Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Perx Property Site
Village of Red Hook
Dutchess County, New York
Site Number B-00177-3

February 2005

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN M. CROTTY, *Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Perx Property Environmental Restoration Site
Village of Red Hook, Dutchess County, New York
Site No. B-00177-3

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Perx Property 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 (NYSDEC) for the Perx Property environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. 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 petroleum products from this site, if not addressed by implementing the response action selected in this ROD, present 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 Perx Property site and the criteria identified for evaluation of alternatives, the NYSDEC has selected removal of all remaining storage tanks and excavation of petroleum, pesticide, lead and aresenic contaminated soil in targeted areas of the site. The components of the remedy are as follows:

- Containerized waste chemicals will be removed and properly disposed of off-site.
- All remaining storage tanks will be excavated, cleaned, and properly disposed of off-site.
- On-site soils containing elevated concentrations of metals, pesticides, or petroleum compounds will be excavated from targeted areas and properly disposed of off-site.
- Contaminated floor drains, related piping and any associated contaminated soil will be excavated and properly disposed of off-site.

- All asbestos in on-site buildings will be removed and properly disposed of off-site.
- All on-site buildings will be demolished and all recyclable and reusable material will be salvaged. The balance of the demolition debris will be disposed of at a permitted landfill.
- An assessment of groundwater quality will be conducted to determine the need for continued monitoring or any restrictions on groundwater use.
- Development of a site management plan for the western portion of the site to address residual contaminated soils in the wetland to prevent human exposures and dispersion of contamination during potential future intrusive activities.
- Imposition of an environmental easement that will require compliance with the approved site management plan for the western portion of the site, restrict the use of groundwater as a source of potable or process water and require the property owner to complete and submit an institutional control / engineering control certification to the NYSDEC.
- The property owner will provide an institutional control / engineering control certification to the NYSDEC to confirm compliance with the site management plan.

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

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.

FEB - 2 2005

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

Perx Property Site
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SECTION 1: SUMMARY AND PURPOSE OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Perx Property site. 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 (ERP), 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, pesticide use at the site has resulted in the disposal of hazardous wastes, including arsenic, chlordane, and DDT. These hazardous wastes have contaminated the soil at the site, and have resulted in:

- a potential threat to human health associated with exposure to contaminated soil and floor drain sediments.
- a potential environmental threat associated with the impacts of contaminants to flora, fauna and the groundwater resource.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy to allow for residential use of the site:

- A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.
- Drums, bags, tanks and other containers containing a variety of waste chemicals will be removed from the site and properly disposed of off-site.
- All remaining storage tanks will be excavated, cleaned, and properly disposed of off-site. Any contaminated soil associated with the tanks will also be excavated and properly disposed of off-site.
- On-site soils containing elevated concentrations of metals, pesticides, or petroleum compounds will be excavated and removed from targeted areas and properly disposed of off-site.

- The contaminated floor drains, related piping and any associated contaminated soil will be excavated and properly disposed of off-site.

- All asbestos in on-site buildings will be removed and properly disposed of off-site.

- All on-site buildings will be demolished and all recyclable and reusable material will be salvaged. The balance of the demolition debris will be disposed of at a permitted landfill.

- An assessment of groundwater quality will be conducted to determine the need for continued monitoring or any restrictions on groundwater use.

- Development of a site management plan for the western portion of the site to address residual contaminated soils in the western / former orchard area of the site to prevent human exposures and dispersion of contamination during potential future intrusive activities. The plan will require soil characterization and, where applicable, disposal or reuse in accordance with NYSDEC regulations.

- Imposition of an institutional control in the form of an environmental easement that will (a) require compliance with the approved site management plan for the western portion of the site; (b) restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH and/or NYSDEC; and (c) require the property owner to complete and submit to the NYSDEC an institutional control / engineering control certification.

- The property owner will provide an institutional control / engineering control certification, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls are still in place, that the NYSDEC is allowed access to the site, and 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.

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 Perx Property is an approximately 20 acre site located at 68 South Broadway (U.S. Route 9) in the Village of Red Hook, Dutchess County (Figure 1).

Twelve structures are located in the eastern portion of the site (Figure 2), including a large food processing facility, a small house, a pole barn, a garage and small buildings related to an on-site

wastewater treatment system. The wastewater treatment system served the food processing facility and discharged to an on-site filter bed and wastewater lagoon.

An apple orchard was located on most of the western half of the site during the 1950s and 1960s. The former orchard is now designated as a State protected wetland. The western half of the site is now separated by a barbed wire fence. The entire site has been vacant since circa 1985.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The on-site structures have been present on the site since the1940s. Beginning in 1949, an apple processing facility operated at the site. The facility also operated as a frozen-food processing and packaging plant from 1955 to some time after 1981.

Based on the findings of site investigations, the pesticides DDT, chlordane, and a lead arsenic pesticide apparently were used in the orchard. A variety of petroleum storage tanks were used throughout the eastern portion of the site.

Wastewater from the processing facility was treated and discharged to a filter bed and wastewater lagoon. Inorganics, primarily the pesticide containing arsenic, have been released to soils via the treatment system effluent.

Floor drains throughout the main processing plant and warehouse facility received discharges of contaminants during the plant's operation.

Site inspections revealed a total of five above ground storage tanks (ASTs) and four underground storage tanks (USTs) at the site. The tanks contained petroleum products such as gasoline, diesel fuel and heating oil.

A number of drums and bags were found within on-site structures containing identified and unidentified liquids and solids.

3.2: Remedial History

A Phase I environmental site assessment was conducted in September 1999 on behalf of Dutchess County. The history of the site was researched and some of the potential environmental hazards identified included petroleum storage tanks, floor drains, and the wastewater treatment system.

Based on the findings of the Phase I, an investigation of on-site soil and groundwater was conducted in 2001. The investigation consisted of the collection of soil samples from select areas around the site, sampling of three pre-existing supply wells in the former orchard area, and a limited investigation for asbestos containing material.

The investigation found arsenic and pesticide contamination in on-site soils. Soil impacts from leaking petroleum storage tanks were also found. Lead was detected at a low concentration in one of the groundwater samples.

An inventory of asbestos containing materials in on-site buildings identified approximately 7,500 linear feet of pipe insulation, 10,000 square feet of transite panels, and 100,000 square feet of roofing materials.

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. Dutchess County will assist the state in its efforts by providing all information to the state which identifies PRPs. The County will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 5: SITE CONTAMINATION

Dutchess County has recently completed a site investigation/remedial alternatives report (SI/RAR) to determine the nature and extent of any contamination by hazardous substances at this site. This work was conducted to support the County's submittal of a remediation application to the Environmental Restoration Program (ERP) for site remediation.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between December 2002 and April 2003. The field activities and findings of the investigation are described in the SI report.

The following activities were conducted during the SI:

- Excavation of 14 test pits to locate underground drainage/leach fields;
- Installation of 45 soil borings including five background locations and four monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions;
- Sampling groundwater in the four new monitoring wells;
- Collection of approximately six aquatic sediment samples; and
- Sampling of sediments in two floor drains.

To determine whether the soil, groundwater, or sediment 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 NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

- Sediment SCGs are based on the NYSDEC "Technical Guidance for Screening Contaminated Sediments."

- Background soil samples were collected from five locations. These locations were at the outermost edges of the site, from areas believed to be unaffected by historic site operations. All five of the samples were analyzed for arsenic and lead. Two of the samples were analyzed for chromium. The results of the analysis were compared to data from the SI (Table 1) to determine appropriate site remediation goals.

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

5.1.1: Site Geology and Hydrogeology

According to the Surficial Geologic Map of New York and the Geologic Map of New York (lower Hudson sheets), the geology of the property is indicated as surficial kame deposits, potentially including lucustrine silts and clays, overlying greywacke/shale bedrock of the Austin-Glen formation.

Surface soils observed on the property during earlier investigations generally consisted of dark loams with various amounts of organic material that is more pronounced in wet or low-lying areas. Subsurface soils consisted of loams grading into gravelly or sandy loams, with some areas that include clay and rock fragments. Soils encountered during underground storage tank removal services generally consisted of coarse, sandy soil that is suspected of being fill material.

Groundwater was not encountered during the installation of any soil boring or test pit at the site. During the spring of 2001, groundwater in the three former water supply wells was found at approximately 4.5 to12 ft. below grade. In January 2003, depth to water in the temporary monitoring wells, TMW-1 through TMW-4, ranged from 10.7 to 14.5 ft. below grade. Based on surficial topography, the general direction of on-site shallow groundwater flow would be expected to be in a westerly direction, toward a northerly flowing tributary to the Saw Kill. However, the direction of groundwater flow at the wastewater/lagoon portion of the property, the location of the temporary monitoring wells, was determined to be in a north-northeasterly direction at the time of the fieldwork.

5.1.2: Nature of Contamination

As described in the SI report, many soil, groundwater and sediment samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are inorganics (metals), and pesticides.

The metals of concern are arsenic and lead. The pesticides of concern are chlordane, dichlorodiphenyltrichloroethane (DDT) and dichlorodiphenyldichloroethane (DDD). DDD is a breakdown product of DDT.

5.1.3: Extent of Contamination

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

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for waste, soil, and sediment. For comparison purposes, where applicable, SCGs are provided for each medium.

