PROPOSED REMEDIAL ACTION PLAN

Suffolk Airport Canine Kennel
State Superfund Project
Westhampton Beach, Suffolk County
Site No. 152079
February 2015

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing 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 proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred 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, a class 2 site. The New York State Brownfield Cleanup Program (BCP) is a voluntary program, which allowed class 2 sites such as this one to enter the program prior to July 1, 2005. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields". A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant. This site is designated as both a State Superfund site and a BCP site, and this plan is intended to serve as the remedial decision document for both programs.

The Department has issued this document in accordance with the requirements of 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. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

A public comment period has been set from:

2/10/15 to 3/27/15

A public meeting is scheduled for the following date:

3/4/15 @ 7:00 PM

Public meeting location:

Westhampton Public Library
7 Library Avenue,
Westhampton Beach, NY 11978

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through to:

Heather L. Bishop
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
Heather.Bishop@dec.ny.gov

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

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:
This approximately one acre Formerly Used Defense Site (FUDS) is located in a remote area of the Suffolk County (Gabreski) Airport near the eastern property line in Westhampton Beach, Town of Southampton.

Site Features:
The former dog kennel and small abandoned building were associated with the former Suffolk County Air Force Base and have been torn down. An irregularly-shaped excavation pit approximately 0.5 acres in size is present south of the kennel.

Current Zoning/Uses:
The property is currently zoned for light industrial use and is a portion of the Francis S. Gabreski Airport. The airport is located within the Core Preservation Area of the Central Pine Barrens. Since the Canine Kennel site is within the Core Pine Barrens Area, development is prohibited and the site will remain undeveloped. The area adjacent to and west of the site is occupied by a boat storage facility. Further west are runways and support buildings for the airport, as well as the 106th Rescue Wing of the New York Air National Guard (NYANG). Immediately north and south of the site are undeveloped areas of the airport. The Quogue Wildlife Refuge is located approximately 1,200 feet to the east of the site.

Past Use of the Site:
In 1943, the federal government built the airport for use as an Air Force base during World War II. After the war, it was given to Suffolk County, however in 1951, the airport was reclaimed for the Korean War National Emergency. In 1960, the US Air Force used the site for an Air Defense Command Base, which was deactivated in 1969, then released back to Suffolk County in 1970. During deactivation activities (Spring 1970), the Suffolk County Air Force Base used the Canine Kennel Area to bury inert wastes, such as office furniture. The site was also used for the disposal of polychlorinated biphenyl (PCB) containing electrical distribution equipment such as transformers and capacitors.

The site was classified as a Class 2 State Superfund site in February 2002. The US Army Corps of Engineers was unable to respond in a timely manner due to limited funding under FUDS program. In 2005, a Brownfield Cleanup Program (BCP) application was submitted by Suffolk County. The application was approved and the agreement was signed in 2006 (ID # C152079). Under the BCP, Suffolk County completed the remedial investigation in 2008 and the alternatives analysis in 2014.

Site Geology/Hydrogeology:
The aquifer of concern at the former Canine Kennel site is the Upper Glacial aquifer which is an unconsolidated mixture of sand and gravel. Based upon measurements obtained from the site monitoring wells, local groundwater flow direction is to the east-southeast. Depth to groundwater ranges from approximately 9.5 to 14.5 feet bgs

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 commercial use (which allows for industrial use) as described in Part 375-1.8(g) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation 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:

United States Department of Defense

The PRP for the site was unable to implement a remedial program under the Formerly Used Defense Site (FUDS) program when requested by the Department due to funding constraints. Therefore, Suffolk County opted to apply to address the site under the Brownfield Cleanup Program. Suffolk County is deemed a Volunteer under the Brownfield Cleanup Agreement. If the Volunteer fails to implement the selected remedy, the PRPs will again be contacted to assume responsibility for the remedial program. 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

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:

PCB OIL PCB-AROCLOR 1254

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

- soil

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.

An IRM was implemented by Suffolk County Health Services (the BCP applicant) at the adjacent boatyard and former capacitor area locations at the Former Canine Kennel. Soils were removed to a depth of one foot bgs in the vicinity of former capacitor locations where PCB concentrations exceeded 1000 ppm. Where removals occurred, residual levels were generally below 1 ppm (the Residential Use Soil Cleanup Objective). For example, endpoint samples collected from capacitor locations CA-2 and CA-3 were below the 1.0 ppm for PCBs, while the endpoint sample from capacitor location CA-1 only slightly exceeded the NYSDEC RUSCO (1.2 ppm). The offsite IRM in the boatyard achieved 1 ppm in all samples. The IRM was completed in April 2013 IRM excavation activities within the boatyard and capacitor locations generated a total of 227.23 tons of PCB contaminated soils. Excavated soils were transported by a licensed waste hauler, and disposed of at CWM Chemical Services LLC in Model City, New York. (See Figure 3 showing endpoint sample locations.) Backfill imported to return excavated areas to the original grade met Residential Use Soil Cleanup Objectives.

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.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 01, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

Soil-

Soil samples were analyzed in 1996 and again in 2000 for pesticides/PCBs, volatile organic compounds, semi-volatile organic compounds, and metals. Only PCBs were found at levels exceeding unrestricted use SCOs. During the Remedial Investigation, one PCB compound, Aroclor-1254, was detected in 59 soil samples at concentrations exceeding 1.0 part per million (ppm). The two highest detections of Aroclor-1254 were reported in samples from the capacitor areas (86,000 ppm, and 4,200 ppm). This contamination is attributable to the suspected old capacitor dump areas which are in close proximity to these sampling locations.

