by the order of magnitude reduction in groundwater VOC concentrations, between the two RI sampling rounds. MNA includes the periodic monitoring of the on and off-site groundwater monitoring wells and the soil vapor points for a site specific list of natural attenuation parameters. The monitoring data would be used to evaluate the degree to which the concentrations of petroleum compounds in the subsurface media are being reduced through the intrinsic natural attenuation processes and would provide continuing information on changes in the mobilization of the residual contaminants in these media.

The monitoring of these natural attenuation processes would be performed utilizing the existing and/or minimal additional, installed sampling points and thus would not require a significant design or implementation period. The estimated time to meet the remediation goals is five years, based upon the RI monitoring and since the petroleum contamination source area has been removed.

Alternative 2 would also require the imposition of an institutional control in the form of an environmental easement that would require (a) commercial use, which would also permit industrial use, consistent with local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

The Alternative 2 Site Management Plan (SMP) would specify the procedures necessary to maintain the site remedy. These include, among other items; (a) provisions for Health and Safety of the public, site and utility workers and the management of contaminated soils that may be excavated during future development/repair activities, (b) continued evaluation of the potential for soil vapor migration and vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts where warranted, (c) maintenance of the existing fill cover material placed over the residual site contamination during the Tank and Vessel Closure phase and also specify the

maintenance requirements of the monitoring points (groundwater monitoring wells and soil vapor probes) to ensure the long-term effectiveness of the remedy.

Alternative 3: In-situ Chemical Oxidation (ISCO) using Fenton's Reagent

Present Worth: *$131,000*
Capital Cost: *$105,000*
Annual Costs:
(Years 1-2): *$14,000*

Alternative 3 would consist of, the utilization of Fenton's Reagent, which is a solution of hydrogen peroxide and an iron catalyst, to oxidize (destroy) the remaining petroleum contaminant mass. The chemicals would be applied in the subsurface, by a method which would allow them to react directly with the existing contamination (in-situ).The alternative consists of the following items:

- A pilot test to determine chemical oxidant radius of influence and treatability;
- Injection of chemical oxidant through Geoprobe® boreholes;
- Post-injection soil sampling;
- On- and off-site groundwater monitoring for a two year period; and
- Monitoring of off-site soil vapor.
- Institutional Controls similar to those listed in Alternative 2.

The time required to design and implement Alternative 3 would be approximately one (1) year. It would take an estimated time period of two years for the site to reach steady state conditions and achieve the remediation goals.

Alternative 4: In-situ Chemical Oxidation (ISCO) using Activated Persulfate

Present Worth: *$145,000*
Capital Cost: *$119,000*
Annual Costs:
(Years 1-2): *$14,000*

Alternative 4 would consist of, the utilization of Activated Persulfate, which is typically a solution of sodium persulfate and an activation catalyst, to oxidize (destroy) the remaining petroleum contaminant mass. The chemicals would be applied in the subsurface, by a method which would allow them to react directly with the existing contamination (in-situ).The alternative consists of the following items:

- A pilot test to determine chemical oxidant radius of influence and treatability;
- Injection of chemical oxidant through Geoprobe® boreholes;
- Post-injection soil sampling;

- On- and off-site groundwater monitoring for a two year period; and
- Monitoring of off-site soil vapor.
- Institutional Controls similar to those listed in Alternative 2.

The time required to design and implement Alternative 4 would be approximately one (1) year. It would take an estimated time period of two years for the site to reach steady state conditions and achieve the remediation goals.

Alternative 5: Enhanced Bioremediation using Oxygen Release Compounds (ORC)

Present Worth: *$96,000*

Capital Cost: *$49,000*

Annual Costs:

(Years 1-3): *$17,000*

Alternative 5 would consist of, the utilization of an oxygen releasing compound (ORC), such as a chemical formulation composed of magnesium peroxide, which when injected into the subsurface would release supplemental oxygen. The provided oxygen would help to enhance the aerobic biodegradation of the contamination by the naturally occurring microorganisms. The chemicals would be applied in the subsurface by pressure injection through new or existing boreholes which would allow the bioremediation to occur at the existing contamination locations (in-situ).The alternative consists of the following items:

- A pilot test to determine the ORC radius of influence and treatability;
- Injection of ORC through Geoprobe® boreholes;
- Post-injection soil sampling;
- On- and off-site groundwater monitoring; and
- Monitoring of off-site soil vapor.
- Institutional Controls similar to those listed in Alternative 2.

