RECORD OF DECISION

Mill Neck Marina
State Superfund Project
Oyster Bay, Nassau County
Site No. 130166
March 2014

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - RECORD OF DECISION

Mill Neck Marina
State Superfund Project
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Site No. 130166
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Statement of Purpose and Basis

This document presents the remedy for the Mill Neck Marina site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Mill Neck Marina site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

- Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

The goal of the selected remedial program is for the removal of all soils exceeding the residential use soil cleanup objectives (SCOs). As required by Part 375-1.8(g)(5) of the Environmental Remediation Program regulations, the selected remedial program is consistent with the intended use of the property and conforms with local zoning for single-family residential housing.

On-site soils that exceed residential use SCOs will be excavated and disposed of off-site. Up to 13,000 tons (9,000 cu-yd) of contaminated soil will be removed to varying depths, between the surface and six feet below grade across the majority of the site. Pre-design sampling is required to more accurately delineate the extent and depth of soil removal.

Confirmation sampling will be conducted to determine when remedial action objectives have been met. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. Should the excavation encroach into the tidal wetland, then appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be implemented.

This remedial program requires no additional institutional or engineering controls.

Contingent Remedial Program

The Department recognizes that there is strong public sentiment for the site to be developed into a park for recreational use. While the proposed remedy does allow for use of the site as a park, the required soil excavation to achieve residential use SCOs would be very intrusive and exceeds the SCOs necessary for use as a park. It is also noted that due to the site location, residential use would require additional engineering and regulatory obstacles to be overcome. The regulations prohibit selection of a remedy that is in conflict with zoning. A change of zoning of the site would allow for selection of a remedy that would be consistent with parkland use. A remedial program that achieves restricted residential use SCOs would be protective of public health and the environment and allow for park-related activities. The remedy, which would be less intrusive and less costly, would however require additional institutional and engineering controls and a site management plan. The Contingent Remedial Program described below could become the selected remedy upon completion of rezoning of the site and public notice.

C1. Remedial Design
A remedial design program will be implemented as described above for the contingent remedy.

C2. Excavation
This remedial program will achieve restricted residential use soil cleanup objectives by excavation of contaminated soil and emplacement of a soil cover system over the remaining soil contamination. Contaminated soil exceeding restricted residential use SCOs will be removed in selected areas. The excavated soil will be transported off-site for disposal at an appropriately permitted facility. Up to 5,000 tons (3,400 cu-yd) of contaminated soil may be removed from the surface and subsurface soils to a maximum depth of two feet. Pre-design sampling is required to more accurately delineate the extent and depth of soil removal.

Documentation sampling will be conducted to determine when remedial action objectives have been met. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. Should the excavation encroach into the tidal wetland, then appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be considered.

C3. Cover System
A site cover must be maintained to allow for restricted residential use of the site. The cover will consist either of structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will not exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The upper six inches of the soil will be of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

C4. Institutional Control
Institutional Controls are required for restricted residential use of the site. Imposition of an institutional control in the form of an environmental easement for the controlled properties (multiple parcels) that:

- requires the remedial party or property (site) owners to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- requires compliance with the Department approved Site Management Plan.

C5. Site Management Plan
A Site Management Plan is required for restricted residential use of the site, and includes the following:

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

- Institutional Controls: The Environmental Easement discussed above.
- Engineering Controls: The soil cover system discussed above.

This plan includes, but may not be limited to:

- An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- provisions of the environmental easement including any land use, and/or groundwater and/or surface water use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy 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. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 27, 2014
Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Mill Neck Marina
Oyster Bay, Nassau County
Site No. 130166
March 2014

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Oyster Bay – East Norwich Public Library
Attn: Suzanne Koch
89 East Main Street
Oyster Bay, NY 11771
Phone: 516-922-1212

OR

Locust Valley Library
170 Buckram Road
Locust Valley, NY 11560
Phone: 516-671-1837

A public meeting was conducted on March 3, 2014. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal comments were received on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Mill Neck Marina site is suburban area of the Town of Oyster Bay on the north shore of Long Island. The former marina is southwest of Oak Neck Creek at the foot of Hernan Avenue.

Site Features: The site, now vacant, was cleared of structures in 2001-02. The majority of the site is densely overgrown with tall perennial grass, phragmites, and small trees. The site is bounded by Oak Neck Creek to the northeast and east, private residences to the west, Meadow Street to the north, and Hernan Avenue to the south. The site lies at the foot of the Mill Neck Preserve - a shallow tidal area where Oak Neck Creek begins.

The 1.4 acre site has been subdivided into nine separate tax parcels. A right-of-way for a future extension of Meadow Street bisects the site from north to south.

Current Zoning: The site is zoned R1- residential, which allows for single-family houses. The surrounding area is densely developed single-family residential.

Historic Use(s): The site was a marina from approximately 1953 until its abandonment in 2001. The marina reportedly contained boat storage, maintenance, and painting areas, gasoline storage, and dispensing facilities resulting in on site soil and off-site sediments being contaminated with heavy metals, including mercury, lead, arsenic and copper

Site Geology and Hydrogeology: Onsite soils consist of glacial till in the form of poorly sorted clay, silt, sand and gravel with high organic content in the top foot. The depth to groundwater is approximately one to three feet. The groundwater flows in a northeasterly direction toward the adjacent tidal creek.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to residential use (which allows for restricted-residential use, commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the RI to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

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

The PRPs for the site, documented to date, include:

OTS ASSOCIATES

HARVEY WEISMAN

SAAL CORP.

HARVEY WEISMAN

SAUL WEINBERGER D/B/A EAST ARTS

The Department and Harvey Weisman entered into a Consent Order on August 15, 2008 (ref. Index No. A1-0578-0107). The Order obligated the responsible party to implement a full remedial program. The site was referred to State Superfund in May 2010.

After the remedy is selected, the Department will again approach the PRPs to implement the selected remedy. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to 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.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous

waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

ARSENIC	COPPER
LEAD	CADMIUM
MERCURY	

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- soil
- sediment

6.2: 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 issuance of the Record of Decision.

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

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination:
Investigations to date have determined that the on-site soil and off-site sediments have been impacted by historic use of the site as a boat marina. The site did not affect the soil of off-site properties. The primary contaminants of concern are the metals- mercury, arsenic, lead, cadmium and copper deposited in the soils and near shore sediments, from boat servicing and launching operations. Metals have long been used in paints for chromatic reasons (i.e., as pigments to attain desired colors). Arsenic, mercury and copper have additionally served as mildew preventers and anti-fouling agents in marine paints. Arsenic and copper are also found in pressure-treated lumber, functioning as an insecticide and fungicide, respectively.

Findings of the Remedial Investigation (RI) conducted 2011-2012:
Soil- Mercury, lead, arsenic, copper and other metals were detected at some level in virtually every soil sample collected. In various locations, shallow subsurface and subsurface soil samples were found to contain elevated levels of copper (1.26 ppm to 818 ppm), mercury (non-detect to

4.53 ppm), arsenic (0.656 ppm to 24.4 ppm), lead (3.53 ppm to 527 ppm) and cadmium (0.303 ppm to 3.3 ppm). No clear pattern of contamination is evident as metals contamination was found site-wide. Many of the metals detections were at or below NYSDEC's unrestricted use SCO.

Some semi-volatile organic compounds (SVOCs) were also found at many locations throughout the site, but residential use SCOs were only marginally exceeded at three subsurface locations. Pesticides were widely detected, slightly exceeding unrestricted use SCOs at three locations. Polychlorinated biphenyls (PCBs) were detected at three locations, all below unrestricted use SCOs. Pesticides and PCBs are not considered site-related contaminants.

Sediment- Near shore sediments were found to contain metals exceeding NYSDEC's Sediment Criteria for Metals- Lowest Effect Level, at many locations. The Severe Effect Level criterion was slightly exceeded for copper at 7 of 11 locations, and lead at two locations.

Groundwater- No exceedences of groundwater standards were observed for any site related COC. Groundwater was not adversely impacted by historic operations.

Special Resources:
The Division of Fish, Wildlife and Marine Resources has reviewed the data and does not recommend removal of the sediments. Sediment removal would cause more harm to the tidal estuary than leaving them in place.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Contact with contaminated soil is possible if people dig below the vegetated surface.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which 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. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy is referred to as the Soil Excavation to Achieve Residential Use SCOs remedy.