PCBs are present in surface and subsurface soils at the site. PCBs were detected in surface soils immediately adjacent to the site's west property boundary (Boatyard) and in a small area to the east of the site. The spread of PCBs within the surface soils at the site is likely a result of physical processes including wind dispersion and localized surface runoff of PCB-contaminated soils. In addition, the spread of PCB-contaminated soils may have occurred during disposal activities and movement of heavy equipment and soils during the early 1970s. Based upon site topography widespread dispersion of PCBs by overland flow is unlikely.

Groundwater-

Groundwater sampling was performed in 2008. Samples were collected from the six monitoring well locations (MW-1 through MW-6). MW-1 is located up-gradient and MW-2 through MW-6 are located downgradient of the site. In accordance with the Remedial Investigation Work Plan, samples were collected utilizing low-flow purging and sampling. Pesticides and PCBs were not detected in any of the groundwater samples. These results indicate that PCBs detected in site soils have not impacted the groundwater.

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.*

The site is completely fenced, which restricts public access, however, persons who enter the site could contact contaminants in the soil by digging, walking on or otherwise disturbing the soil. Measures taken on an adjacent property has eliminated the potential for contact with site-related contaminants in soil.

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.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

SECTION 7: SUMMARY OF THE PROPOSED 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 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 proposed remedy is set forth at Exhibit D.

The proposed remedy is referred to as the Excavation and Cover remedy.

The estimated present worth cost to implement the remedy is $622,000. The cost to construct the remedy is estimated to be $545,000 and the estimated average annual cost is $100,000.

The elements of the proposed remedy are as follows:

1. 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-
This remedy includes the excavation and proper off-site disposal of soils from the site in excess of a site specific soil cleanup objective (SCO) of 10 ppm for total PCBs in the subsurface and 1 ppm for surface soil. (See Figure 5.) The area to be excavated for off-site disposal is estimated to

be approximately 4,720 square feet, and up to 4.5 feet total depth (total volume of approximately 7,470 cubic feet or 277 cubic yards). 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.

3. Site Cover-
A site cover will be required to allow for commercial use of the site. The cover will consist of a soil cover in areas where the upper one foot of exposed surface soil will exceed the SCO of 1 ppm for total PCBs. Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil 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). The Excavation and Cover alternative also meets the requirements for a presumptive remedy for PCB impacted soils as specified in Section I of NYSDEC Commissioner's Policy CP-51 (October 2010).

4. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner 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 commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

- prohibits agriculture or vegetable gardens on the controlled property; and

- requires compliance with the Department approved Site Management Plan.

5. Site Management Plan
A Site Management Plan is required, which 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 in Paragraph 4 above.
   Engineering Controls: The soil cover discussed in paragraph 3 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;
- Descriptions of the provisions of the environmental easement including any land use restrictions

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.

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. 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.

Sampling conducted at the site indicates that the source of PCB contamination is the disturbed area (disposal area) located along the western portion of the site. PCB-containing equipment, historically reported to be disposed in this area, was identified and removed during the RI investigation. Both historical and RI soil sampling events at the site have detected PCB concentrations above NYSDEC Restricted Use Soil Cleanup Objectives (RUSCO).

In one test pit (TP-4), located in the historical disposal area, suspect PCB-containing capacitors were identified at approximately 6.5 feet below ground surface (bgs). The amount of metal debris within this main disposal area (metal lockers, hot water heaters, scrap metal, etc.) prevented identification of individual metallic objects during the geophysical survey.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the site.

The following section describes the investigation techniques used to determine the nature and extent of contamination identified at the subject property.

Based upon the site history and previous investigations the identified contaminants of concern (COCs) at the site are PCBs.

Soil analytical results were compared to the restricted use soil cleanup objectives (RUSCOs) specified in Table 375-6.8(b) of 6 NYCRR Part 375.

Groundwater analytical results were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQS) for Class GA groundwater, as specified in Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values on Groundwater Effluent Limitations, June 1998. Pesticides and PCBs were not detected in the groundwater samples collected from the six on-site monitoring wells. Based upon the local groundwater flow direction, MW-1 (see figure 2) is located hydraulically upgradient and MW-2 through MW-6 are located downgradient of the PCB-contaminated soil

area. These results indicate that PCBs detected in site soils (Aroclor-1254 and Aroclor-1260) have not impacted the groundwater.

Certain waste/source areas identified at the site were addressed by the IRM(s). The remaining waste/source area(s) identified during the RI will be addressed in the remedy selection process.

An IRM was implemented at the boatyard and former capacitor area locations by Suffolk County at the Former Canine Kennel at Francis S. Gabreski Airport. Soils were removed to a depth of one foot bgs in the vicinity of former capacitor locations.

Soil

In November 2008, a Remedial Investigation (RI) at the former Canine Kennel site was performed. The investigation consisted of a geophysical survey, soil and groundwater sampling, test pit excavations and the removal of identified capacitors suspected to contain PCBs.

Geophysical and test pit investigations confirmed that the area of disposal was limited to the western/central portion of the site adjacent to the fence line and boatyard.