The time required to design and implement Alternative 5 would be approximately two (2) years. It would take an estimated time period of three years for the site to reach steady state conditions and achieve the remediation goals.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of environmental restoration projects in New York. A detailed discussion of the evaluation criteria and comparative analysis is included in the AA report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are presented in Table #1.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance. Concerns of the community regarding the RI/AA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the Department addressed the concerns raised.

No significant public comments were received.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the Administrative Record (Appendix B) and the discussion presented below, the Department has selected Alternative #2, Monitored Natural Attenuation as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the RI and the evaluation of alternatives presented in the AAR.

Alternative 2 is was selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by limiting the exposures of persons at or around the site to the residual subsurface VOC contamination, which was covered with approximately 4 feet of clean fill as part of the Tank and Vessel Closure. The alternative will include provisions for health and safety of site and/or utility workers and the management of contaminated soils that may be excavated during future development or repair activities. Alternative 2 provides for attaining, to the extent practicable, ambient groundwater standards and the Department's soil cleanup objectives. These will be accomplished by the continued reduction in concentrations of contaminants dissolved in the groundwater, in the vapor form and/or sorbed to the soil particles through the site's naturally occurring processes of biodegradation, volatilization (evaporation), adsorption and dispersion. The long-term monitoring plan of the remedy will provide the data required to verify that natural attenuation is meeting the site objectives and that any changes in site conditions (such as site development) are not adversely affecting the attenuation processes, and the contaminant mobility. Exposure to the residual contamination in vapor form, will be addressed in the Site Management

Plan's requirement, to further evaluate the potential for vapor migration and/or intrusion and mitigate it as necessary.

The comparative evaluation of alternatives in terms of overall protection of human health and the environment evaluates attainment of SCGs, as well as the analysis of the balancing criteria (i.e. short term effectiveness, long-term effectiveness and permanence, reduction in toxicity, mobility and volume, implementability and costs). The evaluation of these criteria focuses on such factors as the method in which the remedial alternatives achieve protection over time, the degree to which risks would be reduced, and the methods in which the residual contamination would be eliminated, reduced or controlled.

The protection of the public health and the environment was enhanced as a result of the removal of the major source of the petroleum related contamination, (USTs and impacted soils) and by the placement of a cover barrier to the remaining residual petroleum contaminants, during the Tank and Vessel Closure action. Each alternative will further be protective, by the treatment of the residual contaminants at the site. Groundwater is not utilized as a source of potable drinking water in the area.

All alternatives, with the exception of the No Further Action alternative, will attain compliance with the SCGs for the site and would result in the restoration of the site to pre-release conditions to the extent practicable. Alternatives 3 and 4 will attain SCGs in the shortest time period (estimated at, I to 2 years), followed by alternative 5 (estimated at 3 years) and then alternative 2 (estimated at 5 years).

Alternatives 3 (ISCO using Fenton's reagent) and 4 (ISCO using activated persulfate) would be most effective in the short-term. Alternative 5 (ORC) would be less effective in the short-term than alternatives 3 and 4, but would be more effective in the short-term than alternative 2 (MNA). All would be effective in the long term.

Alternatives 2, 3, 4 and 5 would all reduce the residual contaminant volume, which would reduce the site risks. None of the alternatives would reduce the contaminant toxicity. Mobility of contaminants would be unaffected by each alternative.

Implementation of Alternatives 3 (ISCO using Fenton's reagent), Alternative 4 (ISCO using activated persulfate) and Alternative 5 (ORC) would each require the injection / delivery of the chemicals to the subsurface. Each would require a pilot test to determine the chemical requirements for treatment of the contaminants and to determine the specific radius of influence of the injected chemicals. Concerns arise for each of these alternatives based upon the measured conductivities of the site soils, their apparent sorption capacities, and thus whether the chemicals would have much impact beyond the injection points. In addition, there is some concern about the effects the

aggressive chemicals would have on the utility infrastructure, around which, most of the residual contamination remains.

Alternative 2 will be readily implemented, since little or no ground intrusive work is required. Alternative 2 is also compatible with the restricted commercial use of the site for passive recreation as an open air park with decorative concrete sidewalks and additional topsoil cover in vegetated areas.