Table 1 summarizes the degree of contamination for the contaminants of concern in soil, groundwater and sediments 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.

Waste Materials

One deteriorated paper 55-gallon drum of sodium hydroxide, approximately fifty 30-lb bags of aluminum sulfate, four 55-gallon drums of waste oil, a 300-gallon ammonia tank, and two 55-gallon drums of an unknown grease/oil substance were found at the site.

Samples of floor drain deposits were collected from two drains in the former main processing building. DDD was detected at 3.0 ppm and 4.8 ppm and DDT was detected at 7.6 ppm and 22.0 ppm. As stated in TAGM 4046, the respective recommended soil cleanup objectives for DDD and DDT are 2.9 ppm and 2.1 ppm. Lead was also detected in the two samples at 215 ppm and 6,880 ppm.

Surface Soil

Background soil samples were collected from five locations at the outermost edges of the site unaffected by historic site operations. All five of the samples were analyzed for arsenic and lead. Two of the samples were analyzed for chromium. The respective average soil background concentrations for arsenic, lead and chromium are 11.1 ppm, 43.2 ppm, and 16.4 ppm. Because metals are naturally occurring, TAGM 4046 allows for the use of background concentrations as soil cleanup objectives for metals contamination.

Eight surface soil samples were collected from a depth of 0 - 4 inches in the wastewater treatment area. Lead was detected at concentrations of 293 ppm in sample LA-1 and 489 ppm LA-8. LA-1 was collected from a wastewater treatment lagoon. LA-8 was collected from near the eastern end of the former orchard. The concentrations in the remaining six samples, LA-2 to LA-7, range from 31.1 ppm to 153 ppm. The average site background surface soil concentrations of lead is 43.2 ppm. However, NYSDEC TAGM 4046 states that the average background levels of lead in metropolitan or suburban areas typically range from 200-500 ppm. Based on consultation with the New York State Health Department, the cleanup objective for lead at this site is 400 ppm.

The TAGM 4046 cleanup value for arsenic is defined as 7.5 ppm or site background. The naturally occurring background concentration for arsenic in New York State typically ranges from 3 ppm to 12 ppm. The soil cleanup objective for arsenic detected in the background soils at this site is 11.1 ppm. Arsenic was detected at concentrations above the site background of 11.1 ppm in seven of the eight surface soil samples, OR-1 through OR-8, collected in the former orchard area. The highest arsenic concentration detected in the eight samples was 25.4 ppm.

Lead concentrations in the same eight samples were below the soil cleanup objective. The highest lead concentration detected was 82.5 ppm.

Following a dye test conducted on the floor drains of the main processing building, three additional surface soil samples (Skimshed-1, 2 & 3) were collected from a floor drain discharge point near the skimmer shed in the wastewater treatment area. Chlordane was detected at concentrations of non-detect, 0.226 ppm and 0.356 ppm. These concentrations are below the soil TAGM 4046 cleanup objective of 0.54 ppm for chlordane. Pesticides DDT, DDD and DDE were also detected at concentrations below their respective TAGM cleanup objectives

Five surface soil samples, 5SS-1 through 5SS-5, were collected from different locations along the outside of the main processing plant. No pesticides, volatile organic compounds (VOCs) nor metals were detected in four of the samples. Sample 5SS-5 had chlordane, DDD, DDE, and DDT at the respective concentrations of 0.0711 ppm, 0.0386 ppm, 0.0256 ppm, and 0.0630 ppm. All of the pesticides were below their respective TAGM 4046 values.

Two surface soil samples were collected from a courtyard just to the east of the former processing building where two large wastewater tanks are located. Chlordane was detected in both of the surface soil samples at 8.0 ppm in sample WT-SS-1 and 0. 142 ppm in sample WT-SS-2. The TAGM level for chlordane is 0.54 ppm. Chromium was detected at 27.2 ppm and 17.7 ppm and mercury was detected at 0.49 ppm and 0.25 ppm in the same respective samples. The site background concentration for chromium is 16.4 ppm. The TAGM 4046 level for mercury is 0.1 ppm.

Subsurface Soil

Eight subsurface soil samples, LA-1 through LA-8, were collected from the wastewater treatment area at a depth of 20 - 24 inches below the ground surface. None of the subsurface soil samples collected from the wastewater treatment area were above the site background concentration of 11.1 ppm for arsenic. Lead concentrations were also below the lead cleanup objective of 400 ppm.

Eight subsurface soil samples, OR-1 through OR-8, were collected from the former orchard area at a depth of 20 - 24 inches below the surface. None of the samples had arsenic or lead above the site background concentrations.

Fourteen test pits were excavated from near the waste water treatment area and from earthen mounds that were suspected of being waste disposal areas. Seventeen soil samples were collected from the 14 test pits that were excavated in areas of debris piles and man-made berms that were suspected of being waste disposal areas. Chromium was detected in TP-4 at 65.3 ppm. The remaining subsurface and composite soil samples collected from the test pits were below the site background concentration of 16.4 ppm. Naphthalene, total xylenes and 1,2,4-trimethylbenzene were detected in only one test

pit, 3TP-10, at concentrations well below their respective TAGM cleanup objectives. DDT was detected at 0.0177 ppb. The recommended soil cleanup objective for DDT is 2.1 ppm.

The highest concentration of chromium found at the site was detected in a dry well at 68.6 ppm.

Sediments

Soil/sediment samples were collected from six locations in the on-site wetlands. Three samples, WL-1, WL-2, and WL-3 contained DDT, DDE, and DDD, at concentrations below their respective TAGM soil cleanup objectives. Sample WL-6 contained arsenic at 15 ppm. This is slightly above the site background concentration of 11.1 ppm. Chlordane was detected in the same sample at 0.0778 ppm which is below the soil TAGM cleanup objective of 0.54 ppm.

Groundwater

Four groundwater monitoring wells (TMW-1, 2, 3, and 4) were installed throughout the site in January 2003 in order to determine the impact to groundwater from contaminants identified in soils, or from compounds suspected of having been used on the site.

No pesticides were detected in any of the four monitoring wells. The groundwater sample collected from TMW-1 was also analyzed for VOCs and polycyclic aromatic hydrocarbons (PAHs) because it is down gradient from the former location of the 2,000-gallon gasoline underground storage tank (UST) and its fuel pump. No evidence of petroleum contamination was detected in TMW-1.

Arsenic was detected in TMW-2 at 12 ppb. The groundwater standard for arsenic is 25 ppb. Arsenic was not detected in the other three monitoring wells. Lead was detected above the groundwater standard of 25 ppb in all of the groundwater samples at concentrations ranging from 84 ppb to 223 ppb.

Groundwater samples obtained from TMW-3 and TMW-4 exhibited the respective barium concentrations of 1,280 ppb and 2,670 ppb. The groundwater standard for barium is 1,000 ppb. Barium is naturally occurring and not believed to be site related.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI/RAR.

In November and December 2002, three USTs and four aboveground storage tanks (ASTs) were emptied, cleaned and properly disposed of off-site. Post excavation sampling was conducted in each of the tank excavations.

Approximately 100 gallons of gasoline and water were removed from a 2,000-gallon UST located just to the west of the former processing plant. The tank, a fuel pump and associated piping were removed. Upon excavation, the tank appeared to be in good condition and no evidence of soil contamination was observed. Post-excavation sampling found no evidence of VOCs in the soil under the excavation.

Approximately 200 gallons of fuel oil and water were removed from a 1,000-gallon UST in the wastewater treatment area. The tank appeared to be in good condition with no holes. Post-excavation sampling found no evidence of VOCs in the soil under the excavation.

Approximately 475 gallons of fuel oil and water were removed from a 750-gallon UST in the wastewater treatment area. The tank appeared to be in sound condition and no holes were observed. Some stained soils were observed at the east invert of the tank excavation. Due to the presence of PAH contamination detected in the excavation, additional soils were removed. Further sampling of the excavation did not detect any VOC or PAH contamination remaining in the soil.

A monitoring well (TMW-1) was later constructed about 15 feet down gradient from the former location of the 750-gallon UST. No VOCs or PAHs were detected in the groundwater collected from the well.

Three interconnected 275-gallon ASTs were removed from outside of the west wall of the maintenance garage. Two of the tanks were sitting on the ground and one was partially buried. Approximately 100 gallons of fuel oil were removed from the three tanks. The tanks were removed and four shallow soil samples were collected.

One 275-gallon AST was located in the basement crawl space of the former wood frame house. Approximately 275 gallons of fuel oil were removed from the tank. The tank was then removed and inspected. It appeared to be in good condition and there was no evidence of stains on the concrete floor slab beneath the tank. Therefore, no soil samples were deemed necessary.

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 the August 5, 2004 letter on the subject from Ecosystems Strategies, Inc.

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.

Potential human exposure pathways at the site include:

- Ingestion of or dermal contact with contaminated on-site surface soil
- Ingestion of or dermal contact with contaminated wetland sediments
- Ingestion of contaminated groundwater
- Inhalation of contaminated particulates during intrusive activities

On-site surface soil and wetland sediments are contaminated with metals and pesticides. However site access is restricted by the presence of a fence minimizing the potential for exposures. Exposures could occur in the future if site usage changes or if the fence to restrict access is not maintained.