The PCB Aroclor-1254 was detected in soil samples ranging in depth from 0-2 inches below ground surface (bgs) to approximately 8.5 feet bgs. Sixty soil samples had concentrations of Aroclor-1254 above the Residential Use Soil Cleanup Objective (RUSCO) of 1.0 ppm ranging from 1.1 to 86,000 ppm (directly underneath one of the removed capacitors). Surface soil samples showed the largest area of impact (across the western and central areas of the site). PCBs were also detected at concentrations greater than the RUSCO in surface soils within the unpaved eastern portion of the adjacent boatyard. Spread of PCBs within surface soils at the site was determined to likely be a result of physical processes, including localized surface runoff of PCB-contaminated soils from the on-site disposal area westward following the surface topography. PCBs in the 2.0-2.5 feet depth samples were limited to the western central area of the site and coincide with the main area of existing debris and the former capacitor locations. Three isolated areas of impact at depths of 4.0 feet bgs or greater were also identified, two of which coincided with the main area of debris and the former capacitor locations. A third area was identified northeast of the capacitor locations. No pesticides were detected at concentrations exceeding Residential Use SCOs in soil samples collected at the site.

Spread of PCBs within surface soils at the site is likely a result of physical processes including wind dispersion and localized surface runoff of PCB-contaminated soils. In addition, spread of PCBs to surface and subsurface soils may have occurred during disposal activities and movement of heavy equipment and soils during the early 1970s.

Based on the findings of the RI, an IRM was implemented at the site from August 2012 through April 2013. Delineation was performed via soil sampling to determine the necessary excavation boundaries within the boatyard. Following delineation, soils were removed from the excavation area to a depth of six inches bgs. Based on endpoint sampling, additional soils were removed (to depths of 12 to 18 inches bgs) at several locations. Following additional soil removal, PCB concentrations in endpoint samples from the boatyard were below the NYSDEC RUSCO of 1.0 ppm. (see figure 3)

Table 1 - Soil

Detected Constituents	Concentration Range Detected	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Pesticides/PCBs					
Aroclor-1254	ND to 86,000	0.1	96 of 143	1.0	60 of 143
Aroclor 1260	ND to 0.072	0.1	0 of 143	1.0	0 of 143

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 commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Soil contamination identified during the RI was partially addressed during the IRM described in Section 6.2.

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste, the presence of PCB Arochlor 1524 has resulted in the contamination of soil. Soil samples were analyzed in 1996 and again in 2000 for pesticides/PCBs, for purgeable organics (VOC's), for priority pollutant base-neutral-acid extractable analytes (SVOC's), and for metals. 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 PCBs.

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 Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2 and Site Management and Institutional Controls and Engineering Controls are necessary to confirm the effectiveness of the IRM. This alternative maintains engineering controls which were part of the IRM and includes institutional controls, in the form of an Environmental Easement and Site Management Plan, necessary to protect public health and the environment from contamination remaining at the site after the IRMs.

Alternative #2: Restoration to Pre-Disposal or Unrestricted Conditions

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).

Alternative 2 will permanently eliminate the toxicity, mobility, and volume of contaminants from on-site surface soil and subsurface soil by meeting unrestricted use soil cleanup objectives through excavation and off-site disposal of all soil exceeding unrestricted use SCOs.

The cost estimate to implement Alternative 2 is estimated to cost the following:

Present Worth	$	6,100,000
Annual Costs	$	0
Capital Cost	$	6,100,000

The capital costs for this estimate include the construction, equipment, materials, waste disposal, and indirect capital costs such as engineering and design expenses, and legal and administrative costs. There should be no annual costs as this alternative will result in no further waste generation or monitoring.

Alternative #3: Excavation and Cover

This alternative includes the excavation of soils from the site in excess of a site specific SCO of 10 ppm for total PCBs, and installation of a cover of clean fill material over soils at the site with total PCB concentrations in excess of 1 ppm. Alternative 3 also meets the requirements for a presumptive remedy for PCB impacted soils as specified in Section I of NYSDEC Commissioner's Policy CP-51 (October 2010).
The approximate excavation area and soil cover extent for Alternative 3 is illustrated in Figure 5.

The costs associated with implementation of Alternative 3 are estimated at:
Present Worth $ 622,000
Annual Costs $5,000

Capital Costs $ 545,000
The capital costs for this estimate include the construction, equipment, materials, waste disposal, and indirect capital costs such as engineering and design expenses, development of a SMP, and legal and administrative costs. The annual costs for this estimate include implementation of the SMP, and annual certification for a minimum of 30 years.

Based on previous investigations, PCB impact is present within near surface soils at the site. Soils impacted with PCBs above the site specific SCO for total PCBs of 10 ppm will be excavated and removed from the site. The area to be excavated for off-site disposal is estimated to be approximately 4,720 square feet, and up to 4.5 feet deep (total volume of approximately 7,470 cubic feet or 277 cubic yards).

The final limit of the excavation will be determined in the field based upon confirmatory endpoint soil sample analytical results. The proposed excavation area and depths are illustrated in Figure 5.

Following removal of impacted soils from the site confirmatory endpoint soil samples will be collected from the excavation area to confirm the effectiveness of remedial activities. Endpoint soil samples will be collected in accordance with NYSDEC DER-10. Results will be compared to the site specific SCO of 10 ppm for total PCBs. Soil sampling and equipment decontamination will be performed in accordance with the project QAPP.

Engineering Controls will be put in place to prevent exposure to potential residual impact at the site. Engineering controls for the site will include the following:

- Installation of a soil cover of clean fill material over residual impacted soils.

The use of Institutional Controls (ICs) will be put in place for the site to provide notice the residual impact is present, and restrict/limit exposures to potential exposure pathways. For this site, ICs would include a Site Management Plan (SMP) and an Environmental Easement (EE), which would detail the requirements for:

- Restrictions on excavations without notification to NYSDEC,
- Future modifications to the EE in the event of changes to site usage/development
- EE compliance by the Grantor and the Grantor's successors.