A comparison of the costs for each alternative is provided in Table 2. The ranking of each of the alternatives, in order of the cost (from lowest to highest) required to meet the RAOs is shown below:

- Alternative 1 – No Further Action
- Alternative 2 - MNA
- Alternative 5 – ORC
- Alternative 3 – Fenton's Reagent
- Alternative 4 – Activated Persulfate

Based upon the above evaluation, Alternative 2 will provide the most balanced and appropriate remedy for this site.

The estimated present worth cost to implement the remedy is $74,000. The cost to construct the remedy is estimated to be $ 0 and the estimated average annual costs for 5 years is $17,000 per year.

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

2. Imposition of an institutional control in the form of an environmental easement that will require (a) commercial use, including passive recreational use, which will also permit industrial use consistent with local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

3. Development of a site management plan which will include the following institutional and engineering controls: (a) development and distribution of a Health and Safety Plan for future subsurface construction activities and utility access and repairs, excavated soil will be tested,

properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for soil vapor migration and vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts where warranted; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; (e) provisions for the continued proper operation and maintenance of the components of the remedy, including maintenance of the existing soil cover, placed during the Tank and Vessel Closure .

4. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

5. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

Since the remedy results in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. Petroleum chemicals in the soil vapor and groundwater will be monitored in order to document reductions in contaminant concentrations and volumes. Water levels, field observations, chemical natural attenuation parameters (NAP), geochemical constituents, and microbiological parameters will be measured in the groundwater wells in order to monitor the type, rates, and likely results of the physical and biological processes. This program will allow the effectiveness of the natural attenuation to be monitored and will be a component of the long-term management for the site.

The proposed future use of the Arbor Hill Gateway Properties Site is "commercial", which includes passive recreational use.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

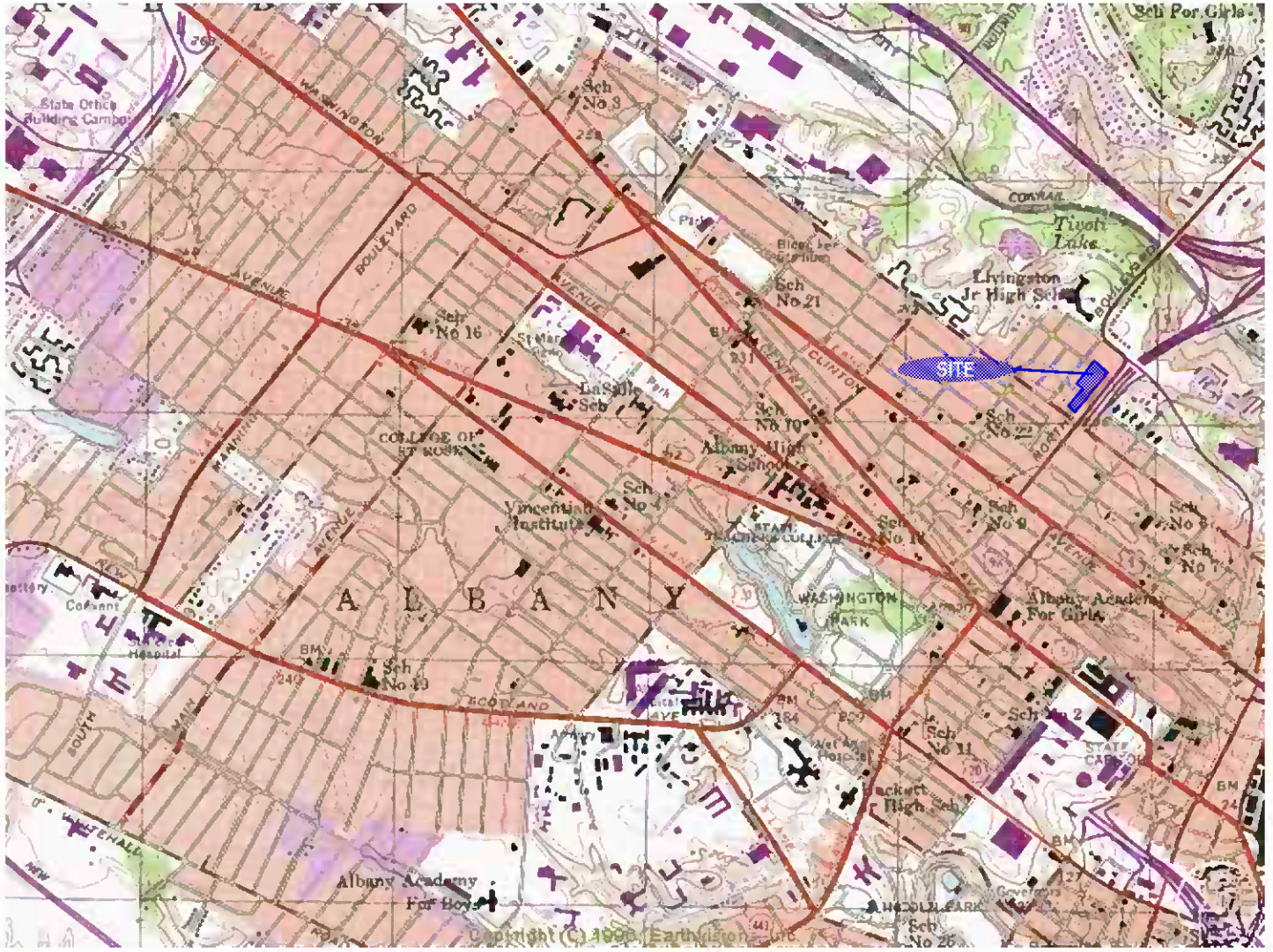
As part of the environmental restoration process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- In April 2006, a Fact Sheet was mailed to the site contact list announcing the start of the remedial investigation.
- In February 2007, a Fact Sheet was mailed to the site contact list summarizing the results of the remedial investigation, describing the Proposed Remedial Action Plan and announcing the public meeting and comment period.
- A public meeting was held on March 1, 2007 to present and receive comments on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