Ingestion of contaminated groundwater is a potential future exposure if wells are installed on the site. However, this is unlikely as the Village of Red Hook is supplied by public water.

Inhalation of contaminated particulates is a potential exposure pathway during remediation activities. However, proper implementation of the Community Air Monitoring Plan during the remedial activities should prevent these exposures.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

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

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. 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 of at the site through the proper application of scientific and engineering principles.

The proposed future use for the Perx Property is residential and commercial.

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

- exposure of persons at or around the site to elevated levels of arsenic, lead and pesticides in surface soils;

- exposure of flora or fauna to elevated levels of arsenic, lead and pesticides in surface soils;

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

- the potential release of contaminants from the floor drain system into surrounding soil, surface water or groundwater through the discharge of water through the floor drains; and

- potential exposures to lead contaminated groundwater.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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

Alternative 1: No Further Action

The No Further Action alternative recognizes remediation of the site conducted under previously completed IRMs. To evaluate the effectiveness of the remediation completed under the IRM, only continued monitoring is necessary.

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: Site Control and Security

Present Worth: $143,824
Capital Cost: $75,000
Annual OM&M for 30 Years: $5,000

The objective of the Site Control and Security alternative would be to minimize human exposure to remaining on-site contamination and physical hazards associated with the dilapidated structures. Alternative 2 would require the establishment and securing of site borders and utilities and the implementation of institutional controls. No further remediation would be conducted under Alternative 2. However, deteriorating site conditions may cause the need for such actions in the future. Any future actions would incur additional costs.

Alternative 2 would require development of a site management plan to address residual contaminated soils in the western portion of the site that may be excavated from the site during future redevelopment.

Alternative 2 would require imposition of an institutional control in the form of an environmental easement that would require compliance with the site management plan, restrict the use of groundwater as a source of potable or process water, and require the property owner to complete and submit a certification to the NYSDEC.

Alternative 3: Tank Removal and Soil Excavation

Present Worth: $1,760,000
Capital Cost: $1,760,000

Under this alternative, all remaining on-site tanks, including a 550-gallon fuel-oil AST and a 300-gallon waste-oil UST, and related piping would be excavated and disposed of in accordance with applicable regulations. A 10,000-gallon fuel oil UST is purportedly under the existing main warehouse. If, after the building is demolished, the presence of this tank is confirmed, the tank, its piping, and any impacted soil would be excavated in the same manner.

On-site soils containing elevated concentrations of lead at sampling locations LA-1 and LA-8 and the pesticide chlordane at WT-SS-1 would be excavated and removed from the property. An approximate 2.5 acre area within the western portion of the site would also be remediated to allow for future redevelopment. This would consist of the excavation of arsenic-contaminated soil in the former orchard to a depth of approximately 18 inches. The areas of excavation are shown in Figure 2 and would be further detailed in the design.

All interior floor drains and related piping networks would be demolished and removed. Equipment, waste materials, and any impacted soils or sediment associated with the drains/piping would be removed and properly disposed.

Tank excavation, soil sampling, and soil excavation would be conducted to achieve appliance with TAGM 4046 levels for the contaminants of concern. Confirmatory testing would be conducted to ensure that TAGM levels are achieved.

All tanks would be pumped of remaining product and rendered free of vapors before their removal. Any product or wastewater retrieved from the tanks would be disposed of by a licensed hauler in accordance with applicable regulations. The final facilities that receive any pumped materials would be property permitted.

Excluding the 2.5 acres that will be remediated, Alternative 3 would require development of a site management plan for the western portion of the site to address residually contaminated soils in the wetland to mitigate exposures and dispersion of contamination if excavation occurs in the future.

An assessment of groundwater quality would be conducted to ascertain the need for continued monitoring or any restrictions on groundwater use.

Alternative 3 would require imposition of an institutional control in the form of an environmental easement that would require compliance with the site management plan for the western portion of the site and require the property owner to complete and submit a certification to the NYSDEC. If deemed necessary based on the findings of the groundwater assessment, the site management plan will also

restrict the use of groundwater as a source of potable or process water.

Alternative 4: Tank Removal and Excavation of all Soil Contamination above Site Background

Present Worth: $2,930,000
Capital Cost: $2,930,000

Alternative 4 would return the site to the condition it was in prior to the orchard and the industrial activity. This is also known as pre-disposal conditions and that no institutional controls are required.

Alternative 4 would be the same as Alternative 3 plus complete excavation of all soil contaminated with arsenic and/or lead at concentrations above TAGM cleanup objective or site background. The remedy would include the excavation of approximately 10,000 cubic yards of contaminated soil to a depth of 1.5 feet over an area of about 175,000 square feet. The areas of excavation are shown in Figure 4.

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 State. A detailed discussion of the evaluation criteria and comparative analysis is included in the RA 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 NYSDEC 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-Effectivness. Capital costs and 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 2.

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 SI/RA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised. In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected Alternative 3 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 SI and the evaluation of alternatives presented in the RAR.

Alternative 1 would leave the site in its present condition and do no more than the IRMs already conducted to protect human health and the environment. Alternative 2 would provide some security to prevent trespassing and therefore provide some reduction in the potential for human exposure.

Under Alternative 3, the portion of the site where redevelopment is planned for residential and commercial use would be remediated to levels protective of human health and the environment. Excluding a 2.5 acre parcel, most of the former orchard area is a State protected wetland where future development is prohibited and access is limited by a fence. The remaining arsenic concentrations in the wetland are only marginally above cleanup objectives and would not be considered a threat to public health or the environment.

Alternative 4 would remove all of the contamination that is considered a threat to human health and the environment.

Alternative 1 would do nothing beyond the IRMs already conducted and would therefore not meet SCGs. Alternative 2 would provide site security but would not meet SCGs. Alternative 3 would meet SCGs in the area to be redeveloped by removing soil contamination in those areas and by removing potential sources of future contamination such as the remaining wastes and tanks. Alternative 4 would meet SCGs throughout the entire site by removing soil contamination.

Alternative 1 would have no short term impact on the site or community because no further actions would be conducted at the site. Alternative 2 would have minimal short-term impact on the site when the site is secured. Because it consists of remediation and building demolition, Alternative 3 would have much more short-term impact to the site and community. Alternative 4 would have the most short term impact due to building demolition and extensive soil excavation. Alternative 4 would also have an impact on the wetland. To mitigate short term impacts from Alternative 3 or 4, a health and safety plan that would include a community air monitoring plan would be implemented during the remediation and demolition activities.

Alternatives 1 and 2 provide the least long-term effectiveness. The eventual degradation of structures and the remaining tanks would result in a worsening of site conditions and increase potential for future contamination. The remaining contamination would remain in place and may result in future exposures. Under Alternatives 1 and 2, the site would require remediation prior to future redevelopment.

Alternative 3 would be a better alternative with regard to long-term effectiveness because it would reduce site contamination and would allow for future redevelopment of the eastern portion of the site and a 2.5 acre parcel in western portion of the site. Alternative 4 would provide the best long-term effectiveness because it would eliminate all on-site contamination and no restrictions related to soil contamination would be required.

Alternatives 1 and 2 would not reduce the toxicity, mobility, or volume of contaminated material on-site. These alternatives would also allow for future mobility of contamination due to the degradation of on-site tanks and structures.

Alternative 3 would reduce the volume of on-site contaminants. In this alternative, all areas of significant contamination would be removed, and future potential sources of contamination such as storage tanks would be removed.

Alternative 4 would provide the best reduction of contaminant volume by eliminating all existing contamination and potential future sources. But, if Alternative 4 is implemented, the intrusive nature of the excavation activities would adversely impact the wetland habitat.

Alternative 1 would be the easiest alternative to implement. Alternative 2 would be easily implemented in the short-term. However, long-term management of the site may complicate implementation of this alternative. Alternative 3 would be more difficult to implement because it involves tank removals, site remediation, asbestos abatement, and building demolition. Alternative 4 would include all of the activities in Alternative 3 plus the excavation of shallow soil over a 175,000 square feet area. Alternative 4 would therefore be the most difficult alternative to implement.

Alternative 1 would have no additional costs and would be the least expensive alternative.

Alternative 2 would include the costs associated with site security and would cost more than Alternative 1. Alternative 3 would include remediation and demolition that would make it much more expensive to complete. Along with remediation and demolition, Alternative 4 would also include extensive soil excavation making it twice as costly as Alternative 3. Alternative 4 is the most expensive alternative with little additional protection of public health and the environment compared to Alternative 3.

Alternative 3 is being proposed 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 removing all containerized wastes, excavating and disposing of the remaining storage tanks, excavating and disposing of the grossly contaminated soil, excavation of all floor drains and any impacted soil. Removal of these contaminants will eliminate the potential for future impacts to groundwater. Along with the remediation of environmental contamination, all of the asbestos in on-site buildings will be removed and the buildings will be demolished.

The cost to construct the remedy is estimated to be $1,760,000. There will be no operation, maintenance or monitoring following the remediation, therefore the estimated present worth cost to implement the remedy is $1,760,000.

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. Drums, bags, a tank and other containers containing a variety of waste chemicals will be removed from the site and properly disposed of off-site.

3. All remaining storage tanks will be excavated, cleaned, and properly disposed of off-site. Any contaminated soil associated with the tanks will also be excavated and properly disposed of off-site.