Following approval of the RAWP, an Environmental Easement (EE) will be prepared and recorded with the Suffolk County Clerk's Office. The EE will incorporate:

• The approved SMP for the site,
• A description of site restrictions, including but not limited to:
  The use of the property for commercial use only and future soil disturbance activities, including construction and repair activities, will be subject to soil management protocols; use of groundwater as a source of potable or process water is prohibited without necessary water quality treatment as determined by NYSDOH or Suffolk County Health.
• An agreement by the property owner to establish and maintain the institutional controls.

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action (#1)	23,000	5,000	100,000
Unrestricted Use (#2)	6,101,000	0	6,101,000
Excavation and Capping (#3)	545,000	5,000	622,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative #3, as the remedy for this site. Alternative #3 would achieve the remediation goals for the site by excavation and cover with engineering and institutional controls. The area to be excavated for off-site disposal is estimated to be approximately 4,720 square feet, and up to 4.5 feet deep (total volume of approximately 7,470 cubic feet or 277 cubic yards). The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure #6.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the AA report.

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

1. Protection of Public Health and the Environment.

The preferred Alternative 3 would protect public health and the environment through the excavation of soils from the site in excess of a site specific SCO of 10 ppm for total PCBs, and installation of a cap of clean fill material over soils at the site with total PCB concentrations in excess of 1 ppm. Development of a SMP, filing of an Environmental Easement, and annual certification will be required. Alternative 1 does not meet threshold criteria and does not offer protection of human health or the environment and will not be considered further. Alternative 2 meets threshold criteria but with a much greater cost and short term impact due to the larger volume of soil excavation required and commensurate noise, dust, and truck trips required. No groundwater contamination was identified for the site.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs).

Alternative 3 includes the excavation of soils from the site in excess of a site specific SCO of 10 ppm for total PCBs, and installation of a cap of clean fill material over soils at the site with total PCB concentrations in excess of 1 ppm. Alternative 3 meets the requirements for a presumptive remedy for PCB impacted soils as specified in Section I of NYSDEC Commissioner’s Policy CP-51 (October 2010). Alternatives 2 and 3 comply with SCGs. Alternative 3 utilizes a cover system to limit the potential for contact with impacted material.

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.

Alternative 3 achieves long term effectiveness and permanence by excavation of PCBs greater than 10 ppm and covering impacted soils where PCBs remain over 1 ppm with clean fill material and restricting use of the site through an Environmental Easement. Under this Alternative, exposure to soil impacted by PCBs is minimized for on-site workers or trespassers. This alternative is capable of meeting RAOs for soil in the future. Alternative 2 is marginally better at meeting this criterion since it removes all PCBs which exceed unrestricted use SCOs and would eliminate any potential exposure for on-site workers or trespassers.

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

Alternative 3 will reduce the mobility, volume and toxicity of contaminants from on-site surface soil by removing soil with PCBs exceeding 10 ppm. Subsurface soil contamination would remain below the site specific SCO of 10 ppm for total PCBs under a soil cover a significant reduction in TMV sufficient to protect public health and the environment with site management. Alternative 2 removes all contaminated soils thus not requiring site management but at a significantly higher cost without a commensurate increase in protectiveness.

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.

The short-term adverse impacts and exposure to the public and the environment during the implementation of Alternative 3 would be minimal. Short-term exposure to on-site workers during excavation and loading activities will be addressed with a HASP and mitigated through the use of personal protective equipment, monitoring and engineering controls. Potential short-term exposure to the surrounding community will be addressed through the use of odor and dust-suppression techniques and through the implementation of a CAMP which will require air monitoring activities during all excavation and soil disturbance activities. Alternative 2 will provide unrestricted use however implementation will result in additional short term impacts due to additional excavation activities, such as increased truck traffic and excavation of contaminated soils, with a much greater carbon footprint.

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 3 can be implemented using readily available and proven technologies. Both the technical and nontechnical aspects of implementing this alternative are feasible. Excavation and capping along with engineering and institutional controls are all that is required. Suffolk County owns the site and will provide the necessary institutional controls. Alternative 3 is more easily implemented than Alternative 2 which requires far more site excavation.

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.