Table #1

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
#1 No Further Action	-	-	-
#2 Monitored Natural Attenuation	$0	$17,000	$74,000
#3 ISCO Using Fenton's Reagent	$105,000	$14,000	$131,000
#4 ISCO Using Activated Persulfate	$119,000	$14,000	$145,000
#5 Enhanced Bioremediation Using ORC	$49,000	$17,000	$96,000



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

SCALE IN FEET
0 1000 2000 4000

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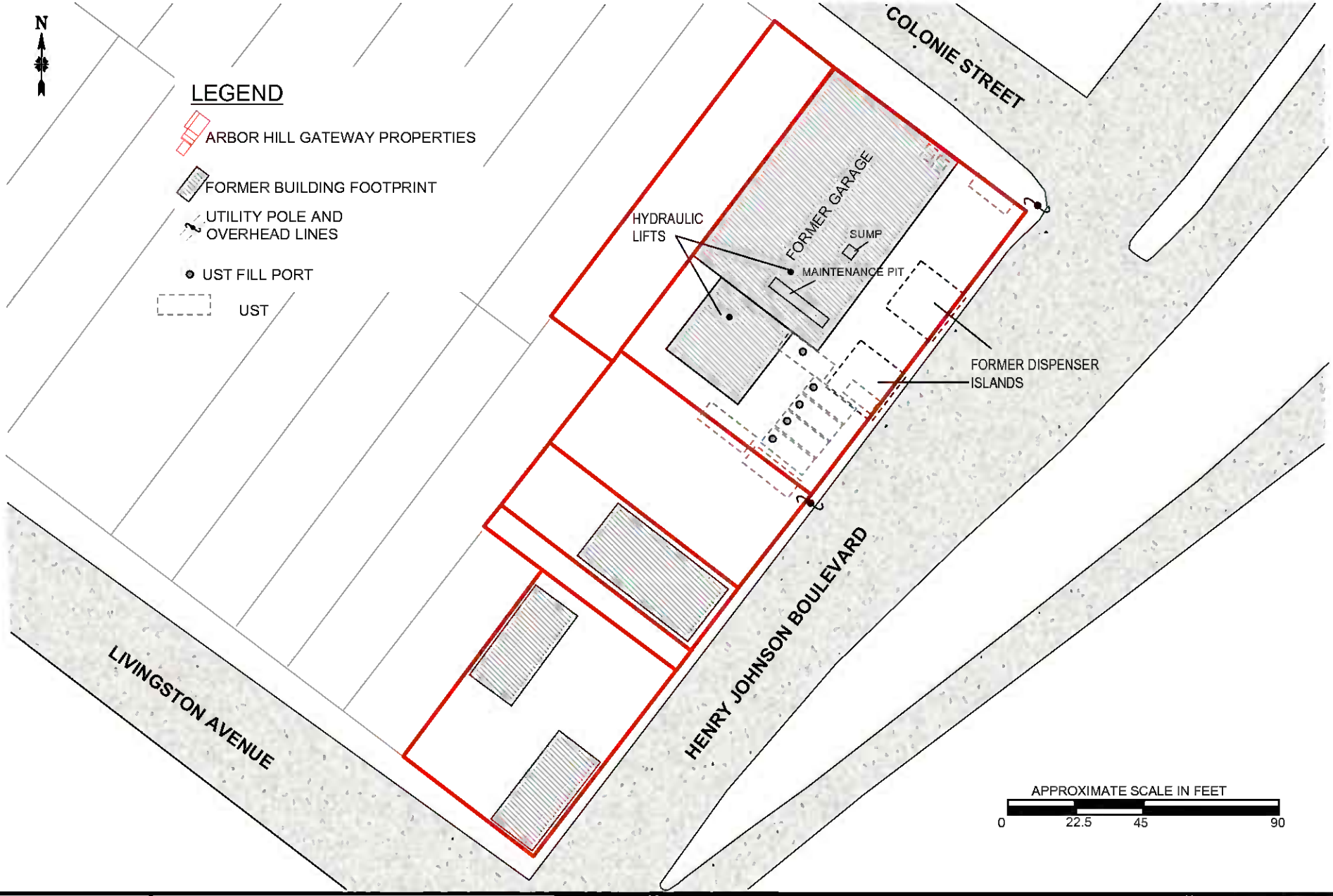
ALBANY COMMUNITY DEVELOPMENT AGENCY
ALBANY, NEW YORK

ARBOR HILL GATEWAY PROPERTIES ERP
OPERABLE UNIT NO. 01

SITE LOCATION

FIGURE 1



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ASSESSMENT PROPERTIES

FIGURE 2

CS-4 5/24/06 Compound	SCO	E. Sidewall ~4' bgs
1,2,4-Trimethylbenzene	190	0.098
1,3,5-Trimethylbenzene	190	0.068
Ethyl Benzene	390	0.059
Isopropylbenzene	-	0.018
Xylenes (mixed)	500	0.024
n-Propylbenzene	500	0.041

CS-19 6/1/06 Compound	SCO	Bottom of S. fueling island ~7.5' bgs
Benzene	44	0.53
Ethyl Benzene	390	18
Isopropylbenzene	-	2
Toluene	500	36
Xylenes (mixed)	500	82

CS-22 6/1/06 Compound	SCO	Bottom of S. fueling island ~6' bgs
Ethyl Benzene	390	2.70
Isopropylbenzene	-	0.46
Toluene	500	1.60
Xylenes (mixed)	500	15.1

CS-29 6/9/06 Compound	SCO	N. sidewall ~6' bgs
Acetone	500	0.023

SB-24 7/11/06 Compound	SCO	Depth 0-4	Depth 4-6
Acetone	500	0.034	ND

CS-28 6/8/06 Compound	SCO	E. sidewall ~5' bgs
Benzene	44	0.3
Ethyl Benzene	390	4.4
Isopropylbenzene	-	1.4
Toluene	500	0.97
Xylenes (mixed)	500	30.5

CS-21 6/1/06 Compound	SCO	E. sidewall ~3' bgs
Cyclohexane	-	0.012J
Ethyl Benzene	390	0.052
Isopropylbenzene	-	0.006
Toluene	500	0.008
Xylenes (mixed)	500	0.285

CS-6 5/24/06 Compound	SCO	E. Sidewall ~8' bgs
1,2,4-Trimethylbenzene	190	690
1,3,5-Trimethylbenzene	190	700
4-Isopropyltoluene	-	28
Ethyl Benzene	390	96
n-Butylbenzene	500	46
n-Propylbenzene	500	38
Xylenes (mixed)	500	987