4. On-site soils containing elevated concentrations of metals, pesticides, or petroleum compounds will be excavated and removed from targeted areas and properly disposed of off-site.

5. The contaminated floor drains, related piping and any associated contaminated soil will be excavated and properly disposed of off-site.

6. All asbestos in on-site buildings will be removed and properly disposed of off-site.

7. All on-site buildings will be demolished and all recyclable and reusable material will be salvaged. The rest of the demolition debris will be disposed of at a permitted landfill.

8. An assessment of groundwater quality will be conducted to determine the need for continued monitoring or any restrictions on groundwater use.

9. Development of a site management plan for the western portion of the site to address residual contaminated soils in the western / former orchard area of the site to prevent human exposures and

dispersion of contamination during potential future intrusive activities. The plan will require soil characterization and, where applicable, disposal or reuse in accordance with NYSDEC regulations.

10. Imposition of an institutional control in the form of an environmental easement that will (a) require compliance with the approved site management plan for the western portion of the site; (b) restrict the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by NYSDOH and/or NYSDEC; and (c) require the property owner to complete and submit to the NYSDEC an institutional control / engineering control certification.

11. The property owner will provide an institutional control / engineering control certification on a periodic basis as defined by the Department, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls are still in place, that the NYSDEC is allowed access to the site, and 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.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Perx Property site 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:

1. Repositories for documents pertaining to the site were established.

2. A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.

3. A fact sheet was mailed on November 1, 2004 to inform the public of the scheduled public meeting and the availability of the PRAP and other documents for public review.

4. A public meeting was held on November 16, 2004 to present and receive comment on the PRAP.

5. A 45 day public comment period was conducted ending on December 20, 2004

6. A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination

WASTE	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	chlordane	ND - 0.142	0.54	0 of 2
	DDT	7.6 - 22.0	2.1	2 of 2
	DDD	3.0 - 4.8	2.9	2 of 2
	DDE	ND	2.1	0 of 2
Inorganic Compounds	arsenic	ND - 12.5	11.1 *	1 of 2
	lead	215 - 6,880	400 **	1 of 2

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	chlordane	ND - 8.0	0.54	1 of 12
	DDT	ND - 1.0	2.1	0 of 12
	DDD	ND - 0.0386	2.9	0 of 12
	DDE	ND - 0.0256	2.1	0 of 12
Inorganic Compounds	arsenic	6.79 - 25.4	11.1 *	7 of 26
	chromium	15.3 - 27.2	16.4	3 of 4
	lead	22.6 - 489	400 **	1 of 26
	mercury	ND - 0.49	0.1	2 of 4

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	trimethylbenzene	ND - 0.017	10	0 of 19
	naphthalene	ND - 0.058	13	0 of 19
	o-xylene	ND - 0.006	1.2	0 of 19
	m & p-xylene	ND - 0.017	1.2	0 of 19
PCB/Pesticides	chlordane	ND - 0.458	0.54	0 of 20
	DDT	ND - 0.063	2.1	0 of 20
	DDD	ND - 0.0386	2.9	0 of 20
	DDE	ND - 0.0256	2.1	0 of 20

TABLE 1
Nature and Extent of Contamination

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Inorganic Compounds	arsenic	2.49 - 10.6	11.1 *	0 of 37
	chromium	8.33 - 68.6	17.5	4 of 16
	lead	10.2 - 64.7	400 **	0 of 37
	mercury	ND - 1.77	0.1	9 of 21

WETLAND SEDIMENTS / SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
PCB/Pesticides	chlordane	ND - 0.0778	0.54	0 of 6
	DDT	ND - 0.157	2.1	0 of 6
	DDD	ND - 0.0928	2.9	0 of 6
	DDE	ND - 0.0311	2.1	0 of 6
Inorganic Compounds	arsenic	5.63 - 15.0	11.1 *	1 of 6

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
PCB/Pesticides	chlordane	ND	ND	0 of 4
	DDT	ND	ND	0 of 4
	DDD	ND	ND	0 of 4
	DDE	ND	ND	0 of 4
Inorganic Compounds	arsenic	ND - 12	25	0 of 4
	barium	868 - 2,670	1,000	2 of 4
	lead	84 - 223	25	4 of 4

[a] ppb = parts per billion, which is equivalent to micrograms per liter, µg/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

[b] SCG = standards, criteria, and guidance values;

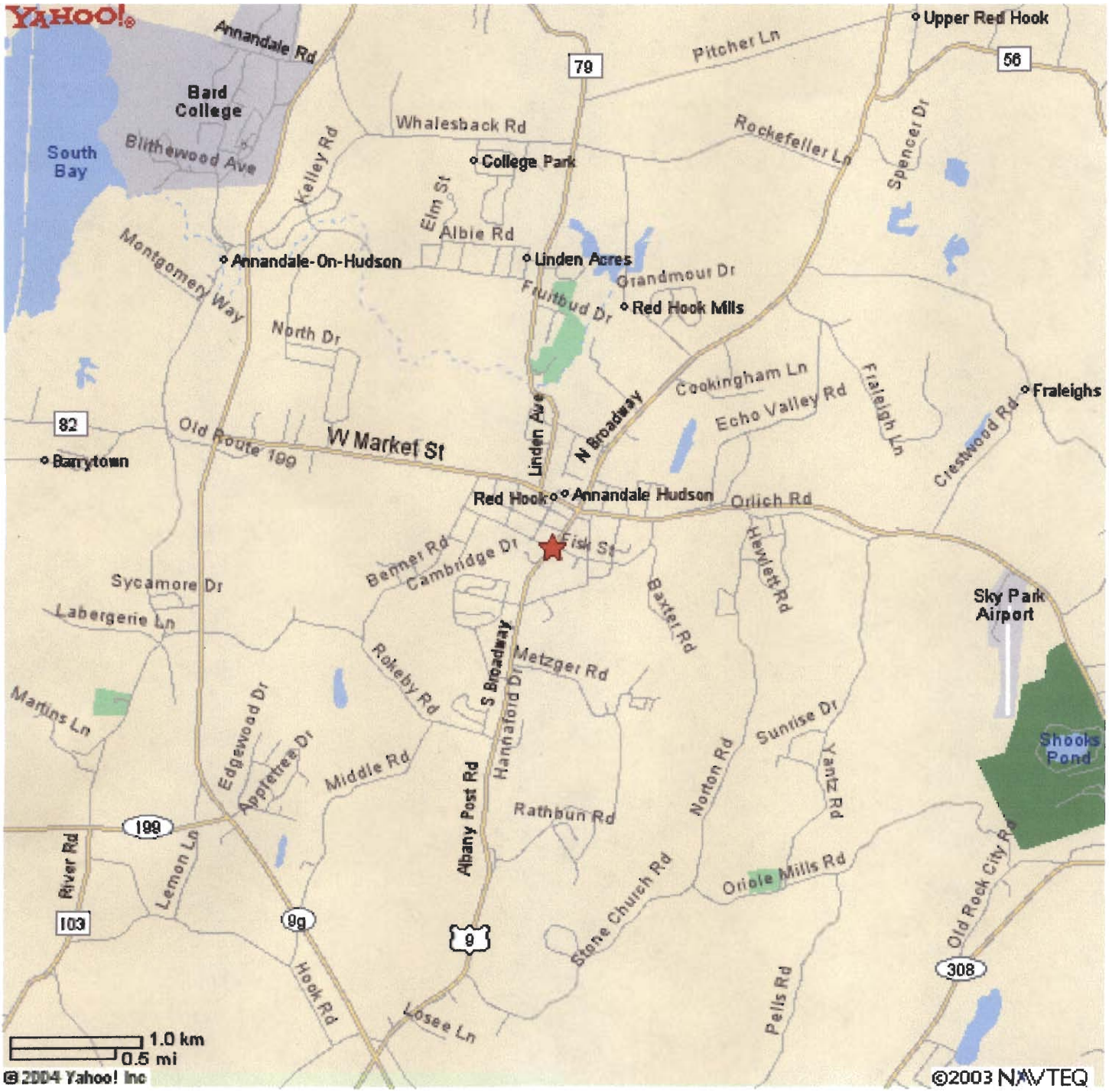
* TAGM 4046 defines the SCG for arsenic as 7.5 ppm or site background. Background concentration for this site was determined from samples collected from outside of the areas of contamination.

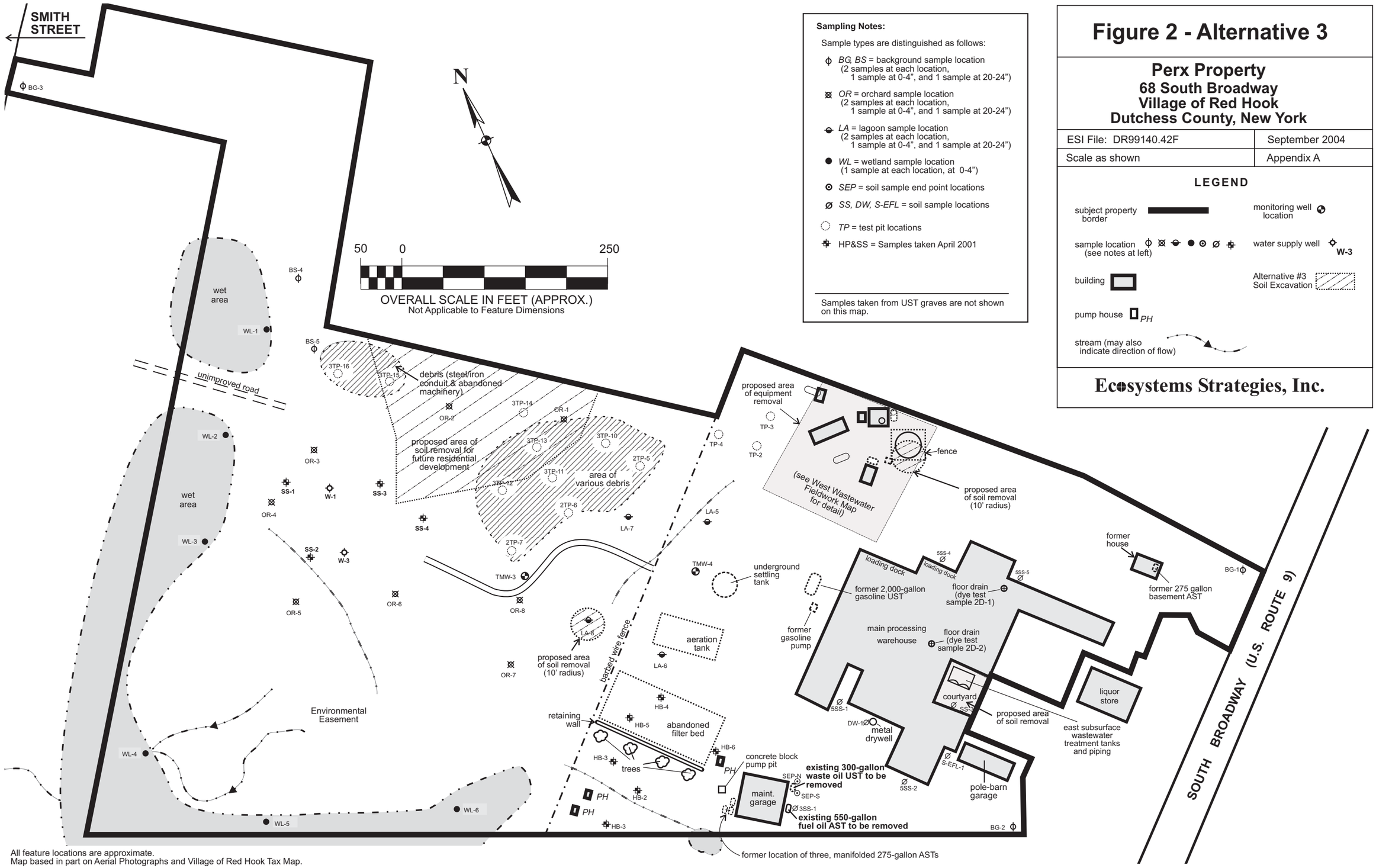
** The site specific SCG as determined by the NYSDEC and NYSDOH. TAGM 4046 states that the average background levels of lead in metropolitan or suburban areas typically range from 200-500 ppm.

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
No Further Action	$0	$0	$0
Site Control and Security	$75,000	$5,000	$143,824
Tank Removal and Soil Excavation	$1,760,000	$0	$1,760,000
Tank Removal and Excavation of all Soil Contamination above Site Background	$2,930,000	$0	$2,930,000

Figure 1
Site Location Map





All feature locations are approximate.
Map based in part on Aerial Photographs and Village of Red Hook Tax Map.

Sampling Notes:

Sample types are distinguished as follows:

- ϕ *BG, BS* = background sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- ⊠ *OR* = orchard sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- *LA* = lagoon sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- ● *WL* = wetland sample location (1 sample at each location, at 0-4")
- ⊙ *SEP* = soil sample end point locations
- Ø *SS, DW, S-EFL* = soil sample locations
- ○ *TP* = test pit locations
- HP&SS = Samples taken April 2001

Samples taken from UST graves are not shown on this map.

Figure 2 - Alternative 3

Perx Property
68 South Broadway
Village of Red Hook
Dutchess County, New York

ESI File: DR99140.42F	September 2004
Scale as shown	Appendix A

LEGEND

- subject property border
- monitoring well location
- sample location (see notes at left)
- water supply well W-3
- building
- Alternative #3 Soil Excavation
- pump house PH
- stream (may also indicate direction of flow)

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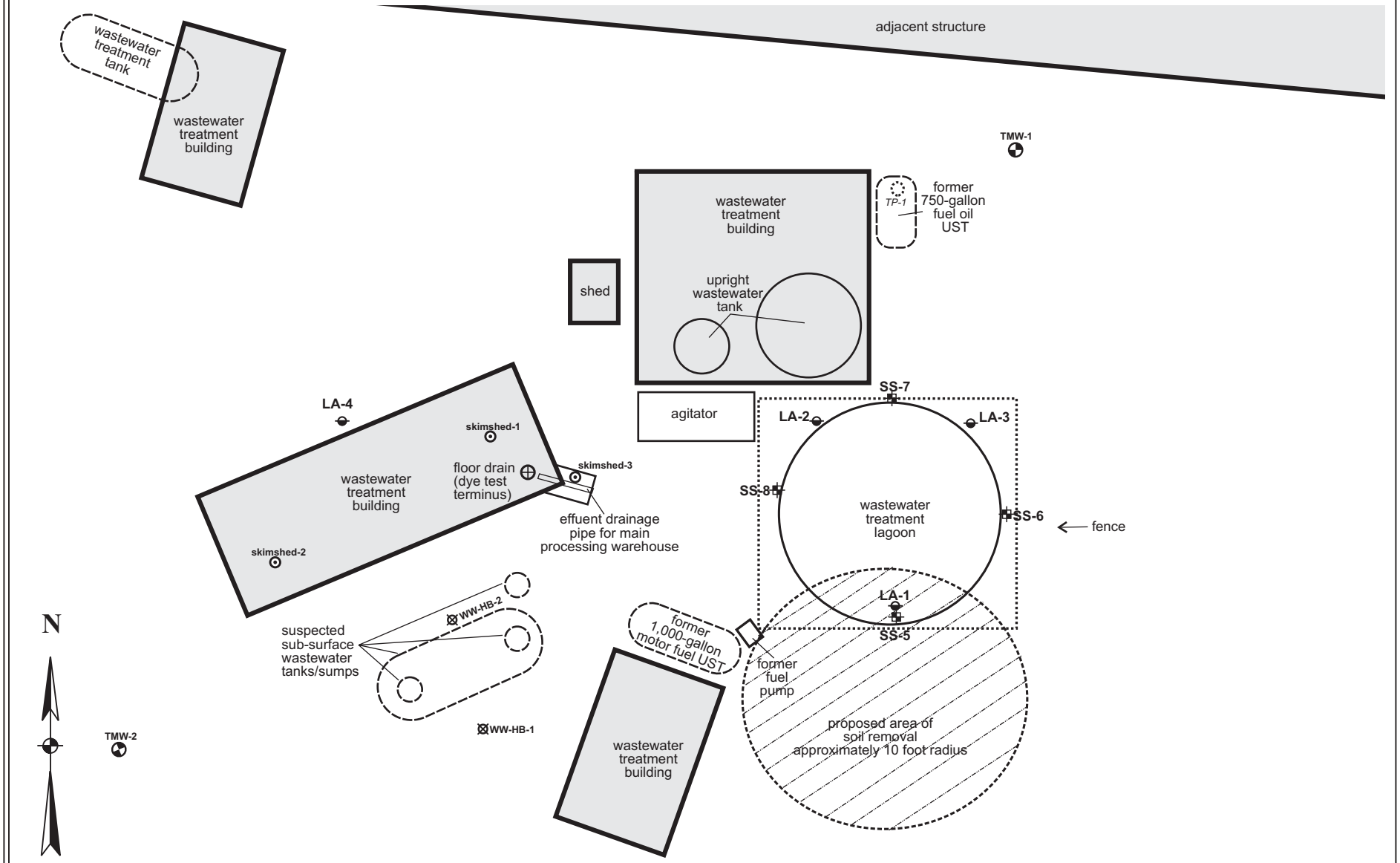

Feature locations are approximate.

Figure 3
West Wastewater Area
Perx Property
68 South Broadway
Village of Red Hook
Dutchess County, New York

Legend:

- structure
- temporary monitoring well (TM-1)
- test pit (TP-1)
- lagoon sample (LA-1)
- soil sample taken April 2001 (SS-6)
- wastewater hand-boring sample (WW-HB-2)
- surface soil sample (skimshed -1)
- soil excavation

ESI File: DR99140.41F
September 2004
Not to Scale
Appendix A

Figure 4 - Alternative 4

Perx Property
68 South Broadway
Village of Red Hook
Dutchess County, New York

ESI Filer: DR99140.42F	September 2004
Scale as shown	Appendix A

Sampling Notes:

Sample types are distinguished as follows:

- ϕ *BG, BS* = background sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- ⊠ *OR* = orchard sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- *LA* = lagoon sample location (2 samples at each location, 1 sample at 0-4", and 1 sample at 20-24")
- ● *WL* = wetland sample location (1 sample at each location, at 0-4")
- ⊙ *SEP* = soil sample end point locations
- Ø *SS, DW, S-EFL* = soil sample locations
- ○ *TP* = test pit locations
- HP&SS = Samples taken April 2001

Samples taken from UST graves are not shown on this map.

LEGEND

- subject property border
- monitoring well location
- sample location (see notes at left)
- water supply well W-3
- building
- Altternative #4 Soil Excavation
- pump house PH
- stream (may also indicate direction of flow)

Ecosystems Strategies, Inc.

SMITH STREET

N

50 0 250

OVERALL SCALE IN FEET (APPROX.)
Not Applicable to Feature Dimensions

BG-3 ϕ

BS-4 ϕ

BS-5 ϕ

wet area

WL-1

WL-2

WL-3

WL-4

WL-5

WL-6

unimproved road

3TP-16

3TP-15

debris (steel/iron conduit & abandoned machinery)

3TP-14

3TP-13

3TP-10

3TP-12

3TP-11

area of various debris

2TP-5

2TP-6

2TP-7

OR-1

OR-2

OR-3

OR-4

OR-5

OR-6

OR-7

OR-8

SS-1

SS-2

SS-3

SS-4

W-1

W-3

TMW-3

TMW-4

LA-5

LA-6

LA-7

LA-8

underground settling tank

aeration tank

proposed area of soil removal (10' radius)

barbed wire fence

retaining wall

abandoned filter bed

HB-2

HB-3

HB-4

HB-5

HB-6

trees

PH

concrete block pump pit

maint. garage

SEP-N

SEP-S

existing 300-gallon waste oil UST to be removed

3SS-1

existing 550-gallon fuel oil AST to be removed

former location of three, manifolded 275-gallon ASTs

proposed area of equipment removal

TP-1

TP-2

TP-3

TP-4

(see West Wastewater Fieldwork Map for detail)

fence

proposed area of soil removal (10' radius)

loading dock

5SS-4 Ø

loading dock

5SS-5 Ø

former 2,000-gallon gasoline UST

floor drain (dye test sample 2D-1)

former gasoline pump

main processing warehouse

floor drain (dye test sample 2D-2)

courtyard

Ø SS-3

5SS-1 Ø

DW-1 Ø

metal drywell

5SS-2 Ø

S-EFL-1 Ø

proposed area of soil removal

east subsurface wastewater treatment tanks and piping

liquor store

pole-barn garage

former house

former 275 gallon basement AST

BG-1 ϕ

BG-2 ϕ

SOUTH BROADWAY (U.S. ROUTE 9)

All feature locations are approximate.
Map based in part on Aerial Photographs and Village of Red Hook Tax Map.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Perx Property Environmental Restoration Site
Village of Red Hook, Dutchess County, New York
Site No. B-00177-3

The Proposed Remedial Action Plan (PRAP) for the Perx Property site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on November 3, 2004. The PRAP outlined the remedial measure proposed for the contaminated soil at the Perx Property 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 November 16, 2004, which included a presentation of the Site Investigation (SI) and the Remedial Alternatives Report (RAR) 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. In addition, two comment letters were received before the public comment period for the PRAP ended on December 20, 2004.

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

COMMENT 1: Who pays for this remediation, and how are the costs divided up between the State, County, and Village?

RESPONSE 1: Under the Environmental Restoration Program, New York State will reimburse the County 90% of the on-site environmental remediation costs. Demolition and asbestos abatement are eligible for reimbursement at 50% of the incurred costs. The participating municipality, in this case Dutchess County, will be responsible for the balance. 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. Dutchess County will assist the state in its efforts by providing all information to the state which identifies PRPs. The County will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

COMMENT 2: I am a resident living on Benner Road, southwest of the site. Could runoff, from rain or snow, travel to my property?

RESPONSE 2: As an element of the remedial design, an erosion control plan will be developed to insure adjacent areas are not affected during construction. This typically includes the use of erosion control mesures such as silt fences, hay bails, and a monitoring program. The on-site inspector(s) will insure that runoff is not affecting adjacent or sensitive (e.g. wetlands) areas.

COMMENT 3: In regards to the selected remedy number 3, what percentage of the site is clean after remediation? Why not remediate the site 100%?

RESPONSE 3: The NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) 4046 provides a basis and procedure to determine soil cleanup levels at contaminated sites. The eastern portion of the site, as well as a significant portion of the western parcel, will be remediated to TAGM 4046 cleanup objectives. Some areas, however (e.g. the wetland), will not be subject to remediation. Development is precluded by the wetland designation, therefore the potential for exposure is low. Further, the levels of contamination observed in the wetland area are low and would not have a discernable impact on the wetland habitat. Also, excavation in the wetland would adversely impact the wetland habitat. Weighing these factors, the NYSDEC and NYSDOH do not consider removal work in the wetland area necessary to protect public heath or the environment.

COMMENT 4: I have concerns regarding the biased sampling and whether the extent of contamination has been defined?

RESPONSE 4: Samples were collected across the site, but certain areas were targeted based on field observations such as discolored soil, stressed vegetation, drainage patterns, field instrument measurements, or other field indicators. This is common in site investigations. To help assess the nature of the contamination and the threat posed, sampling generally is intentionally biased toward areas of known or suspected contamination. At the Perx property, other samples, such as those collected from the orchard area, were collected to provide a more general assessment of site conditions. During the remedial action/construction phase, confirmation samples will be collected to insure the contamination identified is addressed by the remedy.

COMMENT 5: The soil cleanup goals are based on background samples taken. However, on this site, how/why did you determine that 5 background samples were adequate?

RESPONSE 5: The NYSDEC's technical guidance recommends that a minimum of five background samples be collected during investigations. Sample locations are to be located in unimpacted areas on the site or in the vicinity of the site. Five such locations were identified on the Perx property, therefore, five locations were deemed adequate.

COMMENT 6: Why did you use more stringent values for arsenic than lead (11.1 ppm for arsenic vs 400 ppm for lead)? Doesn't this make your characterization of the site questionable?

RESPONSE 6: Recommended soil cleanup objectives and the basis for those objectives are provided in TAGM 4046. The TAGM in some instances allows for the use of background soil levels as cleanup objectives. Background soil level means the chemical concentration of a contaminant which is found in soil which is not attributable to present or prior activities at the site. The background level for arsenic at this site is 11.1 parts per million (ppm). The background level for lead was measured at 43.2 ppm, but lead is known to have average levels of 200-500 ppm in metropolitan and suburban areas. The NYSDOH commonly recommends a cleanup objective for lead in residential/unrestricted scenarios of 400 ppm. Because the 400 ppm objective is protective of human health and it is widely used, it has been applied here.

COMMENT 7: How do you intend to limit access to the wetland under Alternative 3? Are you going to fence the wetland? With Alternative 4, there is no need for concern about these issues, as there would be no need for institutional controls.

RESPONSE 7: The eastern portion of the site and significant areas on the western parcel will be subject to remediation. Excavation and removal in the wetland area is not necessary as described in Response 3. This is because the contaminant concentrations are low in the wetland area and development of this area is prohibited by

its wetland designation. An institutional control in the form of an environmental easement will be required to alert future owners or workers of the site conditions, but given the low levels of contamination present, an engineering control such as a fence is not warranted. The levels of contamination are only marginally above cleanup objectives, therefore incidental contact or exposure poses no significant threat.

COMMENT 8: I live on Smith Street. I love listening to the peepers.

RESPONSE 8: As explained in Response 7, no construction is required in the wetland area.

COMMENT 9: The site is currently NOT secure enough to keep trespassers away from contaminants. This should be rectified right away.

RESPONSE 9: The property is currently fenced and posted warning trespassers to keep out. Only the Department of Public Works can open the gates, with the County's permission, and a second chainlink perimeter fence was installed to secure the western portion of the property beyond the existing structures. The Commissioner of the Department of Public Works has been advised of this concern and will assess the condition of the fence and the need for repairs.

COMMENT 10: How will you ensure that contamination is contained on-site?

RESPONSE 10: As remediation takes place on-site, a series of controls will be in place to protect the community and the environment from exposure. This will include a Community Air Monitoring Plan (CAMP) to monitor dust levels, volatile organic compound (VOC) vapors and odors for the downwind community. Erosion controls will be utilized to prevent runoff from the excavation area to the wetlands. Also, decontamination stations will be utilized to prevent off-site transport of contamination from trucks and other equipment leaving the site.

COMMENT 11: What archaeological studies have been done for the site? I'm concerned that history or artifacts found be recorded and made available to the local community.

RESPONSE 11: The work conducted in support of this project did not include an archaeological study. If archaeological work is needed, this would likely be part of the future development planning process.

COMMENT 12: Few projects have had so much attention. Support for this project has been received from the Dutchess County Department of Planning & Development, and Ned Sullivan, President of Scenic Hudson.

RESPONSE 12: Comment noted.

COMMENT 13: Although remediation is the phase we are discussing tonight, we can't look at this site without knowing there is a critical need for senior housing that is proposed for the site. There are also filing deadlines that need to be met to keep the project on track and eligible for State Housing development funding. Therefore, how quickly do you feel the ROD can be issued?

RESPONSE 13: The 45 day public comment period ends on December 20, 2004. A Responsiveness Summary will be prepared which addresses the comments received and the Record of Decision (ROD) will be drafted and routed for review and approval by NYSDEC and NYSDOH management. It is expected that the ROD will be issued in January 2005. The remedial design and construction phases of the project can proceed following issuance of the ROD.

COMMENT 14: I have a concern regarding truck traffic moving the contaminated soil. I would hope that the trucks would be covered, and only use main roads.

RESPONSE 14: The remedial design will include provisions to ensure trucks are covered and undergo decontamination before leaving the site. Also, the NYSDEC, the NYSDOH, the County and the remedial contractor will work together to select a haul route to safely remove the contaminated media. The NYSDEC and NYSDOH appreciate the concerns of property owners in residential communities relative to truck traffic, and these will be considered during the remedial design.

COMMENT 15: You mentioned the CAMP, and how you would spray water down. Won't that put it back in the groundwater?

RESPONSE 15: Water will be sprayed to suppress the dust, as necessary, from excavation or other on-site activities. However, the water will not be applied in large volumes, so infiltration and surface runoff are unlikely.

COMMENT 16: I live on Smith Street, which borders the site to the west. If contamination in the western portion of the site is going to be left in place, what protections will be put into place for those of us who border the site?

RESPONSE 16: There will be an environmental easement that will require that a site management plan be developed to address any residual contamination. This plan will detail any steps necessary to mitigate exposure and prevent dispersion of residual contamination during any future intrusive site activities, such as utility work. The areas addressed by the site management plan would be the subject of an environmental easement. The easement will require compliance with the approved site management plan, as well as restrict the use of groundwater as a source of potable or process water without necessary water quality treatment, if determined necessary by NYSDOH and/or NYSDEC. Further, on an annual basis, or an alternative approved by the NYSDEC, the property owner will be required to certify the institutional controls remain in place and are functioning as envisioned by the ROD.

COMMENT 17: In the proposed remedy, how many cubic yards of contaminated soil will be removed from the site? How many if Alternative #4 is selected?

RESPONSE 17: Under Alternative No. 3, the selected remedy, an estimated 300 cubic yards of contaminated soil will be removed and properly disposed of off-site. Under Alternative No. 4, an estimated 10,000 cubic yards of contaminated soil would require removal.

COMMENT 18: Are the wetlands on the site protected? If so, by whom, and how much of a buffer around the wetland is also required?

RESPONSE 18: The wetlands are protected under theFresh Water Wetland Act, Article 24 of the New York State Environmental Conservation Law. The wetland buffer is 100 feet.

COMMENT 19: Will there be any construction in the wetland area, now or in the future?

RESPONSE 19: The remedy involves no excavation within the wetland and, as indicated in Response 18,

development is restricted in wetland areas and the buffer to those areas. Plans at this site do not impede upon those areas. There is an area within the orchard area that is not within the wetland or its buffer zone. That area may be developed in the future as another phase of development. The remains of a road that passes through the eastern portion of the wetland could be used to access that area if it is developed.

COMMENT 20: Residents on Smith Street have heard that the proposed senior development would have an access road going to Smith Street from this area. Doesn't the wetlands designation prevent this?

RESPONSE 21: As explained in Response 18, the wetland and associated buffer area will restrict development on portions of the site. Dutchess County representatives have indicated that there will not be an entrance/exit road to Smith Street. This can be seen in the site plan submitted by the developer on file with the County.

COMMENT 21: I developed my property on Smith Street based upon the assurance of the Village of Red Hook Building Inspector that nothing could be built on the adjoining wetland. Building a road to Smith Street, even if there is a bridge going over the wetland, would ruin my property value.

RESPONSE 21: As explained in Response 21, the County has indicated there are currently no plans to access Smith Street.

COMMENT 22: During the 1999 Phase 1 Investigation, was the nearby Universal Building Products Site evaluated?

RESPONSE 22: Yes. The Universal Building Products property was investigated as an adjoining property during the Phase I. Based on the potential presence of building materials and/or debris which could have extended onto the subject property from this adjoining site, test pits were extended. No subsurface materials or wastes were encountered

The following written comments were received. Copies of these documents are included in the Administrative Record for this ROD.

Bill Wilcox, a resident of Red Hook submitted a email dated November 19, 2004. The email is included in the Administrative Record. The email included the following comment:

COMMENT 23: His concern is that the wetlands stay undisturbed with no future development. Overall he feels Alternative 1, No Further Action, would be the better choice.

RESPONSE 23: NYSDEC recommends directing questions and concerns about site development to the Village of Red Hook and Dutchess County Department of Planning and Development. As detailed in the PRAP, Alternative No. 1 would not reduce the toxicity, mobility or volume of the contamination present, leave the site in its current condition, and pose a potential threat to public health and the environment.

COMMENT 24: Sue T. Crane, Councilwoman for the Town of Red Hook, presented a written statement supporting the proposed remedy during the public meeting. A copy is included in the administrative record.

RESPONSE 24: Comments noted.

Richard Schiafo, a resident of Red Hook submitted a letter dated December 21, 2004. A copy is included in the Administrative Record. Questions and comments from that letter are addressed below.

COMMENT 25: The PRAP indicates, on page 44, that five samples were taken to determine background levels. This is the minimum required based on Draft DER -10, Section 3.6.1(a)(3)(i). But as is indicated above, DER10 does not "limit DER's authority to require additional investigation." If the State uses background levels as the cleanup goal for arsenic, as proposed, it is imperative that additional sampling be done to better characterize arsenic levels at this site.

RESPONSE 25: The NYSDEC believes that the five background samples collected were sufficient to characterize background conditions in the area. This is based in part on information that orchards were common to the area and similar background levels are likely in the area. Also see Response 5.

COMMENT 26: Additional sediment sampling should also be done to better characterize the contaminants such as arsenic and lead in the wetlands, both on-site and what may be migrating off-site. Six sediment samples in on-site wetlands is insufficient. Based on finding detectable levels of DDT, DDE and DDT in three of the six locations, additional sampling for these contaminants is called for. Overall there is a need for more extensive sampling at this site to better characterize both on-site and off-site contamination. Such characterization is critical to creating a remedy that will adequately protect both public health and the environment.

RESPONSE 26: The NYSDEC believes that the sediment, soil, and groundwater samples collected at the site provided sufficient information to characterize site conditions. The objectives of a site investigation is to delineate the extent of contamination and provide sufficient data to select a remedy. The sampling conducted met these objectives. Additional sampling will be conducted during the remedial program as confirmation that the full extent of contamination is addressed.

The concentrations of DDT, DDE and DDD found in the sediment were below TAGM 4046 recommended soil cleanup objectives. Arsenic was found slightly above the sight background value in one of the six sediment samples. Based on the low contaminant concentrations detected, no further characterization or delineation was deemed necessary.

COMMENT 27: Based on an NYSDEC statement at the November 16 public meeting, the NYSDEC is unsure why there are such high levels of lead in the groundwater. It was indicated that additional analysis would be needed to try and determine if the sediment in the groundwater is the source of lead or if the lead is actually in the water itself.

RESPONSE 27: The NYSDEC believes that the elevated lead concentrations in groundwater may be attributed to the sampling technique that was used. The groundwater samples were collected in a manner that results in highly turbid samples, meaning that a large amount of solids, primarily soil, are mixed in the sample. As a consequence, analytical results may be more representative of soil conditions than groundwater conditions. Another round of groundwater sampling will be conducted using a technique that will eliminate the solids in the sample and will provide an accurate representation of contaminants that may be dissolved in the groundwater. The NYSDEC expects that the lead concentrations will be much lower when the proper sampling technique is employed.

COMMENT 28: A final remedy should not be selected until this is determined. While there are not any current plans to use the groundwater at this site as a drinking water source, the state should have a much better

understanding of the groundwater contamination issue both on and off-site and how it can be remedied. In-situ groundwater remediation of lead should be explored.

RESPONSE 28: Costs to remediate lead contaminated groundwater would be excessive and in this case would not provide any further protection to public health or the environment. There are no receptors of contamination that may be in the groundwater. Public water is provided to the area and no groundwater discharge point is nearby. Under the selected remedy, an institutional control will be put in place to restrict the use of groundwater.

COMMENT 29: Has the NYSDEC and NYSDOH adequately characterized and assessed human health risks associated with this site? Has an assessment taken into account the fact that a sensitive subpopulation, senior citizens, will be residing at this site? Is there the potential for any of the contaminants, such as the pesticides, to migrate or volatilize from the subsurface soil into buildings were senior citizens will be residing?

RESPONSE 29: The NYSDEC and the NYSDOH believe that the human exposure pathways have been sufficiently assessed. The portion of the site that will be developed will be remediated to TAGM 4046 Recommended Soil Cleanup Objectives. Therefore, no residents nor visitors will be exposed to contaminants above these cleanup guidelines. The contamination remaining in the wetland is at a low concentration that will not pose a threat to human health especially with a future use as a State protected wetland with limited access and little potential for short-term exposure and no potential for long-term exposure.

COMMENT 30: The source of lead to the groundwater must be adequately characterized as is required by Draft DER- 10, which states, "Existing on-site groundwater contamination in excess of the applicable SCGs. On-site groundwater contamination in excess of the applicable surface water criteria should be delineated to the applicable surface water criteria. Groundwater delineation samples should be collected along the groundwater flow path between the area of concern and the surface water body and analyzed for applicable contaminants." (3.8.1(a)(4)) The potential of the groundwater to contaminate and recontaminate surface and subsurface soils on-site and in the wetland area also requires further investigation.

Overall there is a need for more extensive sampling at this site to better characterize both on-site and off-site contamination. Such characterization is critical to creating a remedy that will adequately protect both public health and the environment.

RESPONSE 30: The NYSDEC does not believe that further sampling is necessary to characterize the site. The eastern portion of the site will be cleaned to residential standards. To ensure remaining soils are below TAGM 4046 soil cleanup objectives, the remedy will include post-excavation sampling.

COMMENT 31: If contaminants are left in place, as proposed, certainly the site management plan should include continued monitoring of soils, groundwater and the wetlands. Are "site management" and "annual certification" self-monitored and self enforced? Monitoring should involve NYSDEC and NYSDOH oversight. What monitoring and enforcement capabilities exist at the state level to make sure that this annual certification is not only submitted, but is accurate?

RESPONSE 31: There is no reason to conduct continued monitoring of the soil or the sediment because the contaminant conditions will not change and therefore will not pose an increased risk over time.

On a periodic basis, as determined by the NYSDEC, the property owner must provide a certification to the

Department that is prepared and submitted by a professional engineer or site representative acceptable to the Department. The certification would attest that the institutional controls are still in place, the NYSDEC is allowed access to the site, that nothing has occurred that would impair the ability of the controls to protect public health and the environment, and that there have been no failures to comply with, and no violations of the site management plan.

COMMENT 32: The PRAP is not clear as to what protective measures will be put in place to preclude public exposure to remaining levels of contaminants in the wetlands. Potential human exposure, particularly to children also needs to be better characterized. At the public hearing, the possible construction of a fence was mentioned as a potential institutional control, however later in the meeting that notion was dismissed.

If the contamination is allowed to remain in place, warning signs should be posted and maintained at this site by the NYSDOH.

RESPONSE 32: The low level of contamination remaining precludes the need for signs or a fence around the wetland.

COMMENT 33: The NYSDEC has stated that the levels of contaminants in the state protected wetland that exceed protective standards to not pose a significant risk to public health. On what basis is this conclusion being drawn? What about ecological risks?

The proposed remedy lacks a clear articulation of public and ecological risks associated with leaving the contamination on site. The migration of contaminants such as arsenic, lead, and pesticides throughout these wetlands needs to be better understood. Has the bioavailability of arsenic and other contaminants which will remain in this area been examined?

RESPONSE 33: The NYSDEC finds that the contamination remaining in the wetland will not result in significant threat to human health because of the low concentrations present and the lack of long-term human exposure in this state protected wetland.

Based on NYSDEC experience with the same contaminants at other sites and best available science, the Division of Fish, Wildlife and Marine Resources (DFWMR) finds that the low concentrations of contaminants remaining in the wetland do not pose a significant threat to wildlife expected to inhabit the wetland. Neighbors adjacent to the site have noted healthy populations of insects, birds and mammals presently occupying the wetland. This also supports the NYSDEC's conclusion that the remaining contaminants will not have a detrimental impact on the wetland ecosystem. Furthermore, the DFWMR believes that excavation of the wetland would result in extensive destruction of the wetland and would be much more detrimental to the ecosystem than the remaining contamination.

COMMENT 34: I would request a written Memorandum of Agreement between the State, County, and local governments indicating that project related construction traffic and removal of hazardous materials by truck will not use local village side streets. Only major roadways, namely Routes 9 and 199 will be used for movement of materials to and from this site during remediation. No hazardous materials removed from the site should be transported via local village side streets.

RESPONSE 34: The access to the site is from Route 9. Truck traffic exiting the site should not have to use Village side streets. Truck traffic will only use designated truck routes. All remediation equipment will be

decontaminated and all loads of contaminated soil will be covered and secured prior to leaving the site. See response 14.

COMMENT 35: The creation of the community health and safety plan (CHASP) is an important element of gaining community trust and acceptance. I would urge you to include residents in the development of the CHASP. Residents should fully understand what controls are in place to protect their health and their property during site remediation.

RESPONSE 35: The CHASP will incorporate methods to prevent migration of contamination from the site. A community air monitoring plan (CAMP) will be included. The CAMP requires the monitoring of dust and chemical vapors in the air at the site during remedial activities. The CAMP will be placed in the document repository for public review. Any concerns may be addressed to the NYSDEC or NYSDOH.

COMMENT 36: Attached is a copy of a Freedom of Information Law request I submitted on April 2, 2004. This request never received a response. I have a keen interest in this site and was significantly dismayed at the NYSDEC's lack of response to this request. Perhaps some of my concerns could have been addressed earlier in this process if I had been given access to site investigation information. Allowing for public access to information and input earlier in the process will often save time in the long run.

RESPONSE 36: The NYSDEC Project manager had spoken to Mr. Schiafo prior to the April 2, 2004 FOIL request. Upon receiving the FOIL request, the project manager phoned Mr. Schiafo. A message was taken, but the call was never returned.

COMMENT 37: The County, through the State's Environmental Restoration Program can recover up 90 percent of costs of remediation, except for 50 percent of demolition and asbestos removal. How will the balance of this project be funded? Who will pay the other 50 percent for building demolition and asbestos removal and how is the additional 10 percent of remediation to be funded?

RESPONSE 37: Dutchess County is the lead municipality in this project, and by a municipal resolution, the County must commit to funding their share of the remedial project. All questions about additional funding should be addressed to the Dutchess County Department of Planning and Development.

COMMENT 38: At the November 16, 2004 public hearing I stated that the site fencing was in disarray and that there was easy public access to the site. I made a public request that this problem be addressed. As of the date of the writing of these comments, the fence has not been repaired. This is disturbing on two levels - one, there continues to be easy public access to this site and two, the concern raised at the public meeting appears to have been ignored.

RESPONSE 38: The County was advised of this concern and has since directed Public Works to repair the fence. The State will confirm that the fence has been repaired.

COMMENT 39: It appears in the PRAP, however, that the NYSDEC is mixing and matching the use of SCG's and background levels as site clean up goals, as to which may be easier to meet.

For arsenic, the background level of 11.1 ppm is chosen as a clean up goal over the more stringent state standard of 7.5 ppm. I urge you to choose the more protective clean up levels of 7.5 ppm for arsenic and 43.2 ppm for lead. A clean up value of 400 ppm for lead is considerably too high.

RESPONSE 39: See Response 6.

COMMENT 40: Have any other remedial options, such as bioremediation, been considered for arsenic in the wetlands and lead in the ground water?

RESPONSE 40: Based on the low levels of contamination that remain in the wetland, the lack of future human occupants, and other reasons discussed in this ROD and Response 33 of this Responsiveness Summary, the expense and impacts of an active remedy are not justified. Bioremediation generally does not work for metal contamination.

COMMENT 41: While transportation and disposal are not typically elements of the proposed remedial plan or Record of Decision, such project details are important to residents of the community.

RESPONSE 41: Waste transportation and the decontamination of vehicles exiting the site will be detailed in the remedial action work plan. The contaminated soil will be properly disposed of an approved, licensed facility according to NYSDEC regulations. This may be an out-of-state facility. The actual location of the disposal will depend on the type and the amount of contaminant in the soil, therefore the disposal location may not be selected by the time the work plan is completed.

COMMENT 42: Other details about the proposed clean up are also lacking such as the amount of material to be removed and trucked through the community and the levels of arsenic that will remain in the wetlands.

RESPONSE 42: Approximately 300 cubic yards of contaminated soil will be removed from the site. This number is subject to change based on the findings of post excavation sampling. Of the six sediment samples collected, the highest arsenic concentration detected in the wetland sediements was 15 ppm. The findings of the sediment sampling are summarized in Section 5.1.3 of this ROD and discussed in more detail in the April 30, 2001 Summary Report of Environmental Services and the April 2004 Final Summary Report of Site Investigation and Interim Remedial Activities.

APPENDIX B

Administrative Record

Administrative Record

Perx Property
Site No. B00177-3

1. Proposed Remedial Action Plan for the Perx Property site, dated November 2004, prepared by the NYSDEC.

2. "Phase I Environmental Site Assessment" September 22, 1999, Ecosystem Strategies, Inc.

3. "Summary Report of Environmental Services" April 30, 2001, Ecosystem Strategies, Inc.

4. "Application for NYSDEC Environmental Restoration Projects, Brownfield Program" December 21, 2001, Ecosystem Strategies, Inc.

5. "Workplan for Site Investigation and Interim Remedial Activities" September 4, 2002, Ecosystem Strategies, Inc.

6. "Final Summary Report of Site Investigation and Interim Remedial Activities" April 2004, Ecosystem Strategies, Inc.

7. "Remedial Alternatives Report" January 2004, Ecosystem Strategies, Inc.

8. Written comments received at the November 16, 2004 public meeting from Sue T Crane, Town of Red Hook Councilwoman.

9. Email received November 19, 2004 from Bill Wilcox, a resident of Red Hook.

10. Letter dated December 21, 2004 fron Richard Schiafo, a resident of Red Hook.