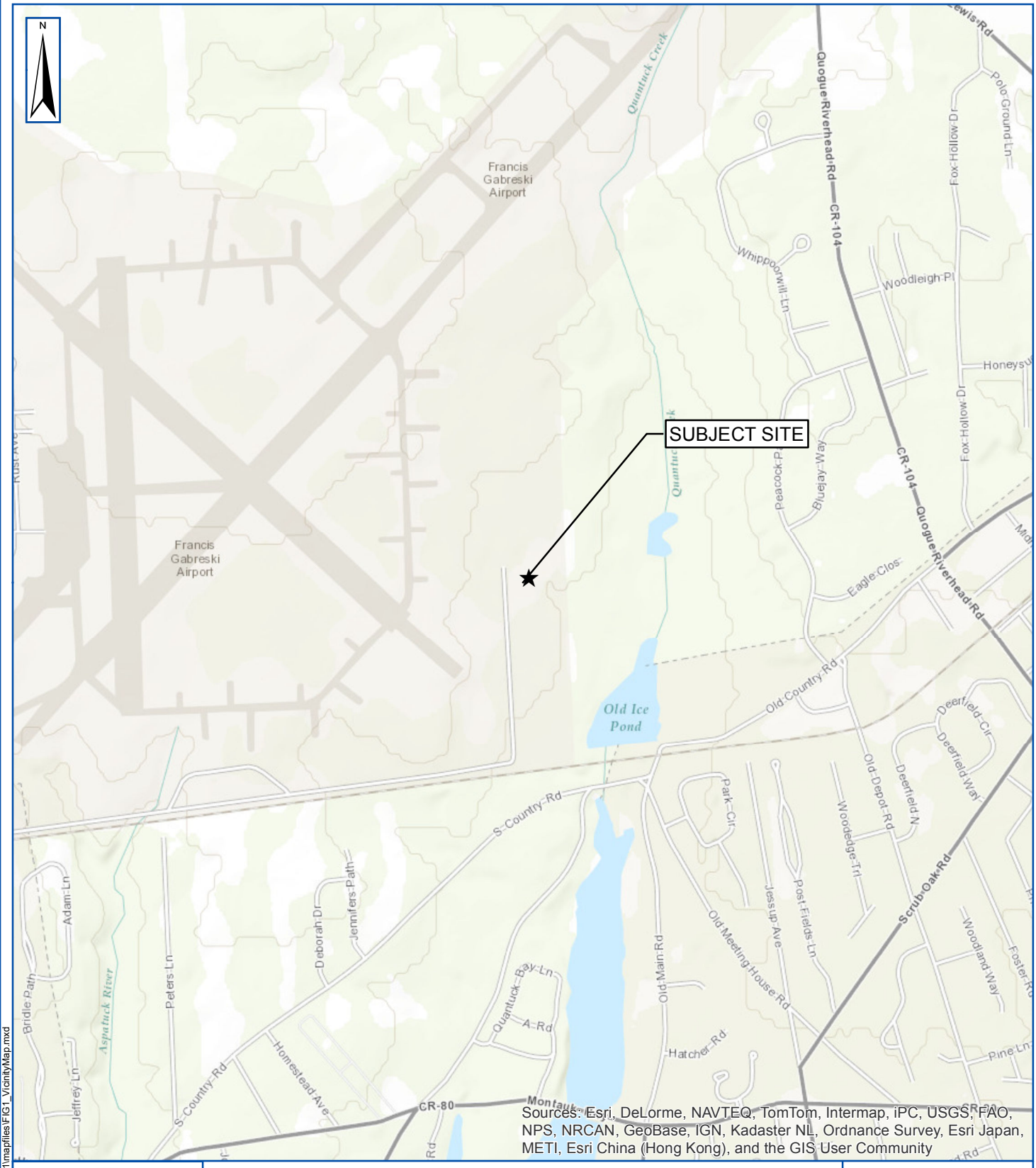
The costs of the alternatives vary significantly. With the large volume of soil to be handled, Alternative 2 would have the highest present work cost, ten times Alternative 3. Excavation and cover (Alternative 3) would be much less expensive than Alternative 2 (unrestricted use), yet it would meet the SCOs and be protective of public health and the environment.

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 proposed future land use is to remain undeveloped. Alternative 3 is compatible with respect to the proposed land use and to land uses in the vicinity of the site. The alternative is consistent with NYSDEC BCP and IHWDS goals for cleanup of contaminated land and brings the property into productive use. The alternative is protective of natural resources and cultural resources.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternative #3 has been proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.



Document Path: D:\GIS\Projects\S-Z\SHD1201\mapfiles\FIG1_VicinityMap.mxd

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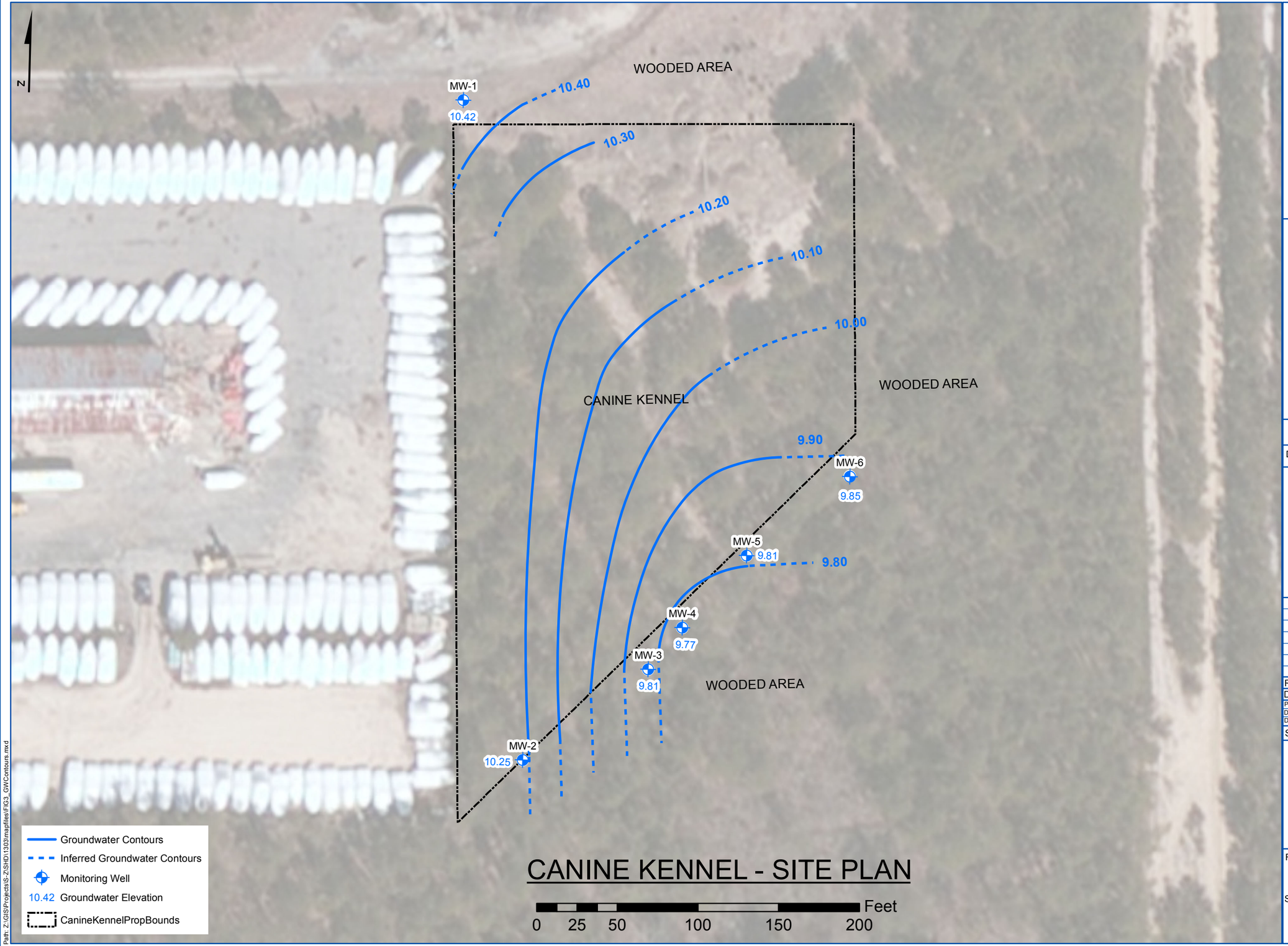
SITE LOCATION MAP