CS-27 6/8/06 Compound	SCO	E. sidewall ~6' bgs
Benzene	44	0.59
Ethyl Benzene	390	0.33
Isopropylbenzene	-	0.012
MTBE	10	0.02
Toluene	500	0.13
Xylenes (mixed)	500	2.2

SB-21 7/5/06 Compound	SCO	Depth 0-4	Depth 8-11
Acetone	500	ND	0.037

SB-20 6/30/06 Compound	SCO	Depth 0-4	Depth 4-8
Acetone	500	0.025	ND

SB-19 6/30/06 Compound	SCO	Depth 4-8	Depth 8-12
Acetone	500	ND	0.051

CS-13 5/30/06 Compound	SCO	E. Sidewall ~5' bgs
Acetone	500	0.099
Benzene	44	3.10
Ethyl Benzene	390	0.43
Isopropylbenzene	-	0.063
Toluene	500	0.32
Xylenes (mixed)	500	3.00

CS-20 6/1/06 Compound	SCO	E. sidewall ~4' bgs
Ethyl Benzene	390	0.009
Toluene	500	0.023
Xylenes (mixed)	500	0.061

SB-22 7/5/06 Compound	SCO	Depth 0-4	Depth 4-6
Acetone	500	0.026	0.084J

LIVINGSTON AVE.

HENRY JOHNSON BOULEVARD

COLONIE ST.

LARK - DOVE ARTERIAL

COLONIE STREET

SB-15 MW-6

SB-16 MW-7

SB-17 MW-8

SB-18 MW-9

SB-19 MW-10

SB-20 MW-11

SB-21 MW-12

SB-22 MW-13

SB-23 MW-14

SB-24 MW-15

LEGEND

- GROUNDWATER MONITORING WELL
- FORMER GROUNDWATER MONITORING WELL
- X TANK & VESSEL CLOSURE CONFIRMATION SAMPLE LOCATIONS
- LIMITS OF TANK AND VESSEL CLOSURE EXCAVTION

NOTE: Soil VOC concentrations for detected compounds given in mg/kg.

= Concentration exceeds corresponding 6 NYCRR Part 375 Commercial Soil Cleanup Objective (SCO).

40 20 0 40 80 Feet

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NATURE AND EXTENT OF CONTAMINATION
SOIL VOC ANALYTICAL DATA

FIGURE 3

MW-6 Compound	Class GA Standard	Jul-06	Oct-06
Acetone	50	ND	5 JB
Tetrachloroethene	5	2	6

MW-8 Compound	Class GA Standard	Jul-06	Oct-06
Benzene	1	4	ND
Ethyl Benzene	5	2 J	ND
m/p-Xylenes	5	3	ND
o-Xylene	5	1	ND
MTBE	10	1	ND

MW-9 Compound	Class GA Standard	Jul-06	Oct-06
Acetone	50	300	ND
Benzene	1	330	41
Isopropylbenzene	5	13	ND
Ethyl Benzene	5	270	20
m/p-Xylenes	5	1,100	33
MTBE	10	160	16
o-Xylene	5	450	6
Toluene	5	1,500 J	24

MW-11 Compound	Class GA Standard	Jul-06	Oct-06
Benzene	1	1	ND
MTBE	10	190	43

MW-13 Compound	Class GA Standard	Jul-06	Oct-06
MTBE	10	1	1 J

LEGEND

- GROUNDWATER MONITORING WELL
- FORMER GROUNDWATER MONITORING WELL
- LIMITS OF TANK AND VESSEL CLOSURE EXCAVTION

NOTE: Groundwater VOC concentrations for detected compounds given in µg/L.

= Concentration exceeds corresponding NYSDEC Class GA Standard.

LIVINGSTON AVE.

HENRY JOHNSON BOULEVARD

COLONIE ST.