The estimated present worth cost to implement the remedy is $1,600,000. The cost to construct the remedy is estimated to be $1,600,000 and the estimated average annual cost is $0.

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;

- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation

The goal of the selected remedial program is for the removal of all soils exceeding the residential use soil cleanup objectives (SCOs). As required by Part 375-1.8(g)(5) of the Environmental Remediation Program regulations, the selected remedial program is consistent with the intended use of the property and conforms with local zoning for single-family residential housing.

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Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. Should the excavation encroach into the tidal wetland, then appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be implemented.

This remedial program requires no additional institutional or engineering controls.

Contingent Remedial Program

The Department recognizes that there is strong public sentiment for the site to be developed into a park for recreational use. While the proposed remedy does allow for use of the site as a park, the required soil excavation to achieve residential use SCOs would be very intrusive and exceeds the SCOs necessary for use as a park. It is also noted that due to the site location, residential use would require additional engineering and regulatory obstacles to be overcome. The regulations prohibit selection of a remedy that is in conflict with zoning. A change of zoning of the site would allow for selection of a remedy that would be consistent with parkland use. A remedial program that achieves restricted residential use SCOs would be protective of public health and the environment and allow for park-related activities. The remedy, which would be less intrusive

and less costly, would however require additional institutional and engineering controls and a site management plan. The Contingent Remedial Program described below could become the selected remedy upon completion of rezoning of the site and public notice.

C1. Remedial Design
A remedial design program will be implemented as described above for the contingent remedy.

C2. Excavation
This remedial program will achieve restricted residential use soil cleanup objectives by excavation of contaminated soil and emplacement of a soil cover system over the remaining soil contamination. Contaminated soil exceeding restricted residential use SCOs will be removed in selected areas. The excavated soil will be transported off-site for disposal at an appropriately permitted facility. Up to 5,000 tons (3,400 cu-yd) of contaminated soil may be removed from the surface and subsurface soils to a maximum depth of two feet. Pre-design sampling is required to more accurately delineate the extent and depth of soil removal.

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C3. Cover System
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C4. Institutional Control
Institutional Controls are required for restricted residential use of the site. Imposition of an institutional control in the form of an environmental easement for the controlled properties (multiple parcels) that:

- requires the remedial party or property (site) owners to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject

to local zoning laws;

- requires compliance with the Department approved Site Management Plan.

C5. Site Management Plan

A Site Management Plan is required for restricted residential use of the site, and includes the following:

a. An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

   - Institutional Controls: The Environmental Easement discussed above.
   - Engineering Controls: The soil cover system discussed above.

This plan includes, but may not be limited to:

- An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- provisions of the environmental easement including any land use, and/or groundwater and/or surface water use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination. Sampling locations are depicted in Figure 2.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into three categories; semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Soil

Soil samples were collected at 25 locations throughout the site during the RI, to assess compliance with soil cleanup objectives (SCO). Shallow subsurface soil samples were collected from a depth of 0-6 inches at eighteen locations, and surface soil samples were collected from a depth of 0-2 inches at seven locations. Subsurface soil samples were collected at various intervals ranging from 1-6 feet below grade at each location, to assess potential soil contamination impacts to groundwater. Samples were analyzed for inorganics (metals), VOCs, SVOCs, pesticides and PCBs. The results indicate that soils at the site exceed the unrestricted use SCOs for metals, SVOCs and pesticides.

The primary contaminants of concern (COC) identified in the RI are heavy metals, particularly mercury, arsenic, lead and copper. These COCs were indentified in surface soil, subsurface soil and near shore sediments. They were likely deposited during historic boat servicing and launching operations at the site. These metals have long been used as pigments, preservatives and/or antifungal agents in marine paints. Arsenic and copper also serve similar functions in the pressure treated wood used in boat docks and piers.

Metals Contamination:
Metals contamination is widely distributed throughout the site with 20 of 25 sample locations exceeding unrestricted use SCOs. Shallow subsurface soils exceeded the residential use SCO at eight locations. Subsurface soils 1–6 feet below grade are similarly impacted by metals with eighteen locations exceeding unrestricted SCOs, and ten locations exceeding restricted residential use SCOs.

Preventing human exposure to metals contamination in soil is the primary factor driving remedial action goals at this site. Figures 3 and 4 depict the nature and extent of shallow subsurface and subsurface metals contamination, respectively. Table 1 lists contaminants exceeding standards in shallow subsurface and subsurface soils.

Table # 1- Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Shallow Subsurface Soil – Metals					
Arsenic	2.18-23.4	13	3/18	16	2/18
Cadmium	0.315-3.3	2.5	1/18	2.5	1/18
Chromium, Total	3.39-17.9	30	0/25	36	0/25
Copper	11.1-818	50	18/25	270	3/25
Lead	8.52-1130	63	15/25	400	3/25
Mercury	0.047-3.3	0.18	13/25	0.81	4/25
Nickel	3.57-31.6	30	1/17	140	0/17
Zinc	19.8-837	109	5/17	2200	0/17
Subsurface Soil – Metals					
Arsenic	ND-24.4	13	2/17	16	2/17
Cadmium	0.303-1.82	2.5	0/14	2.5	0/14
Chromium, Total	3.62-20.4	30	0/30	36	0/30
Copper	4.59-329	50	9/30	270	1/30
Lead	5.27-430	63	11/30	400	1/30
Mercury	ND-4.53	0.18	15/30	0.81	6/30
Nickel	3.43-12	30	0/14	140	0/14
Zinc	19.6-118	109	1/14	2200	0/14
SVOCs					
Benzo(A)Anthracene	ND-4.80	1	3/31	1	3/31
Benzo(A)Pyrene	ND-1.50	1	1/31	1	1/31
Benzo(B)Fluoranthene	ND-2.20	1	2/31	1	2/31
Chrysene	ND-5.20	1	3/31	1	3/31
Indeno(1,2,3-C,D)Pyrene	ND-0.910	0.5	1/31	0.5	1/31

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives;
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Residential Use, unless otherwise noted.

Semi-volatile organic compounds (SVOCs) were found at many locations throughout the site, but residential use SCOs were only marginally exceeded at three locations in the subsurface soils. Pesticides were also widely detected, exceeding unrestricted use SCOs at seven locations, but never exceeding residential use SCOs. Polychlorinated biphenyls (PCB) were detected at three locations- all below unrestricted use SCOs. There were no exceedences of residential use SCOs in the shallow subsurface soils for any SVOC, PCB or pesticide.

Based on the findings of the Remedial Investigation, the presence of mercury, lead, arsenic and copper has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are mercury, lead, arsenic, and copper.

Sediments

Sediment samples were collected immediately off-site in the tidal estuary of Oak Neck Creek. Samples were collected at three depths, at eleven locations: 0-6”, 6”-12” and 12”-24”, for a total of 33 sediment samples. Due to poor recovery of one of the samples, only 32 samples were ultimately collected. Samples were analyzed for inorganics (metals), VOCs, SVOCs, pesticides, PCBs and total organic carbon (TOC). Results indicate there is fairly widespread metals contamination in the sediments nearby the site, consistent with historic operations as a marina. Many samples exceeded SCGs for Lowest Effect Level (LEL) criteria for fish and wildlife safety, while samples exhibiting exceedences of Severe Effect Level (SEL) criteria were much less frequent. The Division of Fish and Wildlife & Marine Resources (DFWMR) has evaluated the sediment data and concluded that remediation of contaminants for the protection of fish and wildlife is not recommended. DFWMR maintains that the area is an important tidal marsh habitat which would be detrimentally impacted by sediment removal efforts.

Table 2 - Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
SVOCs			
Acenaphthene	ND-0.34	LEL 0.016 SEL 0.5	1/32 0/32
Anthracene	ND-0.86	LEL 0.085 SEL 1.1	1/32 0/32
Benzo(a)anthracene	ND-2.1	LEL 0.261 SEL 1.6	2/32 1/32
Benzo(a)pyrene	ND-1.5	LEL 0.430 SEL 1.6	1/32 0/32
Chrysene	ND-2.0	LEL 0.384 SEL 2.8	2/32 0/32
Fluoranthene	ND-4.1	LEL 0.6 SEL 5.1	2/32 0/32
Fluorene	ND-0.32	LEL 0.019 SEL 0.540	1/32 0/32

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
Inorganics			
Arsenic	0.656-16.4	LEL 6	22/32
		SEL 33	0/32
Cadmium	ND-2.68	LEL 0.6	12/32
		SEL 9	0/32
Chromium (total)	5.66-73.1	LEL 26	20/32
		SEL 110	0/32
Copper	1.26-225	LEL 16	24/32
		SEL 110	11/32
Lead	3.53-361	LEL 31	21/32
		SEL 110	5/32
Mercury	ND-2.07	LEL 0.15	19/32
		SEL 1.3	2/32
Nickel	2.23-214	LEL 16	18/32
		SEL 50	3/32
Zinc	8.10-476	LEL 120	15/32
		SEL 270	4/32
Pesticides/PCBs			
4,4'-DDT	ND-0.011	LEL 0.00158 SEL 0.0461	1/32 0/32
PCBs (total)	ND-0.066	LEL 0.0227	2/32
		SEL 0.180	0/32

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department's Technical Guidance for Screening Contaminated Sediments.
LEL = Lowest Effects Level and SEL = Severe Effects Level. A sediment is considered contaminated if either of these criteria is exceeded. If the SEL criteria are exceeded, the sediment is severely impacted. If only the LEL is impacted, the impact is considered moderate.

No remedial action is recommended for sediments, as their removal would cause more disruption to the coastal ecosystem than leaving them in place. Therefore, no remedial alternatives need to be evaluated for sediment.

Groundwater

Groundwater samples were collected from four permanently installed monitoring wells and eleven temporary wells. Samples were analyzed for inorganics (metals), VOCs and SVOC. The site related contaminants-arsenic, lead, cadmium, copper and mercury were well below SCG for groundwater. Some VOC and SVOC were also detected at below SCG. Results indicate that groundwater was not adversely impacted by site operations. No remedial action is recommended for groundwater, and no remedial alternatives will be evaluated.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative 2: Re-zoning for Commercial Use with Site Management

The Re-zoning for Commercial Use with Site Management Alternative requires only institutional controls for the site. This alternative requires institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site. This alternative requires that the Town of Oyster Bay rezone the property from residential to commercial use, with a residential use prohibition. As the site meets commercial use SCOs, no remediation is required. The site management plan must include an excavation plan detailing provisions for management of future excavation in contaminated areas.

This alternative includes the abandonment of the four on-site monitoring wells according to NYSDEC CP-43, Groundwater Monitoring Well decommissioning policy.

An environmental easement and site management plan must be developed to restrict the site to its approved use.

Present Worth: *$60,000*
Annual Costs: *$2,500*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Use Conditions Full Excavation

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative requires: the removal and off-site disposal of all soil that exceeds unrestricted soil clean up objectives (SCOs). Contaminated soil will be removed to varying depths, between three and six feet below grade across the majority of the site. Additional, pre-design sampling will be required to more accurately delineate the extent and depth of soil removal. Pursuant to NYSDEC DER-10, confirmation sampling will be conducted to verify that remedial action objectives have been achieved. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. Backfilling activities will not occur prior to receipt of confirmatory sample results. All samples will be sent to a NYSDOH-certified laboratory for analysis. Excavated soil will be disposed of off-site at a NYSDEC approved disposal facility.

Prior to excavation, the site will require extensive clearing and grubbing to remove the dense vegetation from the areas being excavated. Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. A clearing limit line will be established on plans to delineate the zones of vegetative clearing and limit encroachment into the tidal wetland. All areas excavated or otherwise disturbed by machinery access or staging will be replanted and/or reseeded with native vegetation. Appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be considered. Implementation of this alternative is expected to have temporary impact on the existing ecosystem, which will require a comprehensive restoration program.

No institutional or engineering controls will be required with this alternative.

In addition, this alternative includes the abandonment of the four on-site monitoring wells according to NYSDEC CP-43, Groundwater Monitoring Well decommissioning policy.

Capital Cost: $2,100,000

Alternative 4: Soil Excavation to Achieve Residential Use SCOs

This alternative requires the removal and off-site disposal of all soil that exceeds residential use SCOs. Contaminated soil will be removed to varying depths, between the surface and six feet below grade across the majority of the site. An estimated 60-70 percent of the site surface will require excavation. Additional, pre-design sampling will be required to more accurately delineate the extent and depth of soil removal. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. Pursuant to NYSDEC DER-10, confirmation sampling will be conducted to verify that remedial action objectives have been achieved. Backfilling activities will not occur prior to receipt of confirmatory sample results. All samples will be sent to a NYSDOH-certified laboratory for analysis. Excavated soil will be disposed of off-site at a NYSDEC approved disposal facility.

Prior to excavation, the site will require extensive clearing and grubbing to remove the dense vegetation from the areas being excavated. Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. A clearing limit line will be established on plans to delineate the zones of vegetative clearing and limit encroachment into the tidal wetland. All areas excavated or otherwise disturbed by machinery access or staging will be replanted and/or reseeded with native vegetation. Appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be considered.

This remedial alternative conforms to the current zoning and intended future use of the site as single-family residential housing. Its implementation is expected to have temporary impact on the existing ecosystem, which will require a comprehensive restoration program.

No institutional or engineering controls, or site management will be required with this alternative.

In addition, this alternative includes the abandonment of the four on-site monitoring wells according to NYSDEC CP-43, Groundwater Monitoring Well decommissioning policy.

Capital Cost: $1,600,000

Alternative 5: Soil Excavation to Achieve Restricted Residential SCOs with Site Management

This alternative will achieve restricted residential use SCOs by excavating soil exceeding restricted residential use SCOs at select locations, and emplacement of a soil cover system over the remaining soil contamination. Soil removal will extend to a maximum depth of two feet below the surface. Additional, pre-design sampling will be required to more accurately delineate the extent and depth of soil removal. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. Pursuant to NYSDEC DER-10, confirmation sampling will be conducted to verify that remedial action objectives have been achieved. Backfilling activities will not occur prior to receipt of confirmatory sample results. All samples will be sent to a NYSDOH-certified laboratory for analysis. Excavated soil will be disposed of off-site at a NYSDEC approved disposal facility. Prior to excavation, the site will require moderate clearing and grubbing to remove the dense vegetation from the areas being excavated. Care will be taken throughout the remedial action process to protect the shoreline soils and vegetation from unnecessary disturbance. A clearing limit line will be established on plans to delineate the zones of vegetative clearing and limit encroachment into the tidal wetland. All areas excavated or otherwise disturbed by machinery access or staging will be replanted and/or reseeded with native vegetation. Appropriate actions such as erosion control and re-vegetation, consistent with the requirements of 6 NYCRR Part 661 will be considered.

An environmental easement and site management plan will be developed to restrict the site to a restricted residential use. The site management plan will include an excavation plan detailing provisions for management of future excavation in contaminated areas.

This remedial alternative is in conflict with current zoning and does not restore the site to the zoning approved use of single-family residential housing. Selection of this alternative will require that the controlling municipality rezone the property to prohibit a single-family residential land use. The restricted residential use SCO allows for the reasonably foreseeable use of the site as a waterfront park.

In addition, this alternative includes the abandonment of the four on-site monitoring wells according to NYSDEC CP-43, Groundwater Monitoring Well decommissioning policy.

Present Worth: *$353,000*
Capital Cost: *$315,000*
Annual Costs: *$2,500*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Rezoning to Commercial Use w/ Site Mgt.	0	2,500	60,000
Restoration to pre-disposal conditions	2,100,000	0	2,100,000
Soil Excavation to Achieve Residential Use SCO	1,600,000	0	1,600,000
Soil Excavation to Achieve Restricted Residential SCOs with Site Management	315,000	$2,500	353,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department has selected Alternative 4, Soil Excavation to Achieve Residential Use SCOs as the remedy for this site with a contingent remedy of Alternative 5. Alternative 4 would achieve the remediation goals for the site by removing all surface and subsurface soil where contamination exceeds residential use SCOs, and backfilling excavated areas with clean fill. The remedy conforms with current zoning which is single-family residential. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 5. There is strong public sentiment for use of the site as parkland. The Department has selected a contingent remedy that is consistent with the recreational use favored by the community, should the regulatory impediment (residential zoning) be changed. The contingent remedy is depicted in Figure 5 and is consistent with Alternative 5.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives along with input received at the public meeting. The criteria to which potential remedial alternatives were compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the RI/FS 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.

Alternative 1 (No Action) does not provide any additional protection to public health and the environment and will not be evaluated further.

Alternative 2 (Rezoning Site to Commercial Use with Site Management) satisfies this criterion by restricting future use of the site for commercial purposes.

Alternative 3 (Restoration to pre-disposal conditions), is protective of human health since it will remove all the contaminated soil from the site. However, the remedy and any ensuing development may have an adverse impact on the adjacent tidal wetlands.

Alternative 4 (Soil Excavation to Achieve Residential Use SCOs) is protective of human health since it will remove all soil from the site that exceeds residential use criteria. This satisfies the protection of the environment criterion by removing most of the contamination, but not all of it. It is protective of the environment to a lesser degree than Alternative 3.

Alternative 5 (Soil Excavation to Achieve Restricted Residential SCOs with Site Management) is protective of human health and the environment, by removing surface soil contamination and capping subsurface contamination with clean soil. While this alternative would achieve remedial action objectives, it is considered less protective of the environment than Alternative 3 or Alternative 4 which would entail more significant excavation programs.

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

No remediation is required for Alternative 2 to comply with SCGs. All that is required is that the Town of Oyster Bay be willing to change zoning regulations for the tax parcels comprising the site. The site has historically been used for commercial purposes, and it may not be unreasonable to change the current zoning from residential to commercial. Alternative 2 will not satisfy this criterion without a zoning change.

Alternatives 3, 4 and 5 all comply with SCGs through removal of contamination. Alternative 3 removes all contamination and therefore complies with unrestricted use SCOs. Alternative 4 removes most of the contamination and complies with residential use SCOs. Alternative 5 complies with restricted residential use SCOs through removal of contamination in the top two feet and construction of a limited cover system.

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

3. 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.

Long-term effectiveness is best accomplished by those alternatives involving removal of contamination (Alternatives 3, 4 and 5). Since Alternative 3 removes all soil contamination above standards, it has the greatest long-term effectiveness and permanence. Alternatives 4 and 5 which remove approximately 30% and 70% less soil and thus less of the contamination, respectively, satisfy this criterion to a lesser degree or with lower certainty.

Alternative 2 satisfies this criterion to a still lesser degree by leaving all contamination in place and relying on a land use restriction to achieve compliance.

4. 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.

Alternative 3 removes all soil contamination above unrestricted use SCO's, and best reduces the toxicity, mobility and volume of contamination at the site. Alternatives 4 and 5 which remove approximately 30% and 70% less soil and thus less of the contamination, respectively, satisfy this criterion to a lesser degree or with lower certainty.

Alternative 2 does nothing to reduce the toxicity, mobility or volume of contamination at the site.

5. Short-term Impacts and 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.

Alternative 2 is purely an administrative remedy, and as such, has no short-term impacts upon the community or environment.

Alternatives 3, 4 and 5 all involve removal of contaminated soil which requires operation of heavy construction equipment, trucking of wastes off-site, clean fill on-site, jobsite noise, possible odors and potential detrimental impacts to the on-site ecosystem. These impacts can be managed with engineering controls. Alternative 3 requires the most soil removal, and will result on highest level of truck traffic and jobsite noise. Under this alternative, the dense coastal vegetation will be removed across the site prior to soil removal, resulting in substantial impact to the on-site ecosystem.

Alternative 4 requires about 30% less soil removal than Alternative 3, and the attendant time and truck traffic should be similarly reduced. As soil excavation is expected to impact 60% - 70% of the site surface, disruption to the ecosystem will be only slightly less severe than with Alternative 3.

Alternative 5 includes soil removal in select areas exceeding restricted residential use SCOs within the top two feet of the site. Removal is expected to occur on only 20%-30% of the site, resulting in less impact to the ecosystem.

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.

Alternative 2 is easily implementable as it is a purely administrative remedy, provided the municipality concurs and takes the necessary administrative action. However, the municipality has indicated that it is not contemplating rezoning the site for commercial use.

Alternatives 3, 4 and 5 are all readily implementable, and can be accomplished using standard construction techniques. They are straight soil removal projects, differing mostly in the amount of soil being excavated. As such, Alternative 5 removes the least amount of soil and should be more easily implementable than Alternative 3 or Alternative 4. The deeper soil removal expected in Alternatives 3 and 4 may be hindered by the shallow on-site groundwater and influences of the tidal estuary, possibly preventing achievement of RAOs.

Alternative 5 additionally requires the local municipality to rezone the site to prohibit single-family residential housing (i.e., rezone the property to restricted residential use). The land is currently privately held which may complicate the rezoning process. It is reasonably foreseeable that the municipality may concur with this alternative if the site can be repurposed as a waterfront park. The town has indicated that it will not contemplate multi-family housing on the site.

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

The costs of the alternatives vary significantly. Alternative 2 has the lowest cost, but the contaminated soil is not addressed other than by institutional controls.

With its large volume of soil to be handled, Alternative 3 has the highest present worth cost, but the site would be restored to unrestricted use conditions. The cost to implement Alternative 3 may exceed the value of the property.

Alternative 4 achieves a land use consistent with current zoning, though the cost to implement it may exceed the value of the property. Efforts to restore the on-site ecosystem may be counter-productive if the site was to be developed.

Alternative 5 achieves public health and environmental protection with the lowest present worth cost. It is by far the most cost effective of the soil removal alternatives.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The intended future use of the site, based on zoning, is single-family residential. Due to the fact that the majority of the site lies in the 100-year flood plain, it will require substantial investment to become fit for such development. It is not the Department's intention to improve the property for future development, only to remediate the contamination to the extent feasible.

The Department has noted strong public support for the site to be left as natural open space or developed into parkland for recreational use. These potential future uses are included in the discussion below.

Alternative 2 restricts the site to non residential uses (i.e., commercial and industrial purposes). Single-family and multi-family housing would be prohibited. Passive recreational use, such as walking on designated trails, bird watching and canoeing, would be allowed. Active recreational uses such as picnicking and exploring would be prohibited due to potential contact with contaminated surface soil. This alternative is in conflict with current zoning.

Alternative 3 restores the site to pre-release conditions, but at significant cost both monetarily and environmentally. The destruction of habitat only to then restore it is undesirable. This alternative places no use restrictions on the property and conforms with zoning.

Alternative 4 allows for residential, restricted residential, commercial or industrial use of the site, and conforms with current zoning. Similar to Alternative 3, it impacts much of the existing habitat, only to require restoration. It surpasses the cleanup objectives necessary for open space or recreational use of the site.

Although Alternative 5 does not conform with current zoning, remediating the site to the restricted residential SCOs would allow for recreational, restricted residential, commercial or industrial use of the site, should the municipality move to rezone the property. This alternative would also allow for both active and passive recreational use of the site, or use as natural open space. With the select removal of contaminated soil, restoration of the coastal vegetation and rezoning, the site could cost-effectively be repurposed as parkland.

The final criterion, Community Acceptance, 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.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP were evaluated. A responsiveness summary was prepared that describes public comments received and the manner in which the Department addressed them. There is strong public sentiment for use of the site as parkland and the Department has selected a contingent remedy that is consistent with this use should the regulatory impediment (residential zoning) be changed. Alternative 4 with a contingency of Alternative 5 has been selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

USGS Quadrangle data Copyright:
© 2009 National Geographic Society, i-cubedxt
USGS Quad ID: 40073-H5
Quad Name: Bayville, New York
Revision Date: 1967
Publish Date: 1968
Photorevised: 1975

0 1,000 2,000 4,000 6,000 8,000 Feet

1 inch = 2,000 feet

N

Figure 1
Site Location
Former Mill Neck Marina Site
Hernan Avenue
Locust Valley (Oyster Bay), New York
HRP # NEW9626P2
Scale 1"=2,000'

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www.hrpassociates.com

Path: S:\Data\NNEWEN - NY STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\MILL NECK MARINA, HERNAN AVEUNE, OYSTER BAY, NY\NEW9626P2\GIS\Site Location.mxd

N

Mill Neck Marina (Class 2 Site)

Foot of Hernan Avenue
Locust Valley, NY 11560
Town of Oyster Bay, Nassau County

Site Map

Figure 1a
02/19/14
RKC

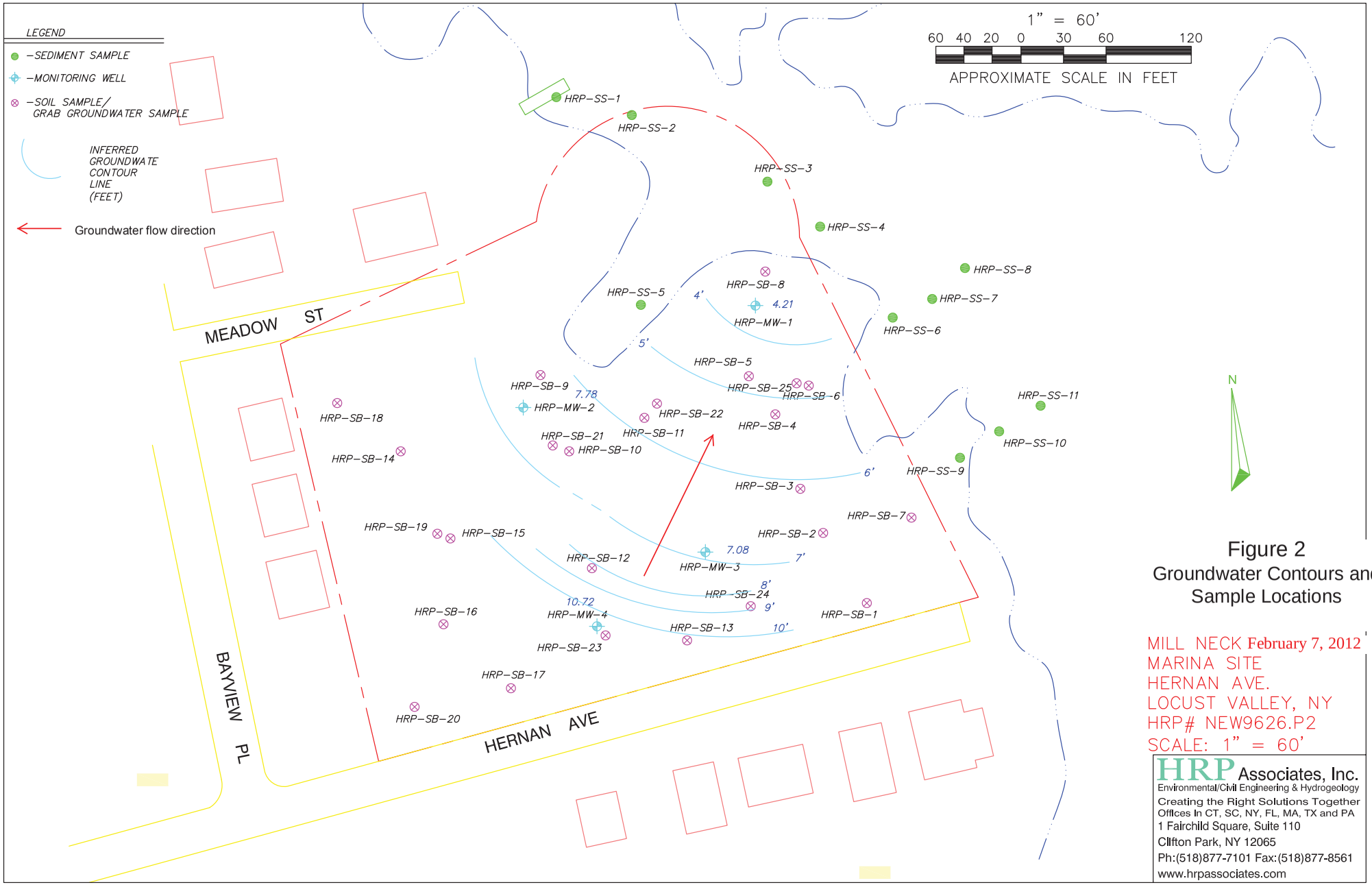

Figure 2
Groundwater Contours and Sample Locations

MILL NECK February 7, 2012
MARINA SITE
HERNAN AVE.
LOCUST VALLEY, NY
HRP# NEW9626.P2
SCALE: 1" = 60'

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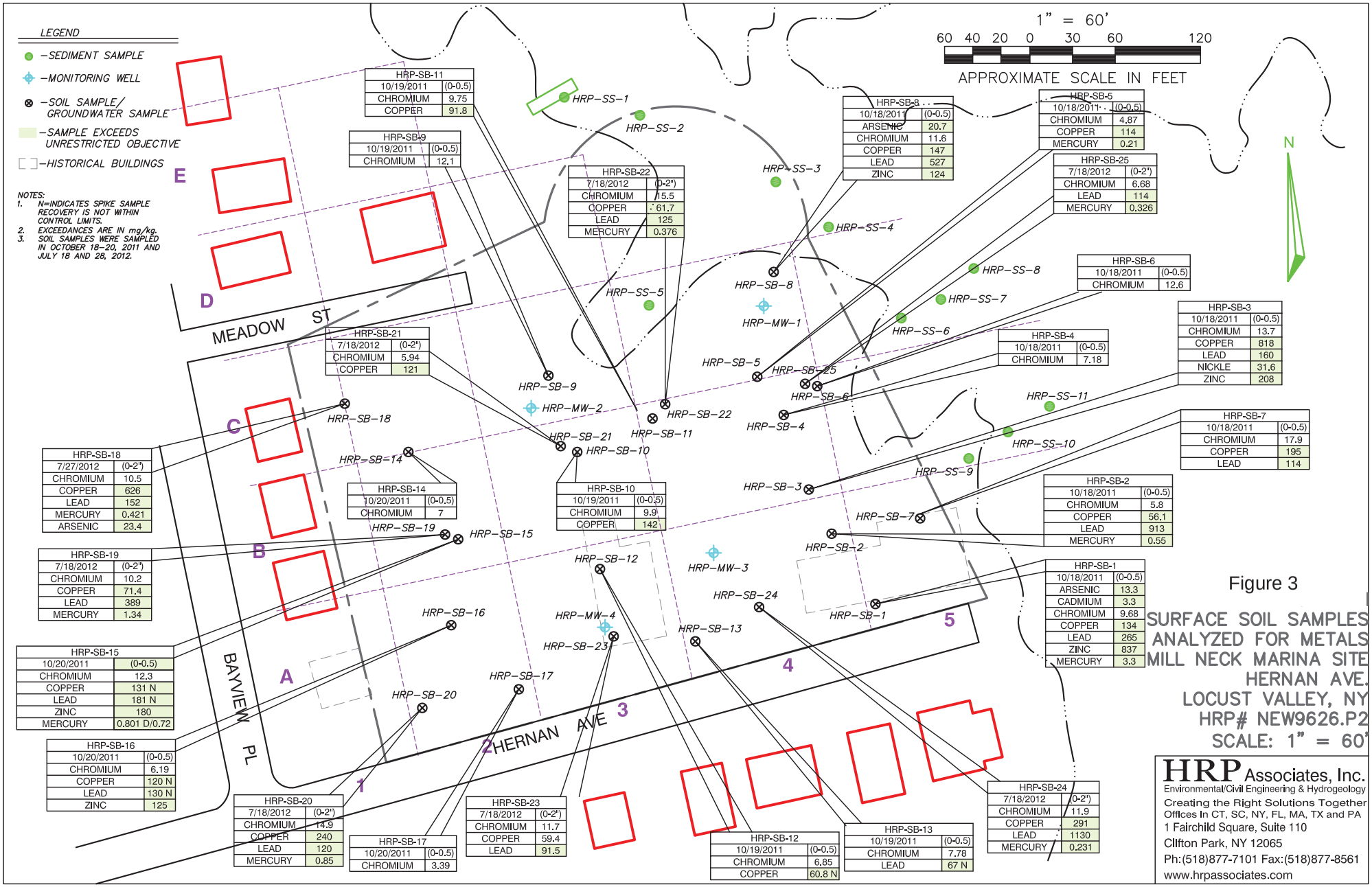

Figure 3

SURFACE SOIL SAMPLES ANALYZED FOR METALS
MILL NECK MARINA SITE
HERNAN AVE.
LOCUST VALLEY, NY
HRP# NEW9626.P2
SCALE: 1" = 60'

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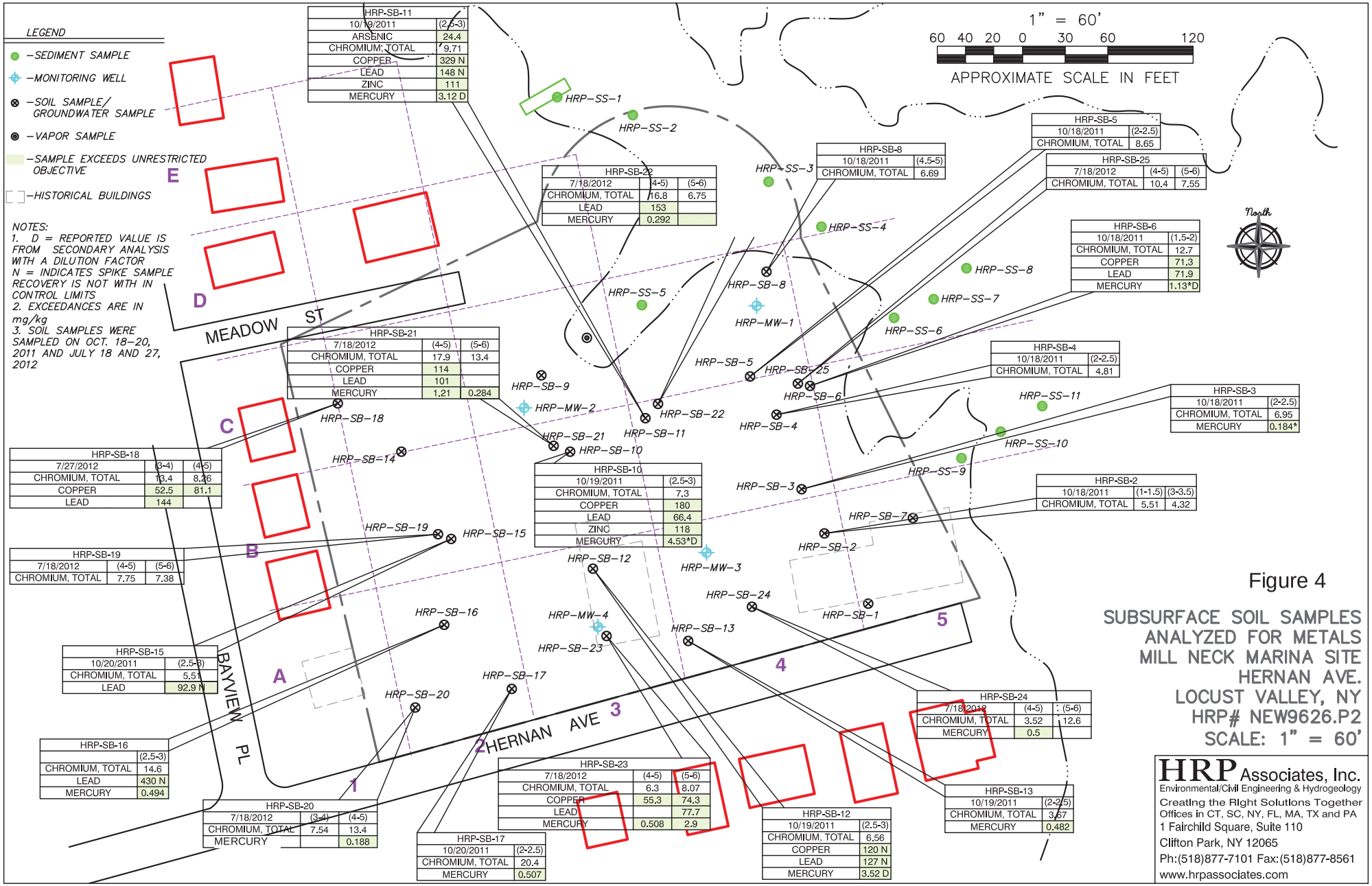

Figure 4

SUBSURFACE SOIL SAMPLES ANALYZED FOR METALS
MILL NECK MARINA SITE
HERNAN AVE.
LOCUST VALLEY, NY
HRP# NEW9626.P2
SCALE: 1" = 60'

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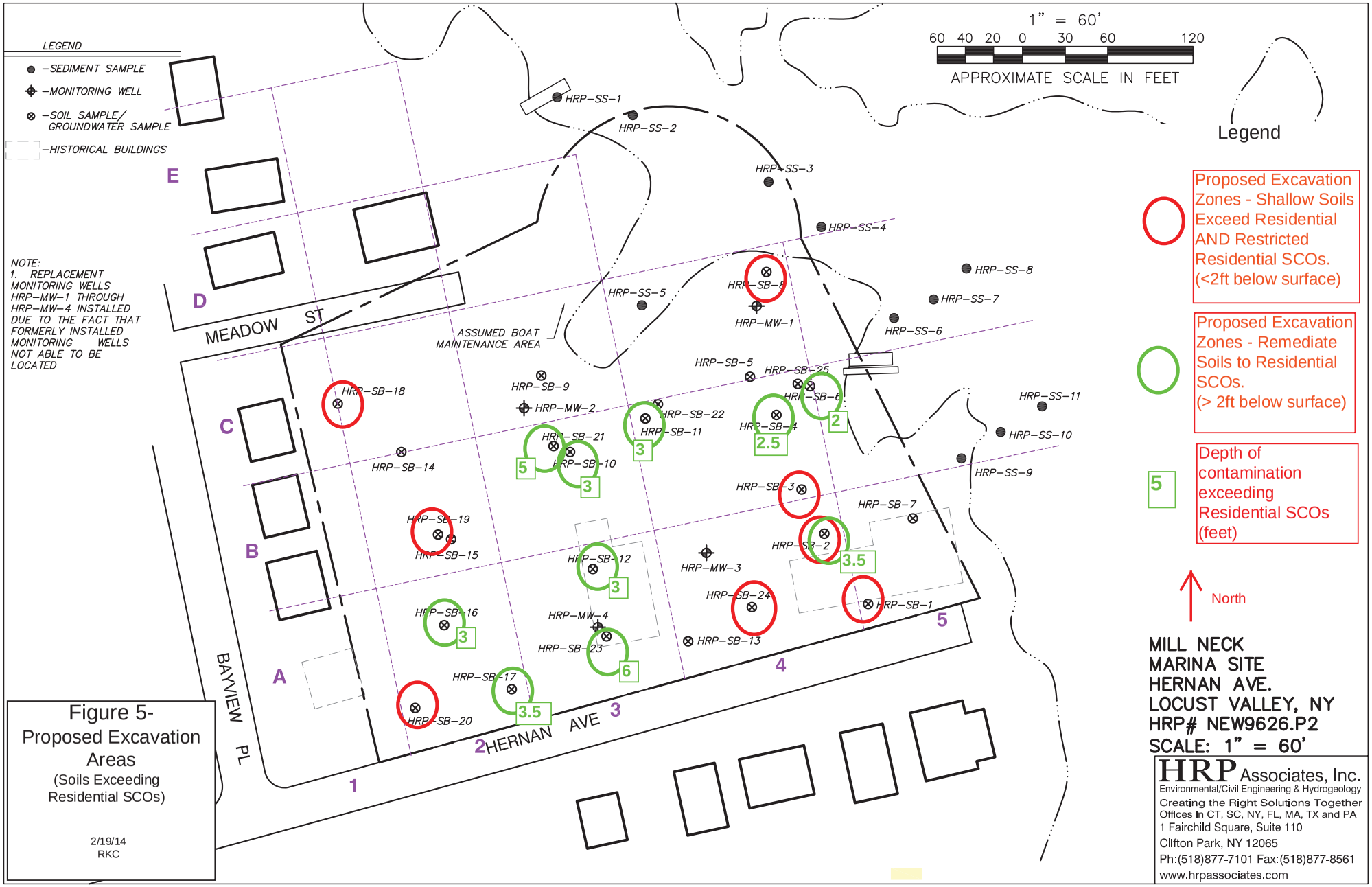

Figure 5-
Proposed Excavation Areas
(Soils Exceeding Residential SCOs)

2/19/14
RKC

S:\Data\NEW9626P2\CAD\FS FIGURES – FIGURE 2 – SAMPLE LOCATIONS.dwg, 11X17 LANDSCAPE, 7/29/2013 2:53:42 PM, Adobe PDF
NY\NEW9626P2 – NY STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\MILL NECK MARINA, HERNAN AVENUE, OYSTER BAY,

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Mill Neck Marina
State Superfund Project
Locust Valley, Nassau County, New York
Site No. 130166

The Proposed Remedial Action Plan (PRAP) for the Mill Neck Marina site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 21, 2014. The PRAP outlined the remedial measure proposed for the contaminated soil and sediment at the Mill Neck Marina site.

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

A public meeting was held on March 3, 2014, which included a presentation of the remedial investigation feasibility study (RI/FS) for the Mill Neck Marina as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 24, 2014.

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

COMMENT 1: Who paid for the investigations?

RESPONSE 1: The Remedial Investigation/Feasibility Study was paid for by the State Superfund.

COMMENT 2: Who is paying for the cleanup?

RESPONSE 2: Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers. After the remedy is selected, the Department will approach the PRPs to implement the selected remedy. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

COMMENT 3: Strong public sentiment exists for this site to be turned into a waterfront park to include canoeing, kayaking, birding, fishing, picnicking, exploring and swimming.

RESPONSE 3: The property is currently privately owned and zoned for single-family residential housing. The Department has selected a remedy to conform to the residential use soil cleanup objectives (SCOs), which would allow for any of the recreational uses identified above, should the community's desire for a recreational use of the property be realized. However, the recreational uses for the site discussed at the public meeting would be considered active recreational use, which would be allowed

under a restricted residential use cleanup. Swimming would not be prohibited under the restricted residential SCOs, but may be prohibited by local ordinance for other reasons. Alternative 5 discusses restricted residential use.

COMMENT 4: Could the site be remediated to a standard other than residential use and still allow recreational use? Could it be remediated to an open space standard?

RESPONSE 4: The Department does not have a soil cleanup objective for "an open space standard." The selected cleanup objective must conform to and be consistent with current zoning and the anticipated use of the property. As noted in Response 3, a restricted residential use remedy would allow recreational use. However, the Department is prohibited by Part 375-1.8(g)(5) from selecting a remedy for a more restricted use (e.g., restricted residential) than that allowed by the current zoning of the site However should a change in zoning be enacted, or it is shown to the Department's satisfaction that a zoning change is being or will be sought, the Department may approve a remedy for the intended use, provided the change in zoning is in effect before the project is issued a certificate of completion. Thus the site may be remediated to a more restrictive standard than residential, such as restricted residential or commercial, but the controlling municipality must first rezone, or agree to rezone, the property appropriate to the more restrictive cleanup objective. The Town of Oyster Bay has a "recreational" zoning designation which would allow for a lesser cleanup standard, without allowing for residential or commercial development.

COMMENT 5: How did Superstorm Sandy impact this property? Where was the flood line?

RESPONSE 5: Meeting attendees, who saw it first hand, stated that floodwaters due to Superstorm Sandy largely inundated the site and some nearby residential properties.

COMMENT 6: Nobody knew about this meeting. We received no mailings. I only found out about this meeting last night and went through the neighborhood asking people what they knew about this**.**

RESPONSE 6: The Department is committed to informing and involving the public during the investigation and cleanup of contaminated sites being addressed under the State's various remedial programs. However, the Department has stopped sending routine notices via mail and encourages signup to the Department's listserv system. As a listserv member, you will periodically receive site-related information/announcements for all contaminated sites in the counties you select. Those on the site mailing list were previously notified of this change and encouraged to sign up for the email notifications. Listserv members were notified 10 days before this meeting. Signup is available at: http://www.dec.ny.gov/chemical/61092.html.

COMMENT 7: If the property is privately owned, why are we using tax dollars to clean it up?

RESPONSE 7: See Response 2**.**

COMMENT 8: Can we get Sandy money to fix flooding at this site?

RESPONSE 8: Governor Cuomo created the Office of Storm Recovery in June 2013 to centralize recovery and rebuilding efforts in storm-affected municipalities throughout New York State. In close

collaboration with local and community leaders in these areas, the Office is working to respond to communities' most urgent rebuilding needs while also identifying long-term and innovative solutions to strengthen the State's infrastructure and critical systems for the future. New York Rising programs include: 1) the Housing Recovery program, which provides homeowners with assistance for home repairs/rehabilitation, mitigation and elevation, and buyouts; 2) the Small Business program, which includes small business grants of $50,000 or more and low-interest loans for businesses recovering from the storms; and 3) the Community Reconstruction Program, which provides assistance through a community-driven initiative to develop distinct comprehensive recovery plans which increase resilience and economic development in the regions affected by these three storms. Zach Richner, of the Governor's Office of Storm Recovery is the local contact. He can be reached at tel: 646-410-3042 or by email:zrichner@stormrecovery.ny.gov.

COMMENT 9: If the remedy that is selected after the comment period ends is the one that would allow for residential use, how can we change that if it is not the use that the community wants to see for this site? What is the process for changing the selected remedy?

RESPONSE 9: As noted in Response 4, should a decision to change the site zoning from single family residential be made or be underway, the ROD includes provision for an alternate, less intrusive and costly remedy. That remedy, Alternative No. 5, would also be protective of public health and the environment and would be based on a restricted residential use scenario which also allows for park-related activities. This approach will leave some soil contamination in place to be managed by the site management plan.

COMMENT 10: What is the mechanism for some other entity (town, county, state) to acquire the property and then clean it up?

RESPONSE 10: Any other entity acquiring the property who wanted to clean it up would have to do so under an Order on Consent or other agreement with the Department, and would have to implement the cleanup in accordance with the provisions of this ROD.

COMMENT 11: There is a dilapidated bulkhead on this property. Will it be removed as part of the cleanup process?

RESPONSE 11: The bulkhead has not yet been evaluated for stability, so the extent of any work related to the bulkhead that may be required to implement the remedy is not yet defined. The Department will not intentionally improve property to benefit landowners. Any work on the bulkhead will be limited to what may be necessary to ensure the remedy remains effective and is protective of public health and the environment.

COMMENT 12: If a new dock is built in this area would that stir up any of the contaminated sediments in the area?

RESPONSE 12: Building a new dock in this area will likely stir up sediments and would create a potential for exposure to site related contaminants in the sediment during dock construction. However, the potential for exposure to contaminants at concentrations that would result in adverse health effects is

not expected. Steps would be taken during the construction of a new dock to reduce potential exposures to contaminants and if necessary, these design elements would be addressed in the remedial design plan.

COMMENT 13: What is the likely time frame for a sale agreement on this property?

RESPONSE 13: Unknown. The Department has no involvement in the potential sale of this property.

COMMENT 14: How is the cost estimate for cleanup calculated? What is included in this cost estimate?

RESPONSE 14: The estimate for cleanup is calculated based on the estimated extent of contaminated soil requiring removal. Costs for excavation, trucking and disposal of the soil, design and engineering costs, additional sampling, erosion control, wetland protection and restoration costs are included in the estimate.

COMMENT 15: This site was a commercial enterprise, but now the site is classified as residential for zoning purposes. When was this classification changed?

RESPONSE 15: The Department's information is that the zoning has been residential. We believe that the marina operated as a non-conforming use.

COMMENT 16: The Town of Oyster Bay and DEC should sit down and determine what the final use for this property will be before a remedy is chosen.

RESPONSE 16: Zoning is a local issue and the Department has no jurisdiction over the final use of this property. We are required to select a remedy that is consistent with zoning. Also see Response 4.

COMMENT 17: Does the property have to be rezoned for different alternatives to be considered by DEC?

RESPONSE 17: See Response 4.

COMMENT 18: 10. Does rezoning have to happen first before we consider changing the selected remedy?

RESPONSE 18: See Response 4.

COMMENT 19: People seem to prefer that this land become a park. Is it possible to negotiate with the owner of this property so we can come up with the option that the people want for this land?

RESPONSE 19: See Response Nos. 3, 4, 9 and 10.

COMMENT 20: If the zoning is changed so that the remedy may become the least expensive cleanup standard, what type of future use can people expect to have at this site? Would they be able to swim, or would they just have to come in and stand and look at the park?

RESPONSE 20: See Response 3 regarding park uses. Relative to swimming, if the area is not a designated bathing beach, any swimming would be at the risk of the swimmer.

COMMENT 21: If the town purchased the property to become a park, would the cleanup standard be restricted residential?

RESPONSE 21: See Response Nos. 3 and 9.

COMMENT 22: What is the construction time frame for doing this work once the remedy is chosen? In addition, you should keep in mind that children live near this area. How will they be protected during the construction process?

RESPONSE 22: The remedy should be completed in one construction season. There will be site controls implemented during remediation to protect people living adjacent to the site. The site will be considered a construction site, and public protection measures typical of a construction site (e.g., fencing, signage, and limited hours of operation) would be needed, as well as enhanced controls such as a Community Air Monitoring Plan detailing air monitoring and dust control measures.

COMMENT 23: Have you done any testing of adjacent properties?

RESPONSE 23: No. The site contamination was fully delineated within the site property and there is no evidence that contaminants have migrated off-site to adjacent residential properties. Due to the fact that the elevation of the site is lower than surrounding properties, it is unlikely that site related contaminants could have migrated to neighboring properties.

COMMENT 24: The paper road on this site was blacktopped. When construction traffic comes in, this road may be impacted. Would you restore this road to its current condition once the excavation work is finished?

RESPONSE 24: This comment refers to the town road right-of-way present on the site which is being used and was partially paved by an adjacent property owner for the parking of personal vehicles. In general, sites are restored to the condition prior to remediation unless the site owner requests otherwise.

COMMENT 25: The best option would be to make this land parkland and just leave it as it is.

RESPONSE 25: Comment noted. This site was determined to present a significant threat to human health and the environment. The Department is required to select a remedy that is in conformance with local zoning.

COMMENT 26: This site has shallow groundwater. What impact does this shallow groundwater have on the plans to remediate the soil contamination? What do you do if it is found that the groundwater is preventing you from reaching your cleanup goals?

RESPONSE 26: If the selected remedy cannot be fully implemented due to technical issues such as shallow groundwater, an evaluation will occur to determine if the remaining levels are protective of human health and the environment and/or if addition remedial measures are needed.

COMMENT 27: How much did the remedial investigation cost?

RESPONSE 27: The remedial investigation cost was approximately $160,000.

COMMENT 28: I agree with your current plan for remediation of the Mill Neck Marina and feel it should not be delayed pending a zoning change and the property should be remediated for residential use. However, if a zoning change can be made in a reasonable amount of time, then I am in favor of remediation to achieve restricted residential use.

RESPONSE 28: Comment noted. Also see Response Nos. 3, 4, 9 and 10.

COMMENT 29: How do comments impact the decision making process?

RESPONSE 29: Comments are welcome and encouraged. Questions, comments and responses received were compiled into this "responsiveness summary" which is included in the Record of Decision. Comments frequently offer ideas which are incorporated in the final decision. For example, see Response 3.

COMMENT 30: Is the cost estimate for cleaning this site carved in stone? How much can it vary?

RESPONSE 30: The estimate was based on information available during the investigation. Guidance for developing cost estimates indicate that actual costs should be within 30% of the estimates.

COMMENT 31: (From principal owner of part of the site) I'm willing to pay within limits to clean this property up. I do not have to build homes at this site. I'm willing to pay for this cleanup if the Town of Oyster Bay is willing to buy the property for a fair price.

RESPONSE 31: Comment noted.

COMMENT 32: If the site does not require remediation to achieve commercial use standards, why then is it a Class 2 hazardous waste site?

RESPONSE 32: The site was deemed a Class 2 Inactive Hazardous Waste Disposal Site because it presents a significant threat to human health and the environment due to elevated levels of heavy metals in on-site soils and the potential for contamination in the sediments and groundwater. The goal of the Inactive Hazardous Waste Disposal Site Program is to return a site to pre-release (unrestricted) levels, to the extent feasible. While the nature and extent of the contamination is probably less than what was expected, remediation is still required for the intended use (as required by zoning), as well as the possible recreational use desired by the community.

An email was received March 20, 2014from Mr. Harvey Weisman, one of the property owners, with the following comment:

COMMENT 33: I own 2 of the parcels that make up the Mill Neck Bay Marine property. It's rather obvious that the local Civic Association want a public park. I have conducted discussions with the

town regarding purchasing to buy the property from me and the heirs to the other parcels. Working under the assumption that this is the path they decide to take I was wondering if you would consider paving part of the property for parking for park users. Paving would cap that area and then there wouldn't be any concern of dust from that small part of the property and lower the total cost of cleanup to a more affordable number.

RESPONSE 33: Unless the zoning is changed, the remedy is to remove all soil exceeding the residential SCOs, and there will be no restrictions on the site. If the zoning is changed and the contingent remedy is implemented, installation of pavement over some surface areas would satisfy the restricted residential SCOs, if consistent with the intended use of the site as a park. The party implementing the remedy may consider use of pavement during the remedial design. Also see Response Nos. 3, 4 and 9.

A letter dated March 24, 2014 was received from Friends of the Bay which included the following comments:

COMMENT 34: Throughout the years Friends of the Bay has maintained that, for a multitude of reasons, this site is completely inappropriate for residential development.

RESPONSE 34: Comment noted.

COMMENT 35: Four of the contaminants detected at this site (arsenic, PCBs, lead, and mercury) are on the World Health Organization's list of top Ten Chemicals of Major Public Health Concern and every effort must be made to keep them from entering the food chain in this estuary.

RESPONSE 35: Soil contamination will be removed or covered under the selected remedy. The evaluation conducted by DEC Fish Wildlife and Marine Resources staff concluded that that removal of sediments would cause more damage to the tidal ecosystem than leaving them in place.

COMMENT 36: Section 6.3 of the PRAP states "Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01." We strongly disagree with this assessment and urge reconsideration. Environmental impact should be of primary concern and no matter what the intended use, every effort should be made to ensure that these contaminants do not migrate into the bay and onto our dinner tables.

RESPONSE 36: See Response 35.

COMMENT 37: … we feel that any assessment of this site that does not include a Fish and Wildlife Resources Impact Analysis (FWRIA) is incomplete and request that this analysis be performed prior to any final determination on the Remedial Action Plan.

RESPONSE 37: While a formal FWIA was not conducted, DEC's Division of Fish Wildlife and Marine Resources reviewed the project documents and concluded that removal of sediments would cause more damage to the tidal ecosystem than leaving them in place.

COMMENT 38: In addition, there is a dilapidated sea wall on the property that should be removed. This wall is likely to be treated with hazardous materials that continue to leach into the soil and bay as well as constituting a physical hazard to anyone exploring the property. The wall also is evidence of the fact that this site is previously filled wetland and as such, completely inappropriate for development.

RESPONSE 38: See Response 11.

COMMENT 39: At the public meeting, it was indicated that the DEC was unaware of the additional fill and had not considered the removal of the seawall. It is likely that additional analysis will be needed. We would implore you to perform the additional analysis, including the FWRIA, as soon as is possible. This site has remained contaminated for far too long and it has taken us fourteen years to get to this point.

RESPONSE 39: The Department believes that the full nature and extent of site contamination has been defined. However, additional pre-design sampling will be conducted to confirm it. See Response 38 regarding the FWIA.

COMMENT 40: In the end the only Remedial Action Plan that makes sense, is one that will protect this National Wildlife Refuge and remove all contaminants to the extent practicable. We will have only one opportunity to get this right and the additional costs are small when we consider the stakes.

RESPONSE 40: Comment noted. The selected and contingent remedies are protective of human health and the environment and represent appropriate remedies considering the remedy selection criteria.

APPENDIX B

Administrative Record

Administrative Record

Mill Neck Marina
State Superfund Project
Locust Valley, Nassau County, New York
Site No. 130166

1. *Proposed Remedial Action Plan for the Mill Neck Marina site*, dated February 2014, prepared by the Department.

2. Referral Memorandum dated May 20, 2010 for RI/FS.

3. *"Remedial Investigation Report and Feasibility Study,"* February 2014, prepared by HRP Associates, Inc.

4. Email correspondence dated March 20, 2014 from Mr. Harvey Weisman, one of the site property owners.

5. Letter dated March 24, 2014 from Paul DeOrsay, Executive Director and Barry Lamb, President, Friends of the Bay.