FORMER CANINE KENNEL - GABRESKI AIRPORT
WEST HAMPTON BEACH, NEW YORK

0 ¼ ½ ¾ 1 Miles

Project:	SHD1201
Date:	2/15/2013
Designed by:	BB
Drawn by:	BB
Approved by:	KR
Figure No:	1



Path: Z:\GIS\Projects\S-Z\SHD\1303\mapfiles\FIG3_GWContours.mxd

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DRAWINGS PREPARED FOR:

SUFFOLK COUNTY
DEPT. OF HEALTH SERVICES
OFFICE OF POLLUTION CONTROL
15 HORSEBLOCK PLACE
FARMINGVILLE, NEW YORK 11738

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

PROJECT:	SHD1303	APPROVED BY:	AL
DESIGNED BY:	BB	DATE:	11/21/2012
DRAWN BY:	BB	SCALE:	AS SHOWN

SHEET TITLE:

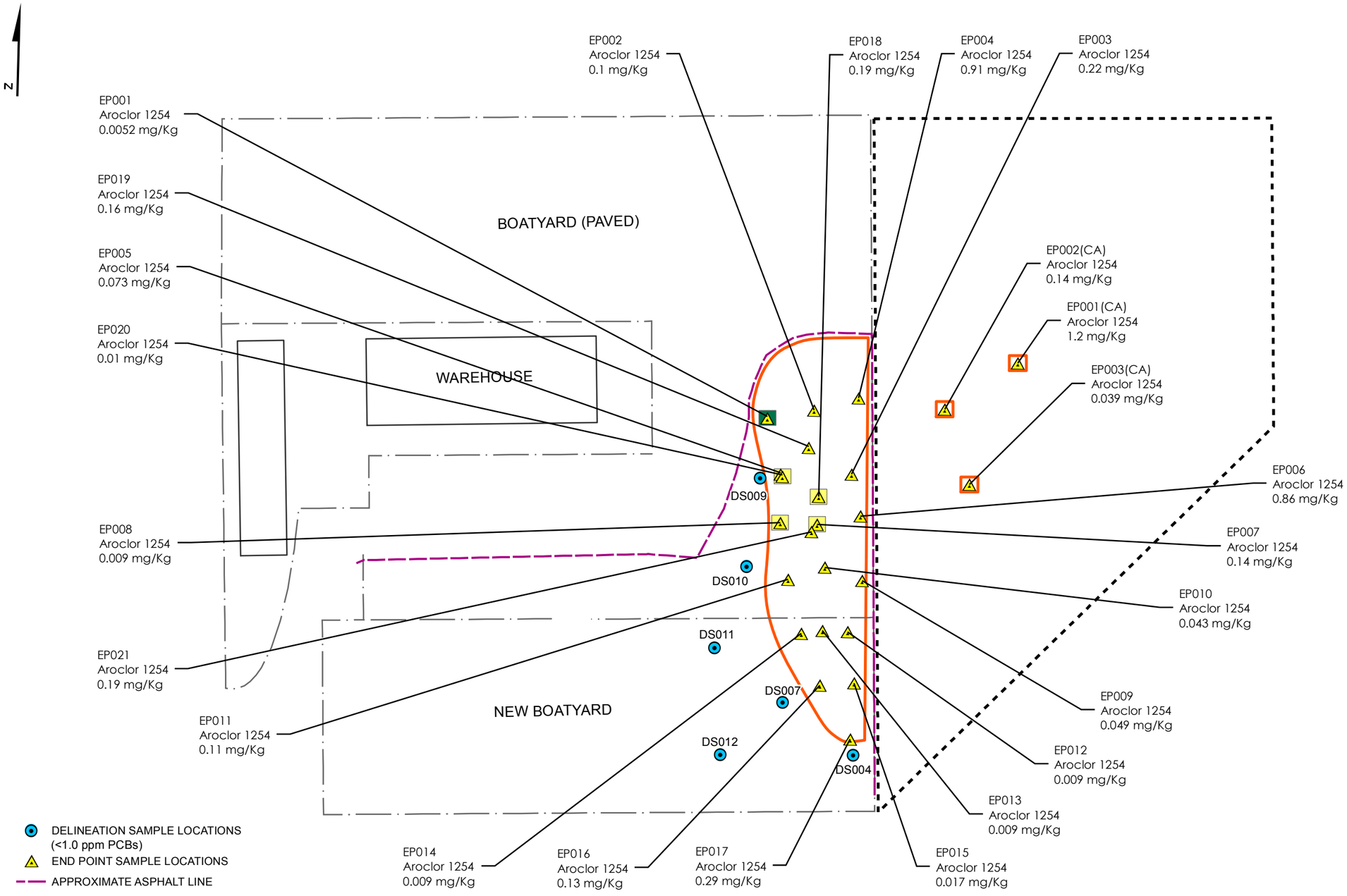
FORMER CANINE KENNEL
GABRESKI AIRPORT