LARK - DOVE ARTERIAL

COLONIE STREET

SB-15 MW-6

SB-16 MW-7

SB-17 MW-8

SB-18 MW-9

SB-19 MW-10

SB-20 MW-11

SB-21 MW-12

SB-22/ MW-13

SB-23 MW-14

SB-24 MW-15

MW-3

MW-4

MW-5

Approximate Groundwater Flow Direction (10/17/06)

40 20 0 40 80 Feet

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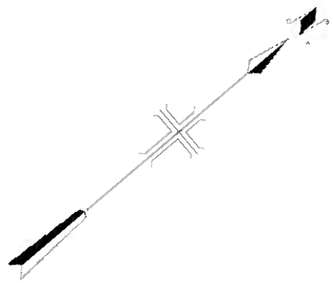
NATURE AND EXTENT OF CONTAMINATION
GROUNDWATER VOC ANALYTICAL DATA

FIGURE 4



LIVINGSTON AVE.

MW-7 Compound	Class GA Standard	Jul-06	Oct-06
bis(2-Ethylhexyl)phthalate	50	ND	1 J

SB-16
MW-7

SB-15
MW-6

MW-5

MW-4

SB-17
MW-8

MW-3

SB-18
MW-9

HENRY JOHNSON BOULEVARD

COLONIE ST.

MW-15 Compound	Class GA Standard	Jul-06	Oct-06
Naphthalene	10	1	ND

SB-24
MW-15

SB-21
MW-12

SB-20
MW-11

SB-19
MW-10

MW-9 Compound	Class GA Standard	Jul-06	Oct-06
2-Methylphenol	-	7	ND
2-Methylnaphthalene	-	9	ND
3+4-Methylphenols	-	16	ND
Naphthalene	10	39	5 J

MW-11 Compound	Class GA Standard	Jul-06	Oct-06
bis(2-Ethylhexyl)phthalate	50	1	ND

Approximate Groundwater Flow Direction (10/17/06)

LARK - DOVE ARTERIAL

MW-14 Compound	Class GA Standard	Jul-06	Oct-06
bis(2-Ethylhexyl)phthalate	50	ND	1 J

COLONIE STREET

SB-23
MW-14

SB-22
MW-13

40 20 0 40 80 Feet

LEGEND

- GROUNDWATER MONITORING WELL
- FORMER GROUNDWATER MONITORING WELL
- LIMITS OF TANK AND VESSEL CLOSURE EXCAVTION

NOTE: Groundwater SVOC concentrations for detected compounds given in µg/L.

= Concentration exceeds corresponding NYSDEC Class GA Standard.

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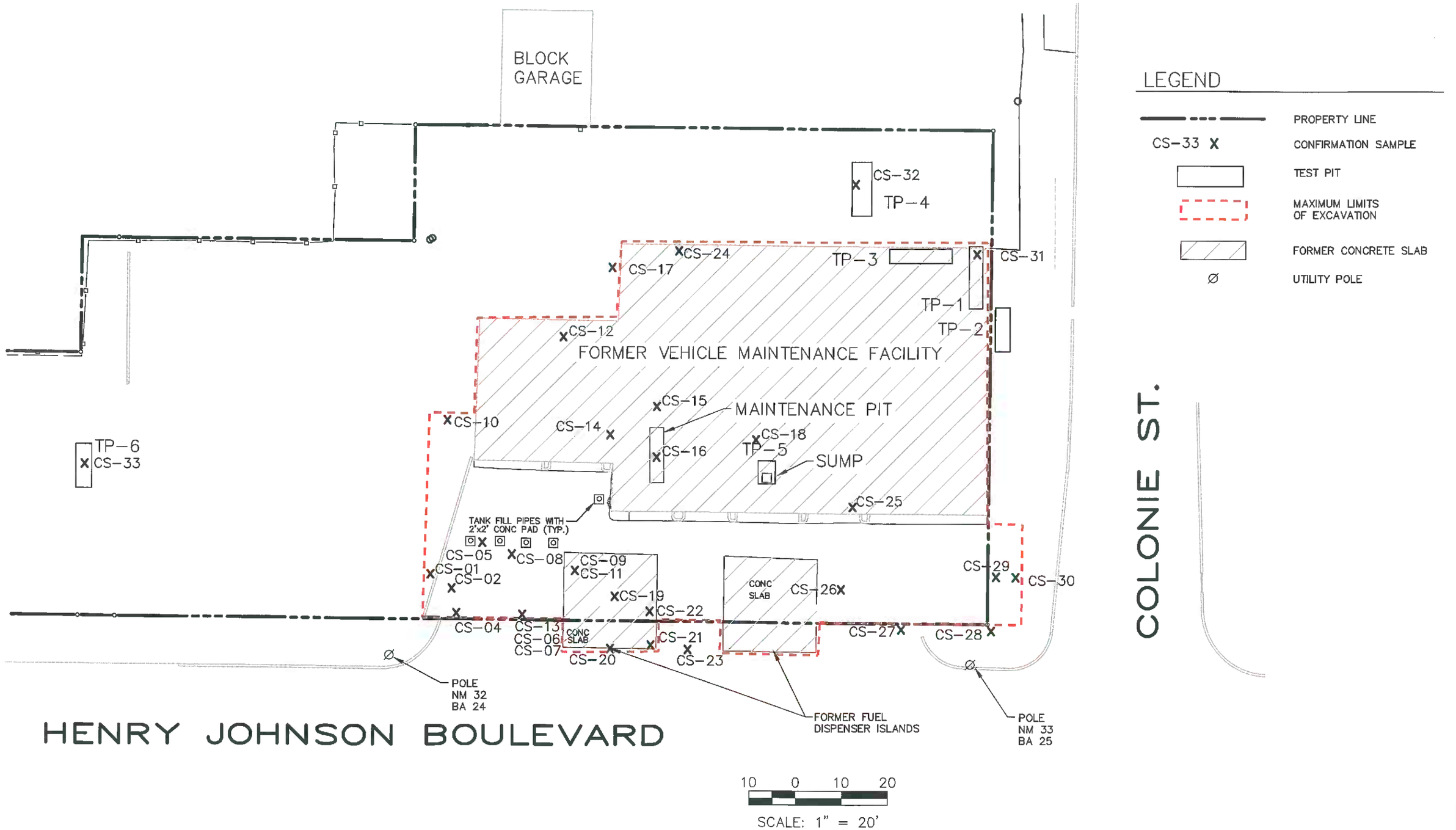
ARBOR HILL GATEWAY PROPERTIES ERP
OPERABLE UNIT NO. 01

NATURE AND EXTENT OF CONTAMINATION
GROUNDWATER SVOC ANALYTICAL DATA

FIGURE 5



MALCOLM PIRNIE	ALBANY COMMUNITY DEVELOPMENT AGENCY ALBANY, NEW YORK ARBOR HILL GATEWAY PROPERTIES ERP OPERABLE UNIT NO. 1	EXCAVATION LIMITS AND CONFIRMATION SAMPLE LOCATIONS TANK AND VESSEL CLOSURE PHASE

MALCOLM PIRNIE, INC.
SEPTEMBER 2006
FIGURE 6

XREFS: None IMAGES: None
User: MAHONEY Spec: COLONIE File: I:\ACAD\PROJ\4279\008\FIGURE 6.DWG Scale: 1:1 Date: 01/29/2007 Time: 11:07 Layout: Layout1

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Arbor Hill Gateway Properties Environmental Restoration Site
Operable Unit No. 01
City of Albany, Albany County, New York
Site No. E401048

The Proposed Remedial Action Plan (PRAP) for the Arbor Hill Gateway Properties site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 6, 2007. The PRAP outlined the remedial measure proposed for the contaminated soil, soil vapor and groundwater at the Arbor Hill Gateway Properties site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 1, 2007, which included a presentation of the Site Investigation (SI) and the Alternatives Analysis Report (AAR) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 23, 2007.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: Will the standards used to evaluate the site, be good enough for having a park at the site?

RESPONSE 1: Yes. The NYSDEC Part 375 Soil Cleanup Objectives (SCOs) applicable to the site, are for restricted use - commercial, which includes passive recreational uses.

APPENDIX B

Administrative Record

Administrative Record

Arbor Hill Gateway Properties

Operable Unit No. 01

Site No. E401048

1. Proposed Remedial Action Plan for the Arbor Hill Gateway Properties site, Operable Unit No. 01, dated February 2007, prepared by the Department.

2. "Remedial Investigation / Alternatives Analysis Work Plan", February 2006, prepared by Malcolm Pirnie, Inc.

3. Fact Sheet, April 2006, Announcement of the Remedial Investigation start and availability of Work Plans

4. "Remedial Investigation / Alternatives Analysis Report", January 2007, prepared by Malcolm Pirnie, Inc.

5. Fact Sheet, February 2007, Announcement of the PRAP, Public Meeting and Comment Period