WEST HAMPTON, NEW YORK

GROUNDWATER CONTOURS

FIGURE NO:

2

SHEET:



CANINE KENNEL - END POINT SAMPLE RESULTS

0 25 50 100 150 200 Feet

NOTES: IRM Excavation Area: ~ 14,632.5 square feet
Delineation Sample Results Below 1 mg/Kg (Refer to Figure 3).
Endpoint samples collected from 0-6" below final excavation depth.

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REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

PROJECT:	SHD1303	APPROVED BY:	AL
DESIGNED BY:	BB	DATE:	2/15/2013
DRAWN BY:	BB	SCALE:	AS SHOWN

SHEET TITLE:

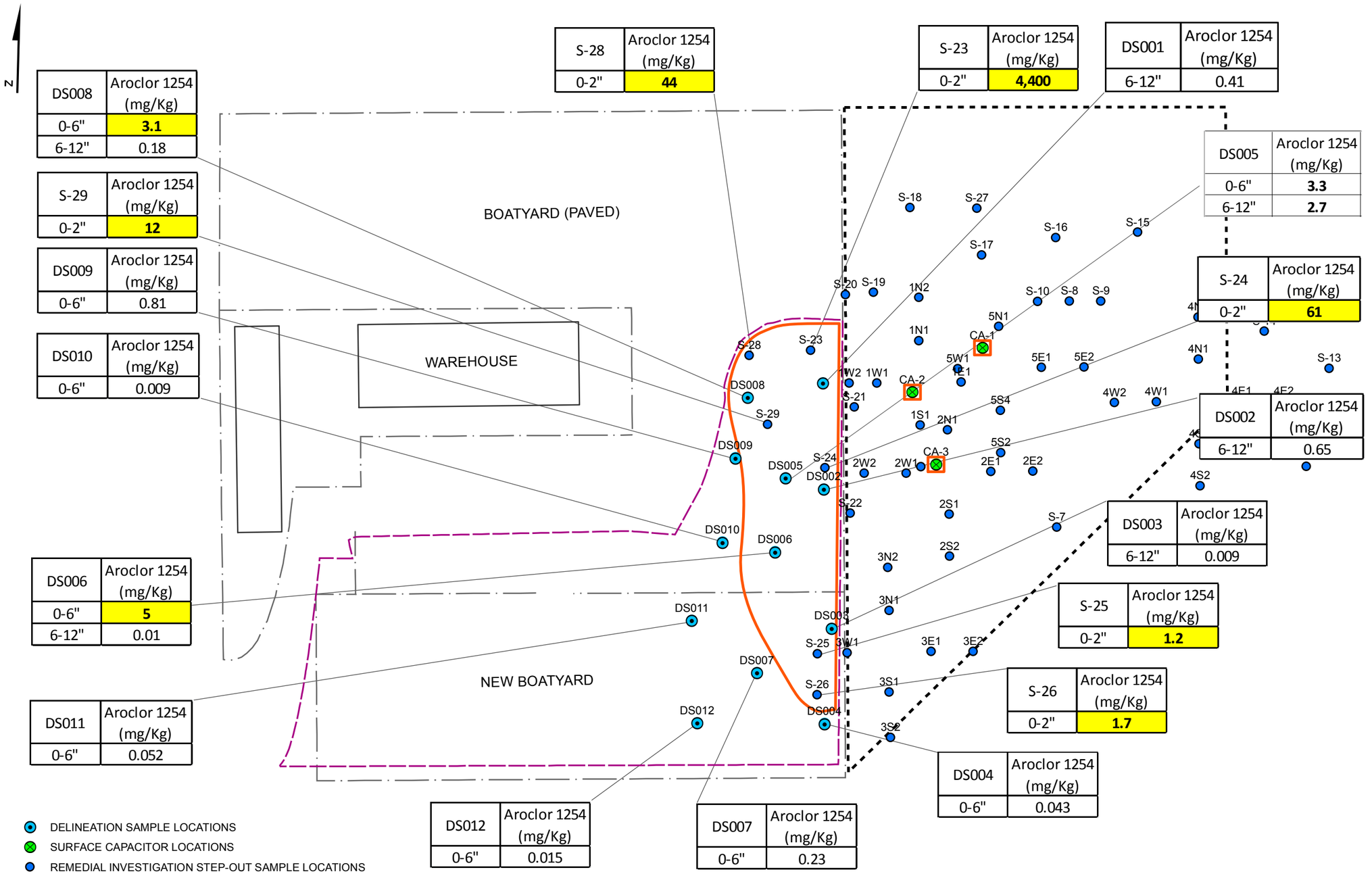
FORMER CANINE KENNEL
GABRESKI AIRPORT
WEST HAMPTON, NEW YORK

IRM ENDPOINT SAMPLE RESULTS

FIGURE NO:

3

SHEET:



CANINE KENNEL - DELINEATION SAMPLE RESULTS

NOTE - Approximate Proposed IRM Excavation Area: 14,632.5 square feet

Path: Z:\GIS\Projects\S-Z\SHD\1303\mapfiles\IRM\FIG6A_DelineationSampleResults.mxd

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REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

PROJECT:	SHD1303	APPROVED BY:	AL
DESIGNED BY:	BB	DATE:	9/5/2012
DRAWN BY:	BB	SCALE:	AS SHOWN

SHEET TITLE:

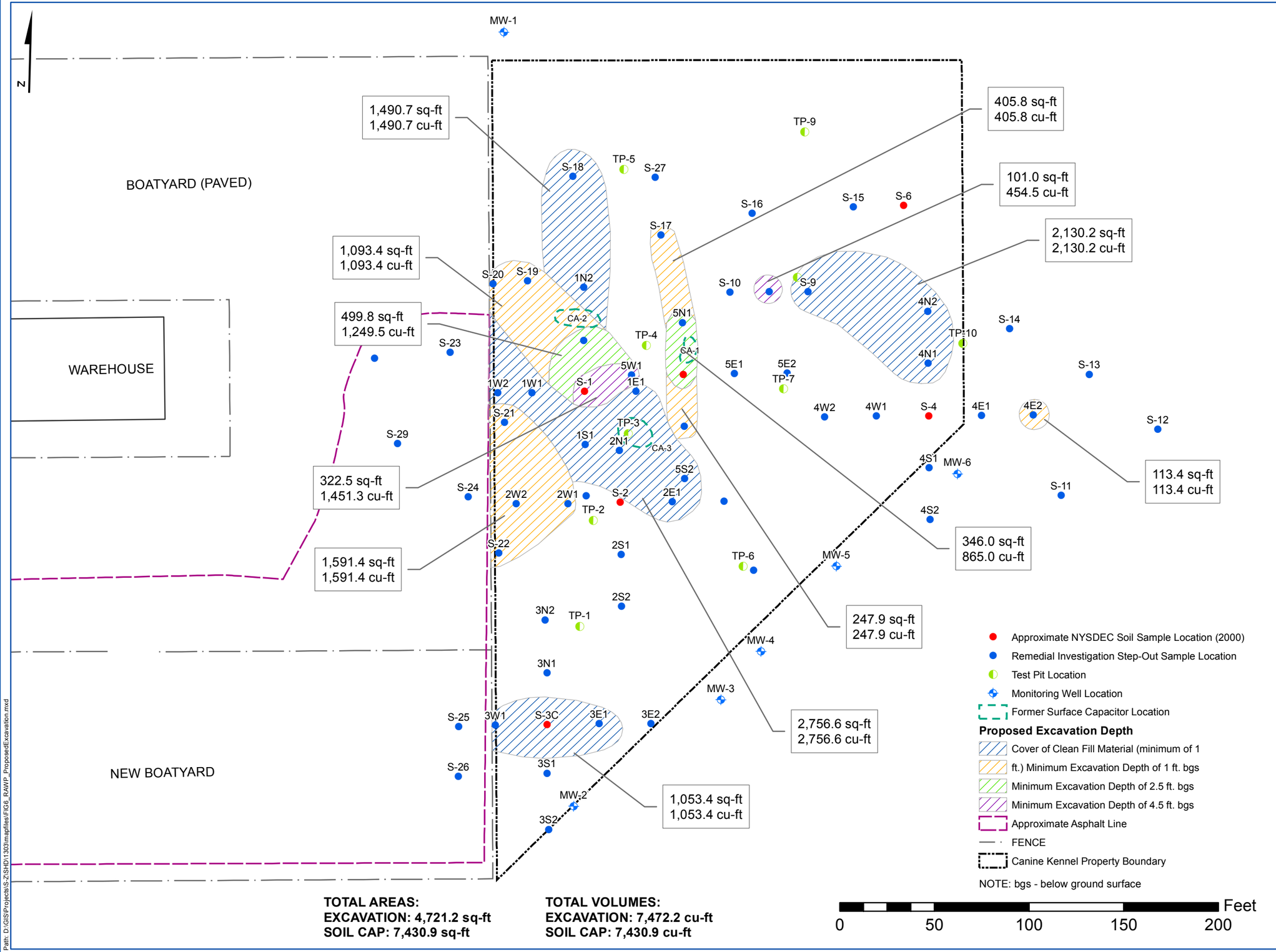
FORMER CANINE KENNEL
GABRESKI AIRPORT
WEST HAMPTON, NEW YORK

IRM DELINEATION SAMPLE RESULTS

FIGURE NO:

4

SHEET:



TOTAL AREAS:
EXCAVATION: 4,721.2 sq-ft
SOIL CAP: 7,430.9 sq-ft

TOTAL VOLUMES:
EXCAVATION: 7,472.2 cu-ft
SOIL CAP: 7,430.9 cu-ft

Path: D:\GIS\Projects\S-Z\SHD1303\mapfiles\FIG6_RAWP_ProposedExcavation.mxd

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FARMINGVILLE, NEW YORK 11738

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

PROJECT:	SHD1303	APPROVED BY:	TM
DESIGNED BY:	TM	DATE:	6/11/2014
DRAWN BY:	BB	SCALE:	AS SHOWN

SHEET TITLE:

PROPOSED EXCAVATION AND SOIL COVER AREAS ALTERNATIVE 3

FORMER CANINE KENNEL
GABRESKI AIRPORT
WEST HAMPTON, NEW YORK

FIGURE NO:

5

SHEET: