FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK
BCP SITE ID: C152079
IHWDS SITE ID: 152079

SITE MANAGEMENT PLAN

SUBMITTED TO:

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, Section C
625 Broadway
Albany, New York 12233

PREPARED FOR:

Suffolk County Department of Health Services
Office of Pollution Control
15 Horseblock Place
Farmingville, New York 11738

PREPARED BY:

P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
Phone: 631-589-6353
Fax: 631-589-8705
Andrew Lockwood, PG Vice President andyl@pwgrosser.com
Thomas Melia, PG, Sr. Project Manager thomasm@pwgrosser.com

PWGC Project Number: SHD1602

November 2019 – Updated July 2024

FORMER CANINE KENNEL SITE

SUFFOLK COUNTY

WEST HAMPTON BEACH, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: 152079/C152079

Prepared for:

Suffolk County Department of Health Services

Office of Pollution Control

15 Horseblock Place

Farmingville, NY 11738

Prepared by:

P.W. Grosser Consulting, Inc.

630 Johnson Avenue, Suite 7

Bohemia, NY 11716

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	July 30, 2024	Updated contact lists, added missing logs to Appendix C	

NOVEMBER 2019 – UPDATED JULY 2024

CERTIFICATION STATEMENT

I Brian Heflich certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

096470 P.E

7/30/24 DATE

TABLE OF CONTENTS

FORMER CANINE KENNEL SITE

SUFFOLK COUNTY

WESTHAMPTON BEACH], NEW YORK

SITE MANAGEMENT PLAN

Table of Contents

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ACRONYMS

Acronym	Definition
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
RAO	Remedial Action Objectives
HASP	Health and Safety Plan
QAPP	Quality Assurance Project Plan
CAMP	Community Air Monitoring Plan
PCB	Polychlorinated Biphenyls
BCA	Brownfield Cleanup Objective
ROD	Record of Decision
SCO	Soil Cleanup Objective
ppm	Parts Per Million
bgs	Below Grade Surface
CFR	Code of Federal Regulation
RUSCO	Residential Use Soil Cleanup Objective
IRM	Interim Remedial Measure
CWM	Chemical Waste Management
RAWP	Remedial Action Work Plan
OSHA	Occupational Safety and Health Services
QA/QC	Quality Assurance/Quality Control
DER	Division of Environmental Remediation
PID	Photoionization Detector
CPP	Community Participation Plan
ROD	Record of Decision
USEPA	United States Environmental Protection Agency
TSCA	Toxic Substances Control Act
C&D	Construction and Demolition
VOCs	Volatile Organic Compounds
SCO	Soil Cleanup Objectives
ELAP	Environmental Laboratory Approval Program
EDDs	Electronic Data Deliverables
AWQS	Ambient Water Quality Standard
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
LDC	Laboratory Data Consultants
DUSR	Data Usability Summary Report
FER	Final Engineering Report
EC/IC	Engineering Controls/Institutional Controls
SMP	Site Management Plan

1.0 EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: Former Canine Kennel Site
Francis S. Gabreski Airport, Suffolk County, New York
Site IDs: 152079/C152079

Institutional Controls:	1. Institutional controls consist of an Environmental Easement described in Section 4.2 of this document. Institutional Controls may not be discontinued without an amendment to or extinguishment of the Environmental Easement.	
Engineering Controls:	1. Cover system	
	2. Perimeter Fence.	
Inspections:		Frequency
1. Cover inspection		Annually
2. Fence Inspection		Annually
Monitoring:		
1. Groundwater Monitoring Wells MW-1 through MW-6, inclusive.		Semi-Annually for a minimum of one year
Maintenance:		
N/A		N/A
Reporting:		
1. Groundwater Sampling Report		Semi-Annually
2. Periodic Review Report		Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

2.0 INTRODUCTION

2.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Former Canine Kennel Site located in Westhampton, New York (hereinafter referred to as the "Site"). The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP) and, Inactive Hazardous Waste Disposal Site Remedial Program, Site No. C152079/152079 which is administered by New York State Department of Environmental Conservation (NYSDEC).

Suffolk County Department of Health Services entered into a Brownfield Cleanup Agreement (BCA) on documented in a Record of Decision (ROD) dated June 26, 2015 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in **Figure 1** and **Figure 2**. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in **Appendix A**.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Suffolk County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA and ROD for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in **Appendix B** of this SMP.

This SMP was prepared by P.W. Grosser Consulting Engineer & Hydrogeologist, PC, on behalf of Suffolk County Department of Health Services, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

2.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

2.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA and ROD, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the: Brownfield Cleanup Agreement (BCA) and Record of Decision (ROD), and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1, below, includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in **Appendix B**.

Table 1: Notifications*

Name	**Contact Information**
Heather Bishop, NYSDEC Project Manager	518-415-5885; heather.bishop@dec.ny.gov
Girish Desai, PE, NYSDEC Regional HW Engineer	631-444-0248; girish.desai@dec.ny.gov
Steven Berninger, NYSDOH Project Manager	518-402-0443, steven.berninger@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

3.0 PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

3.1 Site Location and Description

The site is located in Westhampton Beach, Suffolk County, New York and is identified as a portion of tax lot 0900-312.00-01.00-004.002 on the Suffolk County Tax Map (see **Figure 1** and **Figure 2**). The site is an approximately 0.94-acre area and is bounded by wooded land (pine barrens) to the north, east and south, and a boatyard to the west. The boundaries of the site are more fully described in **Appendix A** –Environmental Easement. The owner of the site parcel at the time of issuance of this SMP is Suffolk County.

3.2 Physical Setting

The site is located approximately 20 to 30 feet above mean sea level. The site's topography has been disturbed, as it was used as a disposal area for PCB-containing equipment (e.g., transformers and capacitors) and inert wastes (such as office furniture). No recent disturbances were observed; small trees and shrubs had re-vegetated almost the entire area.

The site's topography slopes gently from the northwest to the southeast. No erosion of surface areas was noted and no drainage ditches or swales are present on the site. Precipitation recharges directly into the subsurface with no evidence of overland flow away from the site towards surface-water bodies. The nearest surface-water bodies are North Pond and Old Ice Pond located approximately 1,200 feet to the east and 1,500 feet southeast, respectively on the Quogue Wildlife Refuge (Figure 1). Based upon site topography, overland flow to surface-water bodies is unlikely.

3.2.1 Land Use

The Site consists of the following: a 0.94-acre undeveloped, wooded area. The Site is zoned light industrial and is currently undeveloped. The Site is located within the Core Preservation Area of the central Pine Barrens, where development is prohibited. Therefore, the proposed future use of this site is to remain undeveloped.

The site is located on the eastern edge of the Francis S. Gabreski Airport. Adjacent to the west side of the site is a boat storage facility, beyond which are the runways and the support buildings for the airport. Immediately north and south of the site are undeveloped areas of the airport site. The Quogue Wildlife Refuge is located to the east of the site.

The nearest residential properties are located approximately 0.5 miles to the east and south of the site. These residential areas have municipal water service provided by the Suffolk County Water Authority.

The properties adjoining the Site and in the neighborhood surrounding the Site consist of mixed use properties.

3.2.2 Geology

From land surface down, the site is underlain by approximately 1,600 feet of unconsolidated fill deposits consisting of Upper Glacial deposits, the Magothy Formation, the Raritan Formation (consisting of the Raritan clay member which confines the underlying Lloyd sand member), and finally crystalline. The Upper Glacial deposits are comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. The Upper Glacial is approximately 100-feet thick beneath the site. The Magothy Formation consists of layers of fine to coarse sand with inter-bedded lenses of silt and clay. The Raritan clay is a solid and silty clay that is gray, red or white in color with few lenses of sand and gravel and abundant lignite and pyrite. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The underlying crystalline bedrock is composed of schist and gneiss.

3.2.3 Hydrogeology

The water-table aquifer occurs in the Upper Glacial deposits at this location. This aquifer extends from the water table to the top of the Magothy aquifer and is hydraulically connected to the Magothy aquifer. The Upper Glacial aquifer is approximately 100-feet thick at the site, and has an estimated average horizontal hydraulic conductivity (permeability) of 270 feet/day and a vertical hydraulic conductivity of 27 feet/day (Franke & Cohen, 1972). Clay layers, such as the Gardiners clay and the “20-Foot-clay,” where

present, may act as local confining units, separating the Upper Glacial aquifer from the underlying Magothy aquifer which is the principal source of drinking water in Suffolk County.

Based on data collected on site, depth to groundwater ranges from approximately 9.5 to 14.5 feet below ground surface and local groundwater flows to the east-southeast. No confining unit (clay) was identified at the monitoring well locations. Regional groundwater flow at the site is to the southeast. Groundwater elevation data is provided in Table 2.

Well ID	Well Location	Well Diameter (inches)	Top of Casing Elevation (ft above msl)	Depth to Water* (feet)	Groundwater Elevation* (ft above msl)
MW-1	Up Gradient	1	24.91	16.41	8.50
MW-2	Down Gradient	1	26.75	18.69	8.06
MW-3	Down Gradient	1	23.97	NM	NM
MW-4	Down Gradient	1	24.16	16.08	8.08
MW-5	Down Gradient	1	22.50	14.37	8.13
MW-6	Down Gradient	1	24.91	13.85	11.06

NM – not measured due to tubing obstructing well.
*Based on field measurements recorded on 1/26/2017

Municipal water in the Westhampton Beach area is provided by Suffolk County Water Authority (SCWA). The SCWA's nearest water supply wells are located more than 0.5 miles from the site; approximately 0.7 miles south and approximately 1.5 miles northeast.

A groundwater contour map is shown in **Figure 3**. Groundwater monitoring well construction logs are provided in **Appendix C**.

3.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for

the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

3.3.1 1943 to 1970s: Site History

In 1943, the federal government built the Francis S. Gabreski airport for use as an Air Force base during World War II. After the war, it was given to Suffolk County. In 1951, the airport was reclaimed for the Korean War National Emergency. In 1960, the US Air Force leased 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.

3.3.2 1984 & 1986: NYSDEC Investigation

In March 1984, the New York State Department of Environmental Conservation (NYSDEC) discovered the site in response to a complaint from a local citizen's group. At that time, the NYSDEC observed several half-buried capacitors leaking PCB oil within a 10-foot deep pit. In May 1984, nine soil samples were collected for laboratory analysis. Eight contained the PCB Aroclor-1254 in concentrations up to 1,700 milligrams per kilogram (mg/kg).

In January 1986, a NYSDEC contractor noted that the pit was only half as deep as previously stated, and that the capacitors were no longer visible. The area showed signs of recent earthwork activities and was devoid of vegetation.

3.3.3 1996: D&B Preliminary Site Assessment

In November 1996, Dvirka and Bartilucci Consulting Engineers (D&B) performed a preliminary site assessment. D&B determined regional groundwater flow direction to be towards the southeast, and installed and sampled one upgradient (GP-1) and five downgradient (GP-2 through GP-6) Geoprobe™ monitoring wells (Figure 4). Groundwater was encountered between 9 and 12 feet below grade. Two groundwater samples were

obtained from each Geoprobe™ location, one at the water-table interface and one at 15 feet below the water table. PCBs were below detection limits in each of the 12 samples analyzed. Traces of the pesticides 4,4'-DDD and 4,4'-DDT were detected in the upgradient well only (D&B, 1996). Based upon the groundwater results, D&B prepared a Preliminary Site Assessment (PSA) report (1998) that stated that PCBs previously detected in surface soils were not impacting local groundwater quality. The NYSDEC also concluded that PCBs have not impacted local groundwater.

3.3.4 2000: NYSDEC Soil Sampling

In July 2000, the NYSDEC performed additional soil sampling. Thirteen soil samples were collected at six locations at two depths (surface (0-4") and subsurface (2'-4') below grade) and one soil sample was removed from the end of a capacitor located at the site. The highest soil concentration found was 280,000 mg/kg adjacent to a capacitor. There was a "hot spot" identified near soil samples #1, 2 and 5, where the levels ranged from 1,900 mg/kg to 150,000 mg/kg at the surface and 120 mg/kg to 20,000 mg/kg at 2.5' to 3.5' below grade. Soil #3 and #4 contained PCBs levels of 3.9 mg/kg and 17 mg/kg at the surface, and less than 10 mg/kg at a depth of 2.5'. Concentrations of PCBs at soil sample #6 were less than 1.0 mg/kg. These samples were obtained from the same area previously sampled in May 1984 (NYSDEC, 2000).

3.3.5 2003: SCDHS Site Inspection

The SCDHS Farmingville Office of Pollution Control in Farmingville, New York, performed an inspection of the site on May 15, 2003. This inspection noted the following:

- The area contained partially buried and unburied metal debris, such as rusted drums, car parts, and scrap metal. It was noted that this may interfere with any non-invasive exploratory instruments such as ground penetrating radar (GPR) and magnetometers.
- Pine tree re-growth was greater than expected. The area is thickly wooded in spots with trees about 10 to 12 feet high and an occasional sandy clearing (SCDHS, 2005).

3.3.6 2008: PWGC Remedial Investigation

Beginning in March 2008, PWGC performed a Remedial Investigation of the Canine Kennel site in accordance with the *Remedial Investigation Work Plan* (PWGC, 2007) and on behalf of the Suffolk County Department of Health Services. Results of the investigation were submitted to the NYSDEC in the *Remedial Investigation Report, November 2008* (PWGC, 2008). The investigation consisted of a geophysical survey, soil and groundwater sampling, test pit excavations and the removal of identified capacitors suspected to contain PCBs. Based upon the site history and previous investigations the identified contaminants of concern (COCs) at the site were pesticides and PCBs.

The geophysical survey determined that there was one large area of concern (approximately 6,000 square feet), as the geophysical extent of the excavation. The survey also identified buried capacitors in the vicinity of the capacitors on the surface. These capacitors, the source of the PCB contamination, were located just below the ground surface and were removed during test pit activities. Approximately 613 pounds (two 55-gallon drums) of PCB-contaminated solids, consisting primarily of capacitors with some soil, were removed from the site and transported to a treatment facility for incineration.

Soil sampling was performed within five sampling grids and other surface and subsurface locations to delineate the horizontal and vertical extents of PCB and pesticide contamination. No pesticides were reported above laboratory detection limits. One PCB compound, Aroclor-1254, was detected in 59 soil samples at concentrations exceeding the restricted use soil cleanup objectives (RUSCOs) of 1.0 mg/kg for total PCBs. Exceedances ranged from 1.1 to 86,000 mg/kg (directly underneath one of the removed capacitors). Of the 59 samples, 44 (including the surface capacitor locations) were collected from 0-2 inches, seven were from 2-2.5 feet bgs, six were from 4-4.5 feet bgs and two were from test pits 6.5 and 8.5 feet bgs. Surface soil samples showed the largest area of impact, with PCBs present in surface soils immediately adjacent to the site's west property boundary (Boatyard) and in a small area to the east of the site. Spread of PCBs within surface soils at the site was likely 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 in soil samples collected at the site.

Six monitoring wells were installed and groundwater samples collected. No pesticides or PCBs were detected. These results indicate that PCBs identified in the sites soil samples (Aroclor-1254 and Aroclor-1260) have not impacted groundwater. Therefore, impacts to surface-water bodies located southeast of the site or to drinking water supplies south of the site are unlikely.

A qualitative human health exposure assessment was performed for the site. It determined that there are no plausible off-site (outside of the Airport Property) pathways for oral, inhalation, or dermal exposure to PCBs from the contamination identified at the site. The only possible on-site exposure pathways are by ingestion or dermal exposure by a trespasser, an airport employee, or worker in the boatyard. Ingestion and dermal exposure would not likely be extensive given the intermittent nature of exposure (i.e. occupation of the boatyard by employees, removing boats in spring and storing in fall). A Fish and Wildlife Resource Impact Assessment (FWRIA) of the ecological community within a 0.5-mile radius of the site concluded that the PCBs present on site should not have significant adverse impacts to terrestrial or aquatic ecological resources and that an ecological impact assessment is not warranted.

Based upon the findings of this investigation, PWGC recommended that:

1. a Remedial Action Work Plan (RAWP) with alternatives analysis, as described in the Brownfields Cleanup Program (BCP), be prepared.
2. an Interim Remedial Measure (IRM) be implemented to address off-site and on-site soil contamination by removing approximately 6 inches of PCB-contaminated soils from the unpaved portion of the boatyard and extending the asphalt paving to the fence line, removing up to one foot of on-site soil containing greater than 1,000 mg/kg of total PCBs, and performing additional soil sampling.

3.3.7 2012-2013: PWGC Interim Remedial Measure (IRM)

PWGC implemented an IRM at the boatyard and former capacitor area locations on behalf of SCDHS in accordance with the IRM Work Plan (March 2012), IRM Addendum (May 18, 2012), and the requirements of the SCDHS and NYSDEC for the subject property. IRM activities were performed under the NYSDEC Brownfield Cleanup Program (BCP).

The scope of work for the IRM consisted of: additional delineation sampling within the boatyard, removal and proper disposal of PCB-impacted soils from within the boatyard and former capacitor locations, collection of confirmatory endpoint samples, backfill of excavations, and installation of storm water controls.

Within the boatyard, contaminated soils were removed to a depth of 6 inches bgs. Based on endpoint sampling, additional soils were removed (to depths of 12 to 18 inches bgs) at several locations to reach concentrations below the NYSDEC RUSCO of 1.0 ppm. Soils were removed to a depth of 1 foot bgs in the vicinity of former capacitor locations CA-1, CA-2 and CA-3 to obtain endpoint PCB concentrations below the site-specific SCO of 1,000 ppm. Final endpoint samples did not exceed 1.2 ppm.

IRM excavation activities within the boatyard and capacitor locations generated a total of 227.23 tons of PCB-contaminated soils which were transported to CWM in Model

City, New York, for proper disposal. Upon completion of soil removal activities, excavation areas were backfilled with NYSDEC-approved backfill material and capped with RCA. Additionally, a 1-foot high earthen berm constructed of NYSDEC-approved backfill material and capped with RCA was installed at the eastern boundary of the boatyard to minimize overland runoff of storm water from the former Canine Kennel site into the boatyard.

Despite the removal of contaminated soil from the former capacitor areas, there were still areas of the site containing concentrations of Aroclor-1254 ranging from 1.1 ppm to 4,200 ppm at depths of 0 to 6.5 feet bgs. Therefore, PWGC recommended that a Remedial Work Plan (RWP) with Alternatives Analysis (AA), as described in the Brownfields Cleanup Program (BCP), be prepared.

3.3.8 2014-2017: PWGC Brownfields Cleanup Program

On September 9, 2014, PWGC submitted a *Remedial Action Work Plan* (RAWP) for the former Canine Kennel site to the NYSDEC Division of Environmental Remediation, and on April 28, 2015, PWGC submitted a *Self-Implementing Onsite Cleanup of PCB Remediation Waste Plan (Revision 1)*, and *Self-Implementing Onsite Cleanup of PCB Remediation* Waste Plan Amendment *001* for the site to the EPA, Region 2.

The approved remedy for the site included excavation of soils that exceed the site-specific SCO of 10 ppm total PCBs and installation of a cap of clean fill material over those soils that remain with total PCB concentrations in excess of 1 ppm. NYSDEC issued a Record of Decision regarding the chosen remedial action on June 26, 2015, and EPA acknowledged receipt of the proposed cleanup plan on November 20, 2015.

Remedial activities took place from June 2016 to June 2017. During remedial activities, a total of 1,866.12 tons of PCB impacted soils, 220 cubic yards of PCB impacted

debris, and 6.54 tons of suspected PCB containing capacitor material was removed, and disposed of offsite.

In accordance with the *Self-Implementing Onsite Cleanup of PCB Remediation Waste Plan (Revision 1),* 1,543.12 tons of soil generated during remediation, which exceeded 50 ppm total PCBs, was disposed of as disposed of Toxic Substances Control Act (TSCA) waste, and 322.98 tons of soil generated during remediation, which contained less than 50 ppm total PCBs, was disposed of as non-TSCA waste. TSCA wastes were disposed of at Chemical Waste Management of Emelle, Alabama; non-TSCA wastes were disposed of at Republic Services/Consetoga Landfill of Morgantown, Pennsylvania.

In accordance with the *Self-Implementing Onsite Cleanup of PCB Remediation Waste Plan Amendment 001,* 220 cubic yards of PCB impacted debris generated during remediation, which contained less than 50 ppm total PCBs, was disposed of as non-TSCA waste, and 6.54 tons of suspected PCB containing capacitor material, which contained greater than 50 ppm total PCBs, was disposed of as TSCA waste. Non-TSCA wastes were disposed of at Republic Services/Consetoga Landfill of Morgantown, Pennsylvania; TSCA waste was transported to Veolia Technical Solutions of Port Arthur, Texas for incineration

During soil and debris removal, 114 confirmatory soil samples were collected. Based on sample results, excavation areas were extended horizontally and vertically until confirmatory sample results were below the site-specific SCO of 10 ppm for total PCBs.

Following completion of soil removal, and receipt of acceptable confirmatory sample results, the excavation area was backfilled, and surface soils containing total PCB concentrations in excess of 1 ppm were capped with a minimum of one-foot of clean fill material, as specified in the RAWP. A total of approximately 459 cubic yards of virgin sand, and 280 cubic yards of topsoil was used to backfill excavation areas, and construct caps over impacted surface soils.

In accordance with the approved RAWP, groundwater samples were collected from the existing monitoring well network at the site (monitoring wells MW-1 through MW-6) during remediation. PCBs were detected at concentrations exceeding their AWQS in groundwater samples MW-3 (0.524 ppb) and MW-4 (0.595 ppb). Based on the apparent site-specific groundwater flow direction toward the southeast, these monitoring well locations appear to be located down gradient of the excavation area. PCBs were not detected at concentration exceeding the laboratory method detection limit (MDL) in groundwater samples collected from monitoring wells MW-1, MW-2, MW-5 and MW-6.

Based on the elevated PCB concentrations detected in samples collected from monitoring wells MW-3 and MW-4, PWGC transmitted groundwater sampling results via email to NYSDEC. NYSDEC indicated that additional groundwater sampling should be included in the SMP for the site to further evaluate groundwater conditions.

3.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Record of Decision dated June 26, 2015 are as follows:

3.4.1 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.

3.4.2 Groundwater

Groundwater RAOs were not defined in the June 26, 2015 ROD since PCBs were not previously detected in groundwater monitoring wells at the site. However, post-remediation groundwater sampling performed on January 26, 2017 did detect PCBs in monitoring wells MW-3 and MW-4 at concentrations of 0.524 and 0.595 µg/L, respectively, which exceed the New York State Ambient Water Quality Standard of 0.09 µg/L for total PCBs in Class GA groundwater. Therefore, the RAOs for groundwater are included below.

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

3.5 Remaining Contamination

3.5.1 Soil

With the completion of remedial activities detailed in the FER, known contamination in excess of Site Specific SCOs have been successfully removed from the site. However, contaminants, in the form of residual PCB impact, in excess of Track 1 (Unrestricted) SCOs remain at the site. The sole compound identified in confirmatory endpoint soil samples collected during remedial activities exceeding Track 1 SCOs was arochlor-1254. Aroclor-1254 was detected above 1 ppm but below the site-specific SCO of 10 ppm for total PCBs in 32 out of 114 endpoint soil sample locations. Total PCB

concentrations were below the Site-Specific SCO of 10 ppm at all endpoint sample locations.

In total, 39 of 114 confirmatory endpoint samples comply with the Unrestricted Use SCO of 0.1 ppm, and 84 of 114 confirmatory endpoint sample locations comply with the Residential Use SCO of 1 ppm.

No demarcation layer was installed prior to backfilling excavation areas; as such, for the purposes of long term site management, all soils at the site will be considered potentially impacted unless demonstrated otherwise by laboratory analysis.

Table 3 and Figure 4 summarize the results of confirmatory endpoint soil samples after completion of remedial action.

3.5.2 Groundwater

Six monitoring wells are located at the site, around the perimeter of the former Canine Kennel site. All six wells are screened within the Upper Glacial Aquifer and straddle the water table. Well depths range from 17 to 19 feet below grade. On January 26, 2017, water-table elevations ranged from 8 to 8.5 feet above mean sea level, indicating groundwater flow direction to the southeast. Monitoring well construction information and water-level elevation data are provided in Table 2.

In relation to the former source area, MW-1 is up gradient and MW-2 through MW-6 are downgradient. PCBs were not detected in historical groundwater samples from these wells.

Following implementation of remedial action, groundwater samples were collected from the six existing site monitoring wells on January 26, 2017, groundwater samples from downgradient monitoring wells MW-3 and MW-4 contained Aroclor-1254 at concentrations of 0.524 and 0.595 µg/L, respectively, which exceed the New York State Ambient Water Quality Standard (AWQS) of 0.09 µg/L for total PCBs in Class GA

groundwater. These two monitoring wells are located downgradient of the center of the former PCB source areas. PCBs were not detected above the laboratory MDL in samples collected from the remaining four monitoring wells. PWGC transmitted groundwater sampling results via email to NYSDEC. NYSDEC indicated that additional groundwater sampling should be included in the SMP for the site to further evaluate groundwater conditions.

Table 4 and Figure 3 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

4.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

4.1 General

Since remaining contamination exists at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC. This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in **Appendix D**) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

4.2 Institutional Controls

A series of ICs is required by the ROD, and RAWP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to commercial or lower uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 5. These ICs are:

- The property may be used for: commercial or lower use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Suffolk County Department of Health Services (SCDHS) to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 5, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

4.3 Engineering Controls

4.3.1 Cap of Clean Fill Material

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over the site. This cover system consists of backfill material within the excavation areas, and a cap over residual surface impact (as specified in the Approved RAWP), and is comprised of a minimum of 12 inches of clean soil.

Figure 6 presents the location of the cover system. The Excavation Work Plan (EWP) provided in **Appendix D** outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 5.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in **Appendix E** and **Appendix F**, respectively.

4.3.2 Perimeter Fence

Following completion of remedial activities, a six-foot high chain link fence was installed around the perimeter of the site. Gates were installed at the northeast corner, and southern tip of the site; gates are kept securely locked to prevent unauthorized access to the site.

Figure 7 presents the location of the Perimeter Fence.

4.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

4.3.3.1 Cap of Clean Fill Material

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

4.3.3.2 Perimeter Fence

The perimeter fence is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

4.3.3.3 Monitoring Wells Associated with Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC with consultation with NYSDOH, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the system will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

5.0 MONITORING AND SAMPLING PLAN

5.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in **Appendix G**.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils).
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 8.0 of this SMP.

5.2 Site-Wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in **Appendix H** – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 8.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs

implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

5.3 Post-Remediation Media Monitoring and Sampling

Samples shall be collected from the site monitoring wells on a routine basis. Sampling locations, required analytical parameters and schedule are provided in Table 5 – Post Remediation Sampling Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

In accordance with NYSDEC's request for sampling of emerging contaminants, groundwater sampling for 1,4-dioxane and perfluoroakyl and polyfluoroakyl substances (PFAS) will be performed at the site in addition to sampling for PCBs.

Table 5 – Post Remediation Sampling Schedule

Sampling Location	Analytical Parameters		Schedule
	PCBs[1]	PFAS & 1,4- Dioxane[2]	
Monitoring Wells MW-1 through MW-6, inclusive.	X		Semi-annual for one year following approval of this SMP. Further routine sampling to be determined based on initial semi-annual sampling results.
Monitoring Wells MW-1 through MW-6, inclusive.		X	Samples to be collected during the first semi-annual sampling event described above. Further routine sampling to be determined based on initial sampling results.
1 - USEPA Method 8081 2 – USEPA Method 537(Modified), USEPA Method 8260D-SIM			

Detailed sample collection and analytical procedures and protocols are provided in **Appendix G** – Quality Assurance Project Plan.

5.3.1 Groundwater Sampling

Groundwater monitoring will be performed semi-annually for one year following approval of this SMP to assess the performance of the remedy. The necessity for further routine sampling will be determined based on initial semi-annual sampling results. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

The network of monitoring wells has been installed to monitor up gradient, on-site and downgradient groundwater conditions at the site.

Table 6 summarizes the wells identification number, as well as the purpose, location, depths, diameter and screened intervals of the wells. As part of the groundwater monitoring, one up gradient well and five downgradient wells will be sampled to evaluate the effectiveness of the remedial activities.

Table 6 – Monitoring Well Construction Details

Well ID	Well Location	Well Diameter (inches)	Top of Casing Elevation (ft above msl)	Well Depth (feet)	Bottom Elevation (ft above msl)
MW-1	Up Gradient	1	24.91	20.00	4.91
MW-2	Down Gradient	1	26.75	22.08	4.67
MW-3	Down Gradient	1	23.97	20.00	3.97
MW-4	Down Gradient	1	24.16	20.95	3.21
MW-5	Down Gradient	1	22.50	20.03	2.47
MW-6	Down Gradient	1	24.91	20.05	4.86

Monitoring well construction logs are included in **Appendix C** of this document.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 8.0 – Reporting Requirements.

5.3.2 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in **Appendix H** - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the Groundwater Sampling Procedure provided as **Appendix I** of this document.

6.0 OPERATION AND MAINTENANCE PLAN

6.1 General

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

7.0 PERIODIC ASSESSMENTS/EVALUATIONS

7.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

Vulnerability Assessments will be included in the Annual Period Review Report detailed in Section 8.2. The Vulnerability Assessment will include:

- Flood Plain: Identify whether the site is located in a flood plain, low-lying or low-groundwater recharge area.
- Site Drainage and Storm Water Management: Identify areas of the site which may flood during severe rain events due to insufficient groundwater recharge capabilities or inadequate storm water management systems.
- Erosion: Identify any evidence of erosion at the site or areas of the site which may be susceptible to erosion during periods of severe rain events.
- High Wind: Identify areas of the site and/or remedial system which may be susceptible to damage from the wind itself or falling objects, such as trees or utility structures during periods of high wind.

- Electricity: Identify the susceptibility of the site/remedial system to power loss and/or dips/surges in voltage during severe weather events, including lightning strikes, and the associated impact on site equipment and operations.
- Spill/Contaminant Release: Identify areas of the site and/or remedial system which may be susceptible to a spill or other contaminant release due to storm-related damage caused by flooding, erosion, high winds, loss of power etc.

Photographs of any vulnerable areas identified at the site will be included in the Vulnerability Assessment.

7.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

As the planned future use of the subject property is to remain undeveloped, it is not anticipated that additional remediation, green or otherwise, will be necessary. In the event the planned future use changes, a green remediation evaluation will be performed to evaluate waste generation, energy usage, emissions, water usage, and land/ecosystems.

8.0 REPORTING REQUIREMENTS

8.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in **Appendix H**. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7 and summarized in the Periodic Review Report.

Table 7: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department
Groundwater Sampling Report	Semi-annual for one year upon approval of this SMP; frequency beyond one year to be evaluated based on results of first two sampling events

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;

- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

8.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in **Appendix A** - Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
  - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
  - The overall performance and effectiveness of the remedy.
- A Vulnerability Assessment, as detailed in Section 7.1.

8.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

8.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

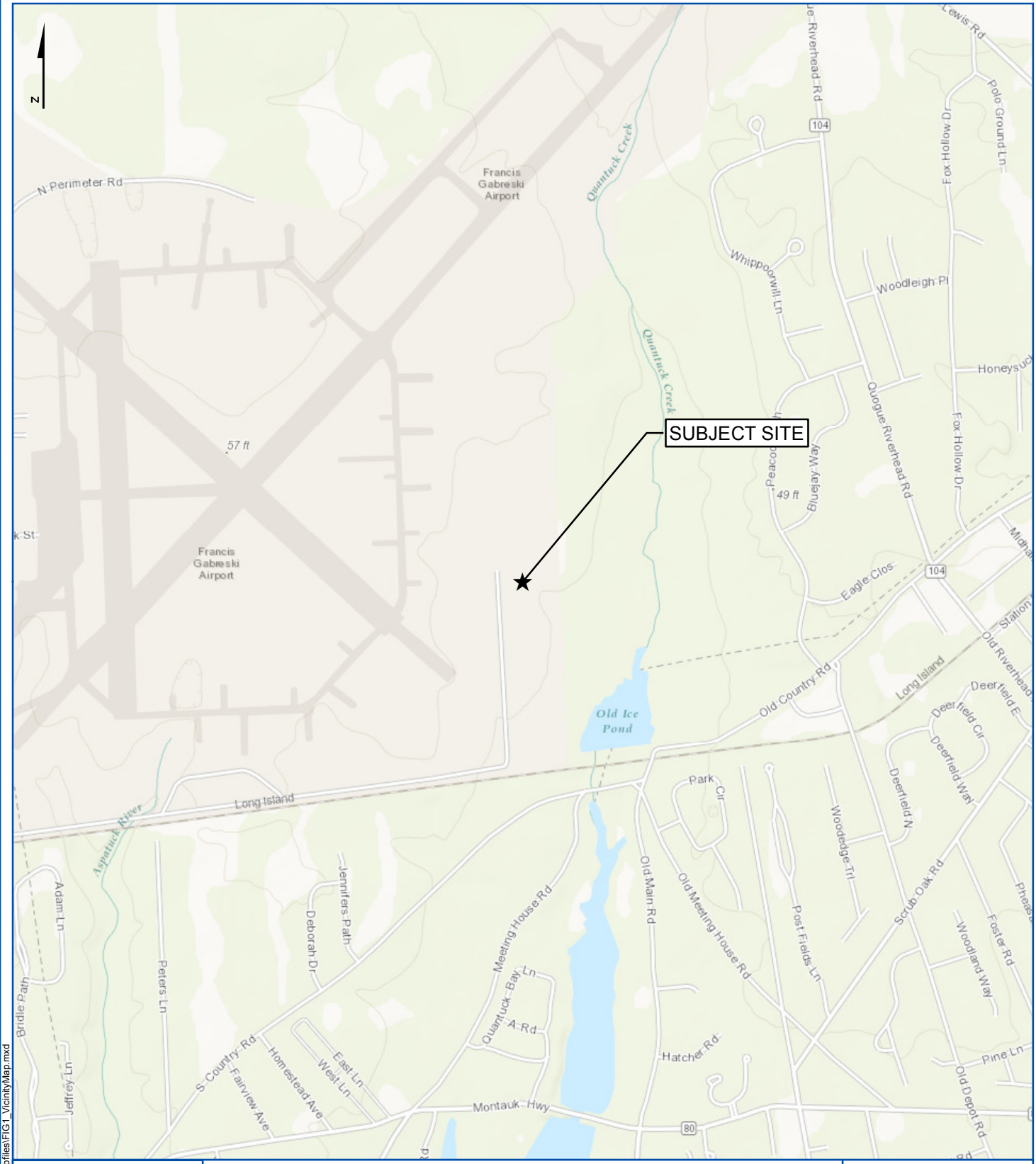
9.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

FIGURES



Document Path: G:\Projects\S-Z\SHD1602\mapfiles\FIG1_VicinityMap.mxd

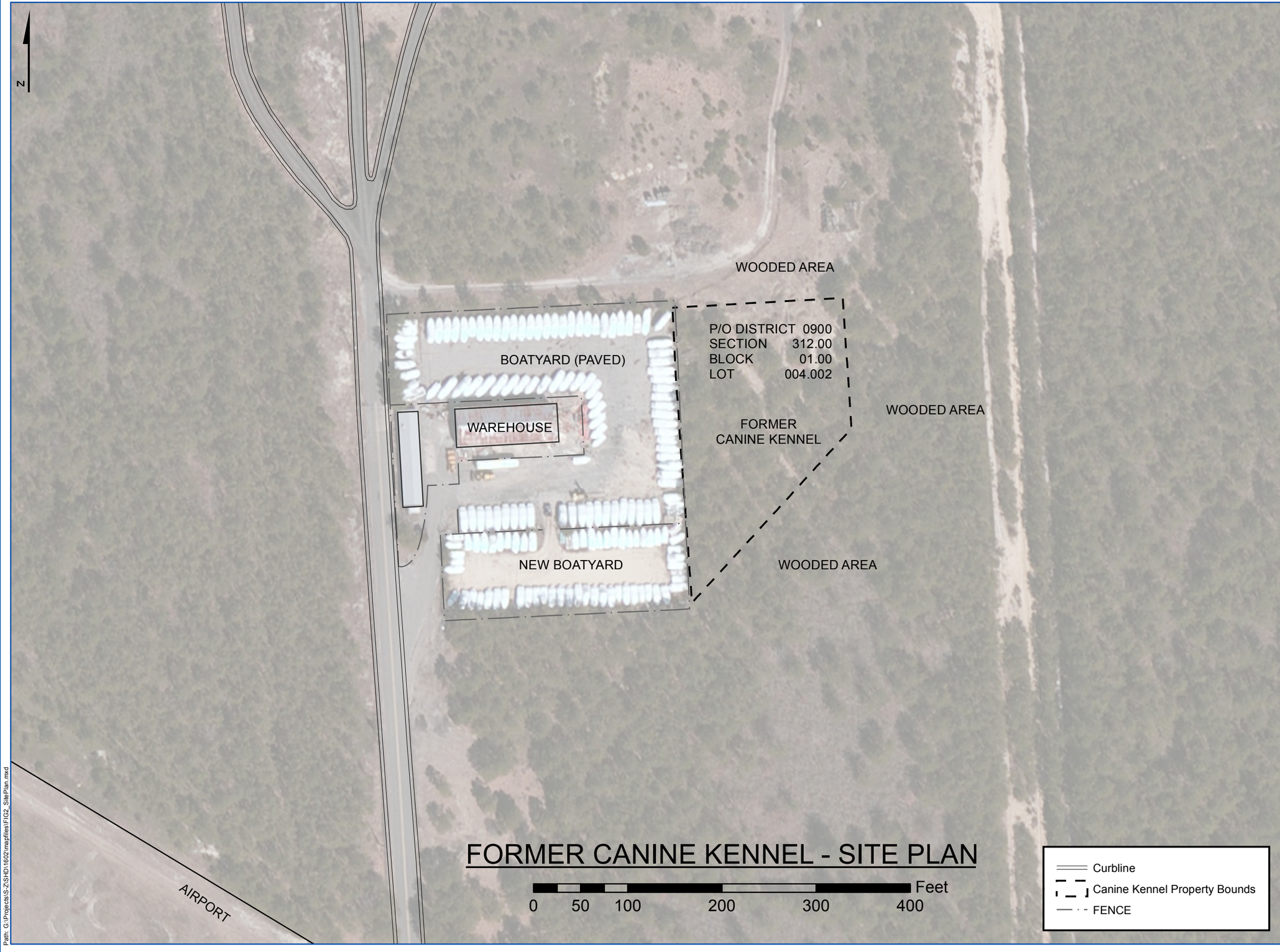
PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING, INC.
630 Johnson Avenue, • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

SITE LOCATION MAP

FORMER CANINE KENNEL - GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK

0 ¼ ½ ¾ 1 Miles

Project:	SHD1602
Date:	5/16/2017
Designed by:	BB
Drawn by:	BB
Approved by:	TM
Figure No:	1



Path: G:\Projects\S-Z\SHD\1602\mapfiles\FIG2_SitePlan.mxd

PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.
630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

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:

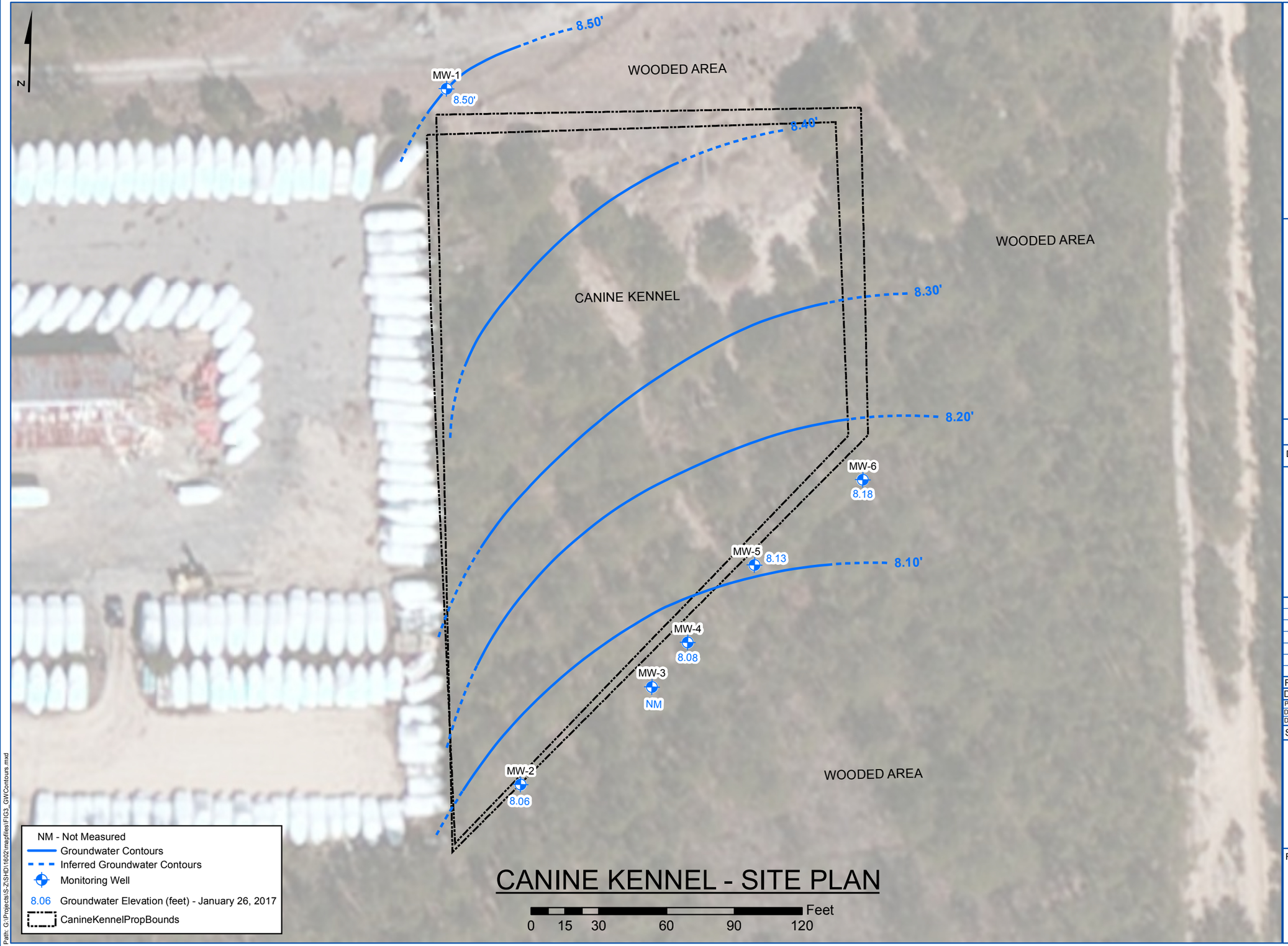
FORMER CANINE KENNEL
GABRESKI AIRPORT
WESTHAMPTON, NEW YORK

SITE PLAN

FIGURE NO:

2

SHEET:



CANINE KENNEL - SITE PLAN

Path: G:\Projects\S-Z\SHD\1602\mapfiles\FIG3_GWContours.mxd

PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.
630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

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:	SHD1602	APPROVED BY:	AL
DESIGNED BY:	KC	DATE:	02/03/2017
DRAWN BY:	TS	SCALE:	AS SHOWN

SHEET TITLE:

FORMER CANINE KENNEL
GABRESKI AIRPORT
WESTHAMPTON, NEW YORK

GROUNDWATER CONTOURS

FIGURE NO:

3

N

Sample ID: EP043
Total PCB: 0.110

Sample ID: EP041
Total PCB: 0.166

Sample ID: EP042
Total PCB: 0.140

Sample ID: EP044
Total PCB: 0.543

Sample ID: EP045
Total PCB: 0.554

Sample ID: EP111
Total PCB: 0.0942

Sample ID: EP112
Total PCB: 0.0632

Sample ID: EP110
Total PCB: 0.136

Sample ID: EP109
Total PCB: 0.364

Sample ID: EP092
Total PCB: 1.12

Sample ID: EP074
Total PCB: 0.126

Sample ID: EP107
Total PCB: 0.0243

Sample ID: EP073
Total PCB: 2.39

Sample ID: EP094B
Total PCB: 3.98

Sample ID: EP091F
Total PCB: ND

Sample ID: EP023
Total PCB: 0.0599

Sample ID: EP021A
Total PCB: 0.241

Sample ID: EP051
Total PCB: ND

Sample ID: EP053
Total PCB: 0.586

Sample ID: EP052
Total PCB: 0.647

Sample ID: EP050
Total PCB: 3.71

Sample ID: EP054
Total PCB: 3.04

Sample ID: EP090
Total PCB: 1.42

Sample ID: EP093
Total PCB: 2.00

Sample ID: EP072A
Total PCB: 6.84

Sample ID: EP038
Total PCB: 0.268

Sample ID: EP108D
Total PCB: 3.48

Sample ID: EP083F
Total PCB: 1.05

Sample ID: EP088F
Total PCB: 0.179

Sample ID: EP022
Total PCB: 0.133

Sample ID: EP086A
Total PCB: 0.559

Sample ID: EP114B
Total PCB: 5.80

Sample ID: EP037
Total PCB: 0.455

Sample ID: EP036A
Total PCB: 5.43

Sample ID: EP034
Total PCB: 3.46

Sample ID: EP031B
Total PCB: 0.0351

Sample ID: EP105
Total PCB: ND

Sample ID: EP102
Total PCB: 7.55

Sample ID: EP035
Total PCB: ND

Sample ID: EP087A
Total PCB: 5.00

Sample ID: EP025
Total PCB: 6.65

Sample ID: EP024
Total PCB: 0.0239

Sample ID: EP039
Total PCB: 0.718

Sample ID: EP040
Total PCB: 0.297

Sample ID: EP003
Total PCB: 0.141

Sample ID: EP033A
Total PCB: 4.75

Sample ID: EP106
Total PCB: 9.02

Sample ID: EP032
Total PCB: 0.866

Sample ID: EP101
Total PCB: ND

Sample ID: EP103
Total PCB: 0.153

Sample ID: EP104
Total PCB: 2.09

Sample ID: EP100
Total PCB: ND

Sample ID: EP099
Total PCB: 0.0972

Sample ID: EP029
Total PCB: 0.0347

Sample ID: EP098A
Total PCB: 0.433

Sample ID: EP030
Total PCB: 0.0606

Sample ID: EP097
Total PCB: ND

Sample ID: EP026
Total PCB: 0.0317

Sample ID: EP095
Total PCB: 0.0269

Sample ID: EP027
Total PCB: 0.0193

Sample ID: EP096
Total PCB: 0.0216

Sample ID: EP028
Total PCB: ND

Sample ID: EP077B
Total PCB: 3.92

Sample ID: EP113B
Total PCB: 2.15

Sample ID: EP076A
Total PCB: 7.51

Sample ID: EP089
Total PCB: 3.88

Sample ID: EP075
Total PCB: 3.41

Sample ID: EP085B
Total PCB: 7.78

Sample ID: EP084B
Total PCB: 0.0288

Sample ID: EP009
Total PCB: 0.0578

Sample ID: EP082B
Total PCB: 0.750

Sample ID: EP018
Total PCB: 0.847

Sample ID: EP061
Total PCB: 0.245

Sample ID: EP016
Total PCB: 3.33

Sample ID: EP019
Total PCB: 0.0821

Sample ID: EP060
Total PCB: 3.20

Sample ID: EP068A
Total PCB: ND

Sample ID: EP059
Total PCB: 0.315

Sample ID: EP067
Total PCB: 0.467

Sample ID: EP001B
Total PCB: 0.251

Sample ID: EP004
Total PCB: 7.31

Sample ID: EP079B
Total PCB: 0.218

Sample ID: EP008
Total PCB: ND

Sample ID: EP080D
Total PCB: 2.15

Sample ID: EP006A
Total PCB: 0.673

Sample ID: EP071
Total PCB: 0.117

Sample ID: EP017
Total PCB: 0.397

Sample ID: EP020
Total PCB: 0.0500

Sample ID: EP007
Total PCB: 0.0807

Sample ID: EP081B
Total PCB: 0.362

Sample ID: EP078B
Total PCB: 0.237

Sample ID: EP010
Total PCB: ND

Sample ID: EP002
Total PCB: 0.0821

Sample ID: EP005
Total PCB: 0.148

Sample ID: EP070
Total PCB: 1.50

Sample ID: EP069A
Total PCB: 0.0481

Sample ID: EP065
Total PCB: 0.320

Sample ID: EP066
Total PCB: 4.11

Sample ID: EP011
Total PCB: 0.261

Sample ID: EP058
Total PCB: 0.396

Sample ID: EP013
Total PCB: ND

Sample ID: EP014
Total PCB: 0.335

Sample ID: EP057
Total PCB: 0.312

Sample ID: EP056
Total PCB: 0.0285

Sample ID: EP055
Total PCB: 0.0264

Sample ID: EP064
Total PCB: 2.36

Sample ID: EP012
Total PCB: 0.105

Sample ID: EP015
Total PCB: ND

Sample ID: EP063
Total PCB: 0.192

Sample ID: EP062
Total PCB: 0.126

0 10 20 40 60 Feet

Site Overview

Sample ID: EP046
Total PCB: ND

Sample ID: EP049
Total PCB: ND

Sample ID: EP048
Total PCB: 0.0275

Sample ID: EP047
Total PCB: ND

- Endpoint Sample Location
- Final Excavation Extent
- Canine Kennel Property Boundary

PWGC
Strategic Environmental and Engineering Solutions

P.W. GROSSER CONSULTING, INC.

630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

DRAWING 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:	SHD1602	Designed by:	TM
Date:	5/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	TM

Confirmatory Endpoint Soil Sample Locations

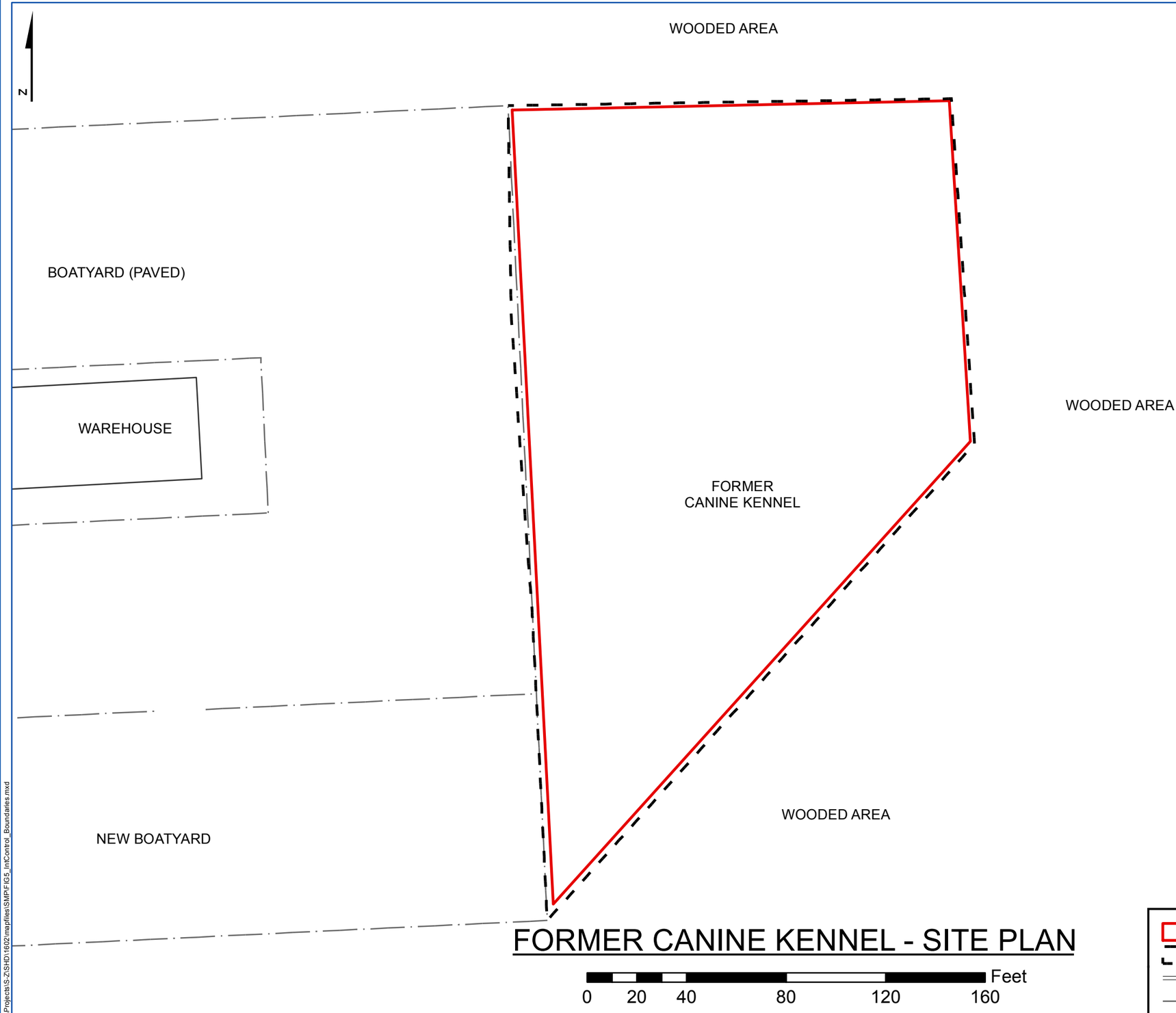
Samples In Compliance with Site Specific Removal Criteria

FORMER CANINE KENNEL
GABRESKI AIRPORT
WEST HAMPTON, NEW YORK

FIGURE NO:

4

Document Path: G:\Projects\S-Z\SHD\1602\mapfiles\FER\FIG4_Endpoint_Results_all.mxd



FORMER CANINE KENNEL - SITE PLAN

0 20 40 80 120 160 Feet

Institutional Control Boundary
Canine Kennel Property Boundary
Curbline
FENCE

Path: G:\Projects\S-Z\SHD\1602\mapfiles\SMPFIG5_InfControl_Boundaries.mxd

PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING ENGINEER AND HYDROGEOLOGIST, P.C.
630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

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:	TM
DESIGNED BY:	BB	DATE:	11/21/2012
DRAWN BY:	TS	SCALE:	AS SHOWN

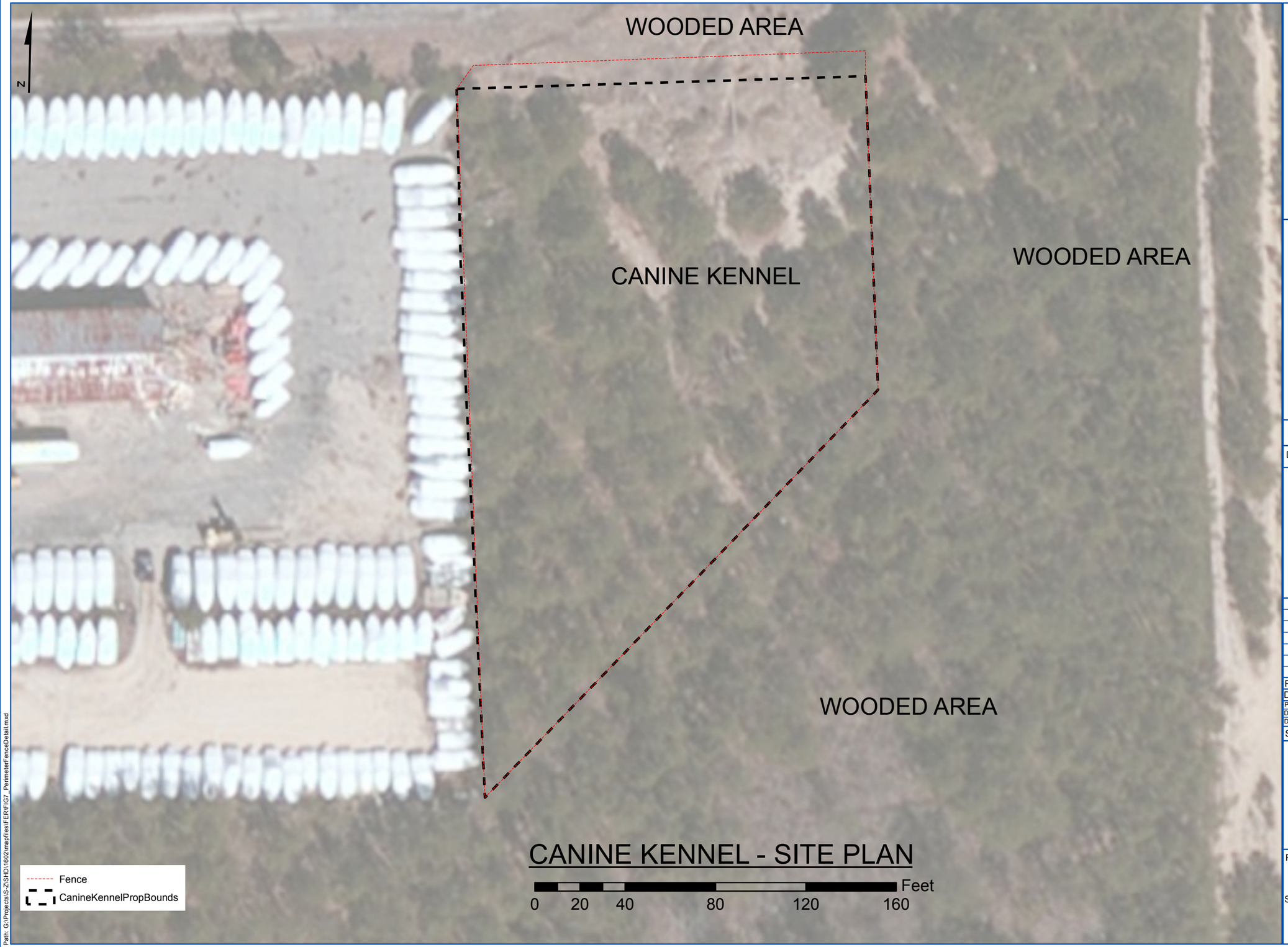
SHEET TITLE:

FORMER CANINE KENNEL
GABRESKI AIRPORT
WESTHAMPTON, NEW YORK

INSTITUTIONAL CONTROL BOUNDARIES

FIGURE NO:
5

SHEET:



Path: G:\Projects\S-Z\SHD\1602\mapfiles\FER\FIG7_PerimeterFenceDetail.mxd

PWGC
Strategic Environmental and Engineering Solutions
P.W. GROSSER CONSULTING, INC.
630 Johnson Avenue. • Suite 7
Bohemia • NY • 11716-2618
Phone: (631) 589-6353 • Fax: (631) 589-8705
E-mail: INFO@PWGROSSER.COM

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

PERIMETER FENCE DETAIL

FIGURE NO:

7

SHEET:

TABLES

Table 3

Confirmatory Endpoint Sample Data
Former Canine Kennel Site (C152079/152079)
Westhampton Beach, New York

Table 3. Confirmatory Endpoint Sample Data																	
PCBs in Soil																	
Analyte		Total PCBs		Aroclor-1016		Aroclor-1221		Aroclor-1232		Aroclor-1242		Aroclor-1248		Aroclor-1254		Aroclor-1260	
Reporting Units		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
	Sample Date	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code
EP001B	8/9/2016	0.251		0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.251		0.017	U
EP002	7/25/2016	0.0821		0.018	U	0.018	U	0.018	U	0.018	U	0.018	U	0.0821		0.018	U
EP003	7/25/2016	0.141		0.018	U	0.018	U	0.018	U	0.018	U	0.018	U	0.141		0.018	U
EP004	7/25/2016	7.31	D	0.167	U	0.167	U	0.167	U	0.167	U	0.167	U	7.31	D	0.167	U
EP005	7/25/2016	0.148		0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.148		0.017	U
EP006A	8/2/2016	0.673		0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.673		0.0176	U
EP007	7/26/2016	0.0807		0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0807		0.0176	U
EP008	7/26/2016	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U
EP009	7/26/2016	0.0578		0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0578		0.0183	U
EP010	7/26/2016	0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.0182	U
EP011	7/26/2016	0.261		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.261		0.0173	U
EP012	7/26/2016	0.105		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.105		0.0171	U
EP013	7/26/2016	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U
EP014	7/26/2016	0.335		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.335		0.0172	U
EP015	7/26/2016	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U
EP016	7/26/2016	3.33	D	0.176	U	0.176	U	0.176	U	0.176	U	0.176	U	3.33	D	0.176	U
EP017	7/26/2016	0.397		0.0186	U	0.0186	U	0.0186	U	0.0186	U	0.0186	U	0.397		0.0186	U
EP018	7/26/2016	0.847		0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.847		0.0176	U
EP019	7/26/2016	0.0821		0.018	U	0.018	U	0.018	U	0.018	U	0.018	U	0.0821		0.018	U
EP020	7/26/2016	0.05		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.05		0.0175	U
EP021A	8/2/2016	0.241		0.0203	U	0.0203	U	0.0203	U	0.0203	U	0.0203	U	0.241		0.0203	U
EP022	7/27/2016	0.133		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.133		0.0172	U
EP023	7/27/2016	0.0599		0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.0599		0.017	U
EP023 (DUP002)	7/27/2016	0.0574		0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.0574		0.017	U
EP024	7/27/2016	0.0239		0.0207	U	0.0207	U	0.0207	U	0.0207	U	0.0207	U	0.0239		0.0207	U
EP025	7/27/2016	6.65	D	0.176	U	0.176	U	0.176	U	0.176	U	0.176	U	6.65	D	0.176	U
EP026	7/27/2016	0.0317		0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0317		0.0176	U
EP027	7/27/2016	0.0193		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0193		0.0175	U
EP028	7/27/2016	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U
EP029	7/27/2016	0.0347		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0347		0.0172	U
EP030	7/27/2016	0.0606		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0606		0.0173	U
EP031B	8/10/2016	0.0351		0.0188	U	0.0188	U	0.0188	U	0.0188	U	0.0188	U	0.0351		0.0188	U
EP032	7/27/2016	0.866		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.866		0.0172	U
EP033A	8/2/2016	4.75	D	0.184	U	0.184	U	0.184	U	0.184	U	0.184	U	4.75	D	0.184	U
EP034	7/27/2016	3.46	D	0.204	U	0.204	U	0.204	U	0.204	U	0.204	U	3.46	D	0.204	U
EP035	7/27/2016	0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.0187	U
EP036A	8/4/2016	5.43	D	0.216	U	0.216	U	0.216	U	0.216	U	0.216	U	5.43	D	0.216	U
EP037	7/28/2016	0.455		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.455		0.0171	U
EP038	7/28/2016	0.268		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.268		0.0175	U
EP039	7/28/2016	0.718		0.0189	U	0.0189	U	0.0189	U	0.0189	U	0.0189	U	0.718		0.0189	U
EP040	7/28/2016	0.297		0.0208	U	0.0208	U	0.0208	U	0.0208	U	0.0208	U	0.297		0.0208	U
EP041	7/28/2016	0.166		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.166		0.0173	U
EP042	7/28/2016	0.14		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.14		0.0171	U
EP042 (DUP003)	7/28/2016	0.131		0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.131		0.017	U
EP043	7/28/2016	0.11		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.11		0.0171	U
EP044	7/28/2016	0.543		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.543		0.0172	U
EP045	7/28/2016	0.554		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.554		0.0174	U
EP046	7/28/2016	0.0178	U	0.0178	U	0.0178	U	0.0178	U	0.0178	U	0.0178	U	0.0178	U	0.0178	U
EP047	7/28/2016	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U
EP048	7/28/2016	0.0275		0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0275		0.0179	U
EP049	7/28/2016	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U
EP050	7/28/2016	3.71	D	0.172	U	0.172	U	0.172	U	0.172	U	0.172	U	3.71	D	0.172	U
EP051	7/28/2016	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U
EP052	7/28/2016	0.647		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.647		0.0172	U
EP053	7/28/2016	0.586		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.586		0.0172	U
EP054	7/28/2016	3.04	D	0.0857	U	0.0857	U	0.0857	U	0.0857	U	0.0857	U	3.04	D	0.0857	U
EP055	8/3/2016	0.0264		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0264		0.0173	U
EP056	8/3/2016	0.0285		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0285		0.0173	U
EP057	8/3/2016	0.312		0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.312		0.0177	U
EP058	8/3/2016	0.396		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.396		0.0175	U
EP059	8/3/2016	0.315		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.315		0.0174	U
EP060	8/3/2016	3.2	D	0.177	U	0.177	U	0.177	U	0.177	U	0.177	U	3.2	D	0.177	U
EP060 (DUP004)	8/3/2016	6.2	D	0.179	U	0.179	U	0.179	U	0.179	U	0.179	U	6.2	D	0.179	U
EP061	8/3/2016	0.245		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.245		0.0172	U
EP062	8/3/2016	0.126		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.126		0.0171	U
EP063	8/3/2016	0.192		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.192		0.0175	U
EP064	8/3/2016	2.36	D	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	2.36	D	0.18	U
EP065	8/3/2016	0.32		0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.0172	U	0.32		0.0172	U
EP066	8/3/2016	4.11	D	0.177	U	0.177	U	0.177	U	0.177	U	0.177	U	4.11	D	0.177	U
EP067	8/3/2016	0.467		0.0208	U	0.0208	U	0.0208	U	0.0208	U	0.0208	U	0.467		0.0208	U
EP068A	8/10/2016	0.0184	U	0.0184	U	0.0184	U	0.0184	U	0.0184	U	0.0184	U	0.0184	U	0.0184	U
EP068A (DUP005)	8/10/2016	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U
EP069A	8/10/2016	0.0481		0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0171	U	0.0481		0.0171	U
EP070	8/3/2016	1.5	D	0.0959	U	0.0959	U	0.0959	U	0.0959	U	0.0959	U	1.5	D	0.0959	U
EP071	8/3/2016	0.117		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0856		0.0173	U
EP072A	8/22/2016	6.84		0.177	U	0.177	U	0.177	U	0.177	U	0.177	U	6.84		0.177	U
EP073	8/11/2016	2.39	D	0.174	U	0.174	U	0.174	U	0.174	U	0.174	U	2.39	D	0.174	U
EP074	8/11/2016	0.126		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.126		0.0174	U
EP075	8/11/2016	3.41	D	0.178	U	0.178	U	0.178	U	0.178	U	0.178	U	3.41	D	0.178	U
EP076A	8/22/2016	7.51		0.174	U	0.174	U	0.174	U	0.174	U	0.174	U	7.51		0.174	U
EP077B	9/9/2016	3.92	D	0.182	U	0.182	U	0.182	U	0.182	U	0.182	U	3.92	D	0.182	U
EP078B	9/6/2016	0.237		0.0204	U	0.0204	U	0.0204	U	0.0204	U	0.0204	U	0.237		0.0204	U
EP079B	9/6/2016	0.218		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.218		0.0175	U
EP080D	9/20/2016	2.15	D	0.108	U	0.108	U	0.108	U	0.108	U	0.108	U	2.15	D	0.108	U
EP081B	9/6/2016	0.362		0.018	U	0.018	U	0.018	U	0.018	U	0.018	U	0.362		0.018	U
EP082B	9/6/2016	0.75		0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.0182	U	0.75		0.0182	U
EP083F	10/6/2016	1.05		0.0216	U	0.0216	U	0.0216	U	0.0216	U	0.0216	U	1.05		0.0216	U
EP084B	9/6/2016	0.0288		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0288		0.0173	U
EP085B	9/6/2016	7.78	D	0.181	U	0.181	U	0.181	U	0.181	U	0.181	U	7.78	D	0.181	U
EP086A	8/24/2016	0.559		0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.559		0.0173	U
EP087A	8/24/2016	5	D	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	5	D	0.17	U
EP088F	10/5/2016	0.179		0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.179		0.0175	U
EP089	8/16/2016	3.88	D	0.172	U	0.172	U	0.172	U	0.172	U	0.172	U	3.88	D	0.172	U
EP090	8/16/2016	1.42	D	0.0849	U	0.0849	U	0.0849	U	0.0849	U	0.0849	U	1.42	D	0.0849	U
EP091F	10/5/2016	0.0216	U	0.0216	U	0.0216	U	0.0216	U	0.0216	U	0.0216	U	0.0216	U	0.0216	U
EP092	8/16/2016	1.12	D	0.0892	U	0.0892	U	0.0892	U	0.0892	U	0.0892	U	1.12	D	0.0892	U
EP093	8/16/2016	2	D	0.174	U	0.174	U	0.174	U	0.174	U	0.174	U	2	D	0.174	U
EP094B	9/6/2016	3.98	D	0.174	U	0.174	U	0.174	U	0.174	U	0.174	U	3.98	D	0.174	U
EP095	8/22/2016	0.0269		0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0269		0.0183	U
EP096	8/22/2016	0.0216		0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0183	U	0.0216		0.0183	U
EP096 (DUP006)	8/22/2016	0.0302		0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0302		0.0177	U
EP097	8/22/2016	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U
EP098A	9/6/2016	0.433		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.433		0.0174	U
EP099	8/22/2016	0.0972		0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0176	U	0.0972		0.0176	U
EP100	8/22/2016	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U	0.0173	U
EP101	8/22/2016	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U	0.0175	U
EP102	8/22/2016	7.55		0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	7.55		0.18	U
EP103	8/22/2016	0.153		0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.0187	U	0.153		0.0187	U
EP104	8/22/2016	2.09		0.0872	U	0.0872	U	0.0872	U	0.0872	U	0.0872	U	2.09		0.0872	U
EP105	8/22/2016	0.0194	U	0.0194	U	0.0194	U	0.0194	U	0.0194	U	0.0194	U	0.0194	U	0.0194	U
EP106	8/22/2016	9.02		0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	9.02		0.36	U
EP107	9/9/2016	0.0243		0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0179	U	0.0243		0.0179	U
EP108D	10/27/2016	3.48	D	0.0995	U	0.0995	U	0.0995	U	0.0995	U	0.0995	U	3.48	D	0.0995	U
EP109	9/9/2016	0.364		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.364		0.0174	U
EP110	9/9/2016	0.136		0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.0174	U	0.136		0.0174	U
EP111	9/9/2016	0.0942		0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0177	U	0.0942		0.0177	U
EP112	9/9/2016	0.0632		0.0201	U	0.0201	U	0.0201	U	0.0201	U	0.0201	U	0.0632		0.0201	U
EP113B	10/3/2016	2.15	D	0.0989	U	0.0989	U	0.0989	U	0.0989	U	0.0989	U	2.15	D	0.0989	U
EP114B	10/14/2016	5.8	D	0.171	U	0.171	U	0.171	U	0.171	U	0.171	U	5.8	D	0.171	U

Notes:

All concentrations are mg/kg (ppm)

Highlighted concentrations exceed Restricted Residential SCOs specified in 6 NYCRR Part 375-6

U : Indicates the analyte was analyzed for but not detected.

D - Concentration of analyte was quantified from diluted analysis.

Table 4

Groundwater Sample Data
Former Canine Kennel Site (C152079/152079)
Westhampton Beach, New York

Table 4. Groundwater Sample Data																	
PCBs in Groundwater																	
Analyte		Total PCBs		Aroclor-1016		Aroclor-1221		Aroclor-1232		Aroclor-1242		Aroclor-1248		Aroclor-1254		Aroclor-1260	
Reporting Units		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
	Sample Date	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code	Result	Flag Code
MW-1	1/26/2017	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U
MW-2	1/26/2017	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U
MW-3	1/26/2017	0.524		0.0541	U	0.0541	U	0.0541	U	0.0541	U	0.0541	U	0.524		0.0541	U
MW-4	1/26/2017	0.595		0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.595		0.0556	U
MW-5	1/26/2017	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U
MW-6	1/26/2017	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U	0.0556	U

Notes:

All concentrations are ug/L (ppb)

Highlighted concentrations exceed Ambient Water Quality Standards specified in TOGS 1.1.1

U : Indicates the analyte was analyzed for but not detected.

D - Concentration of analyte was quantified from diluted analysis.

APPENDIX A

ENVIRONMENTAL EASEMENT

CC # : C24-46337

COUNTY CLERK'S OFFICE

STATE OF NEW YORK
COUNTY OF SUFFOLK

The Clerk of the County of Suffolk and the Court of Record thereof do hereby certify that I have compared the annexed with the original

EASEMENT

recorded in my office on **10/02/2024** under Liber **D00013267** and Page **016** and, that the same is a true copy thereof, and of the whole of such original.

In Testimony Whereof, I have hereunto set my hand and affixed the seal of said County and Court this **10/02/2024** .

SUFFOLK COUNTY CLERK

V Puleo

VINCENT PULEO

SEAL

SUFFOLK COUNTY CLERK
RECORDS OFFICE
RECORDING PAGE

Type of Instrument: EASEMENT
Number of Pages: 10
Receipt Number : 24-0122943
TRANSFER TAX NUMBER: 24-07753

Recorded: 10/02/2024
At: 03:42:33 PM

LIBER: D00013267
PAGE: 016

District:	Section:	Block:	Lot:
0900	312.00	01.00	004.002

EXAMINED AND CHARGED AS FOLLOWS

Deed Amount: $0.00

Received the Following Fees For Above Instrument

		Exempt			Exempt
Page/Filing	$0.00	YES	Handling	$0.00	YES
COE	$0.00	YES	NYS SRCHG	$0.00	YES
TP-584	$0.00	YES	Notation	$0.00	YES
Cert.Copies	$0.00	YES	RPT	$0.00	YES
Transfer tax	$0.00	YES	Comm.Pres	$0.00	YES
Comm.Pres Fund	$0.00	YES	Comm.Housing Fund	$0.00	YES
			Fees Paid	$0.00	

TRANSFER TAX NUMBER: 24-07753

THIS PAGE IS A PART OF THE INSTRUMENT
THIS IS NOT A BILL

VINCENT PULEO
County Clerk, Suffolk County

HP LaserJet P2035
COUNTERPC04

RECEIPT
Suffolk County Clerk
VINCENT PULEO
County Clerk

Receipt Number : 24-0122943
Payor Name : SUFFOLK AIRPORT CANINE KENNEL

DESCRIPTION	TRANS AMOUNT
Type of Instrument: EASEMENT	
Page/Filing	$0.00
Handling	$0.00
COE	$0.00
NYS SRCHG	$0.00
TP-584	$0.00
Notation	$0.00
Cert.Copies	$0.00
RPT	$0.00
Transfer tax	$0.00
Comm.Pres	$0.00
Comm.Pres Fund	$0.00
Comm.Housing Fund	$0.00
Fees Paid	$0.00
Conveyance Amt:	$0.00
Transfer Tax Number	24-07753
LIBER	D00013267
PAGE	016
DATE: 10/02/2024 TIME: 03:42:33 PM	
RECEIPT TOTAL	$0.00
TOTAL AMOUNT PAID	$0.00

COMMENTS

1 | 2

Number of pages 10

This document will be public record. Please remove all Social Security Numbers prior to recording.

RECORDED
2024 Oct 02 03:42:33 PM
VINCENT PULEO
CLERK OF
SUFFOLK COUNTY
L D00013267
P 016
DT# 24-07753

Deed / Mortgage Instrument	Deed / Mortgage Tax Stamp	Recording / Filing Stamps

3 FEES

Page / Filing Fee	50-	Mortgage Amt.	
Handling	20. 00	1. Basic Tax	
TP-584	5-	2. Additional Tax	
Notation		Sub Total	
EA-52 17 (County)	Sub Total	Spec./Assit. or Spec. /Add.	
EA-5217 (State)		TOT. MTG. TAX	
R.P.T.S.A.	200	Dual Town ____ Dual County ____ Held for Appointment ____	
Comm. of Ed.	5. 00	Transfer Tax	
Affidavit		Mansion Tax	
Certified Copy	12.50		
NYS Surcharge	15. 00	Sub Total	
Other		Grand Total Exempt	

The property covered by this mortgage is or will be improved by a one or two family dwelling only.

YES _____ or NO _____

If NO, see appropriate tax clause on page # _____ of this instrument.

4 Dist. 900

5393949 0900 31200 0100 004002

Real Property Tax Service Agency Verification

PTS RAK A 19-SEP-24

5 Community Preservation Fund

Consideration Amount $ _____

CPF Tax Due $ _____

Improved _____

Vacant Land _____

TD _____

TD _____

TD _____

6 Satisfactions/Discharges/Releases List Property Owners Mailing Address

RECORD & RETURN TO:
Suffolk Airport Canine Kennel; 26-HS-354
Jacqueline Caputi, Esq
Assistant County Attorney
1000 Veterans Memorial Highway
PO Box 6100
Hauppauge, NY 11788-0099

Mail to: Vincent Puleo, Suffolk County Clerk
310 Center Drive, Riverhead, NY 11901
www.suffolkcountyny.gov/clerk

7 Title Company Information

Co. Name N/A

Title #

8 Suffolk County Recording & Endorsement Page

This page forms part of the attached Environmental Easement made by:
(SPECIFY TYPE OF INSTRUMENT)

County of Suffolk

TO

New York State of Environmental Conservation

The premises herein is situated in SUFFOLK COUNTY, NEW YORK.

In the TOWN of Southampton

In the VILLAGE or HAMLET of _____

BOXES 6 THRU 8 MUST BE TYPED OR PRINTED IN BLACK INK ONLY PRIOR TO RECORDING OR FILING.

(over)

IMPORTANT NOTICE

If the document you've just recorded is your SATISFACTION OF MORTGAGE, please be aware of the following:

If a portion of your monthly mortgage payment included your property taxes, *you will now need to contact your local Town Tax Receiver so that you may be billed directly for all future property tax statements.

Local property taxes are payable twice a year: on or before January 10th and on or before May 31st. Failure to make payments in a timely fashion could result in a penalty.

Please contact your local Town Tax Receiver with any questions regarding property tax payment.

Babylon Town Receiver of Taxes
200 East Sunrise Highway
North Lindenhurst, N.Y. 11757
(631) 957-3004

Brookhaven Town Receiver of Taxes
One Independence Hill
Farmingville, N.Y. 11738
(631) 451-9009

East Hampton Town Receiver of Taxes
300 Pantigo Place
East Hampton, N.Y. 11937
(631) 324-2770

Huntington Town Receiver of Taxes
100 Main Street
Huntington, N.Y. 11743
(631) 351-3217

Islip Town Receiver of Taxes
40 Nassau Avenue
Islip, N.Y. 11751
(631) 224-5580

Riverhead Town Receiver of Taxes
200 Howell Avenue
Riverhead, N.Y. 11901
(631) 727-3200

Shelter Island Town Receiver of Taxes
Shelter Island Town Hall
Shelter Island, N.Y. 11964
(631) 749-3338

Smithtown Town Receiver of Taxes
99 West Main Street
Smithtown, N.Y. 11787
(631) 360-7610

Southampton Town Receiver of Taxes
116 Hampton Road
Southampton, N.Y. 11968
(631) 283-6514

Southold Town Receiver of Taxes
53095 Main Street
Southold, N.Y. 11971
(631) 765-1803

Sincerely,

V Puleo

Vincent Puleo
Suffolk County Clerk

12-0104.. 08/06kd

26.HS.354

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 23rd day of August, 2024 between Owner, Suffolk County, having an office at H. Lee Dennison Building, 100 Veterans Memorial Highway, Hauppauge, County of Suffolk, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of Francis S. Gabreski Airport, Old Riverhead Road in the City of Westhampton Beach, County of Suffolk and State of New York, known and designated on the tax map of the County Clerk of Suffolk as tax map parcel number: Section 312 Block 1 Lot 4.002, being the same as that property Grantor took title to through condemnation proceeding initiated by resolution and Oaths filed July 20, 1942 in the Suffolk County Clerk's Office. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.937 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 20, 2017 and last revised January 29, 2020, prepared by Tamara L. Stillman, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: W1-1080-05-09, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Suffolk County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions. Grantee will contact Gabreski Airport Management prior to accessing the subject property located inside the airport fence line to coordinate such access.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C152079
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

COUNTY OF SUFFOLK:

By: _____

Print Name: Kevin B. Molloy

Title: Chief Deputy County Executive Date: 8/12/24

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Suffolk)

On the 12 day of August, in the year 2024, before me, the undersigned, personally appeared Kevin B. Molloy, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

KIMBERLY A. FARLEY
Notary Public, State of New York
No. 01FA6303307
Qualified in Suffolk County
Commission Expires May 12, 2026

_____
Notary Public – State of New York

Approved as to Form:

Christopher J. Clayton
Suffolk County Attorney

By: _____
Jacqueline Caputi
Assistant County Attorney

Date: 8/8/24

Approved:
Department of Health Services

By: _____
Title: Commissioner

Date: 8/8/24

86244

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Andrew O. Guglielmi, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 23rd day of August, in the year 2024 before me, the undersigned, personally appeared Andrew O. Guglielmi, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

Cheryl A. Salem
Notary Public State of New York
Registration No. 01SA0002177
Qualified in Albany County
My Commission Expires March 3, 2027

86244

SCHEDULE "A" PROPERTY DESCRIPTION

All that certain plot, piece, or parcel of land, situate, lying and being in property of County of Suffolk, Francis S. Gabreski Airport, Westhampton, Town of Southampton, County of Suffolk, State of New York, and being part of Lots 23 and 24 on the 1924 map of Quogue Purchase – Last Division filed in the Suffolk County Clerk's Office as Map No. 1014, and also as shown on a map entitled "As-built Survey," prepared by L.K. McLean Associates, dated June 20, 2017 and last revised January 29, 2020; said easement being more particularly bounded and described as follows:

Beginning at the southwest corner of the subject parcel, said corner being the following eleven (11) courses and distances from the point of intersection of the easterly boundary line of Westhampton – Riverhead Road (C.R. 31) and the northerly boundary line of the Long Island Railroad (M.T.A.):

1. North 81° 52' 19" East, a distance of 839.52 feet to a point; thence
2. North 81° 46' 46" East, a distance of 2,499.95 feet to a point; thence
3. North 81° 41' 57" East, a distance of 0.77 feet to a point; thence
4. North 08° 18' 03" West, a distance of 240.27 feet to a point; thence
5. North 20° 11' 18" East, a distance of 102.09 feet to a point; thence
6. North 57° 01' 51" East, a distance of 155.74 feet to a point; thence
7. North 81° 41' 57" East, a distance of 610.92 feet to a point; thence
8. South 08° 18' 03" East, a distance of 395.00 feet to a point; thence
9. North 81° 41' 57" East, a distance of 1,598.07 feet to a point; thence
10. North 81° 43' 57" East, a distance of 1,615.74 feet to a point; thence
11. North 03° 30' 57" West, through the property of County of Suffolk, a distance of 1,908.73 feet to the point or place of beginning;

Thence, continuing through said property of County of Suffolk the following four (4) courses and distances:

1. North 03° 30' 57" West, a distance of 313.51 feet to a point; thence
2. North 86° 29' 03" East, a distance of 180.00 feet to a point; thence
3. South 03° 30' 57" East, a distance of 140.00 feet to a point; thence
4. South 42° 32' 08" West, a distance of 250.01 feet to the point or place of beginning.

Subject Easement area being 40,816 square feet or 0.937 acre, more or less.

APPENDIX B

SITE CONTACT LIST

APPENDIX B – LIST OF SITE CONTACTS

Former Canine Kennel Site (C152079)

Site Management Plan

Site Owner: Suffolk County

- Contact Person: Xiaoyu Chen, SCDHS
- Contact Phone: 631-854-2512
- Contact Email: xiaoyu.chen@suffolkcountyny.gov

Environmental Professional: P.W. Grosser Consulting, Inc.

- Contact Person: Thomas Melia
- Contact Phone: 631-589-6353
- Contact Email: thomasm@pwgrosser.com

NYSDEC Remedial Project Manager

- Contact Person: Heather Bishop
- Contact Phone: 518-415-5885
- Contact Email: heather.bishop@dec.ny.gov

NYSDOH Project Manager

- Contact Person: Steven Berninger
- Contact Phone: 518-402-0443
- Contact Email: steven.berninger@health.ny.gov

NYSDEC Regional Hazardous Waste Engineer

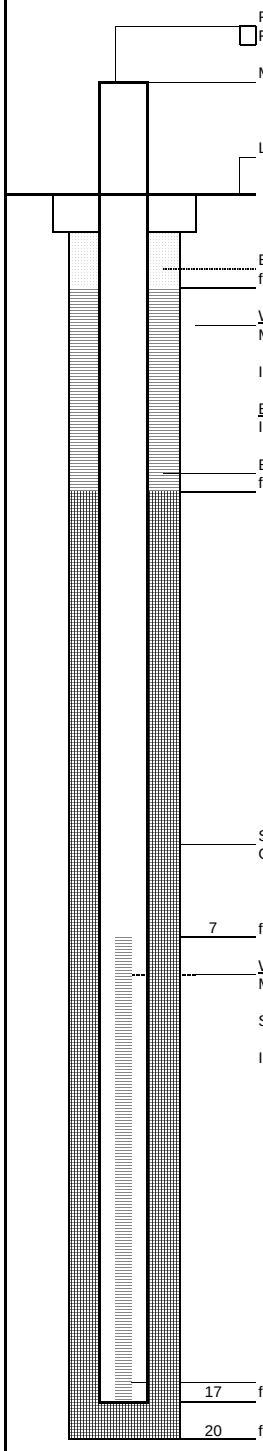
- Contact Person: Girish, Desai, PE
- Contact Phone: 631-444-0243
- Contact Email: girish.desai@dec.ny.gov

APPENDIX C

MONITORING WELL CONSTRUCTION LOGS

Monitoring Well

Construction Log

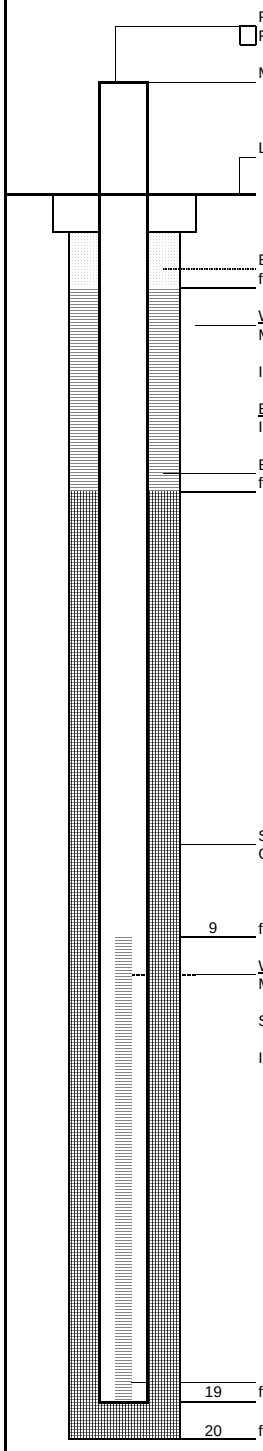


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-1
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	11.5 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

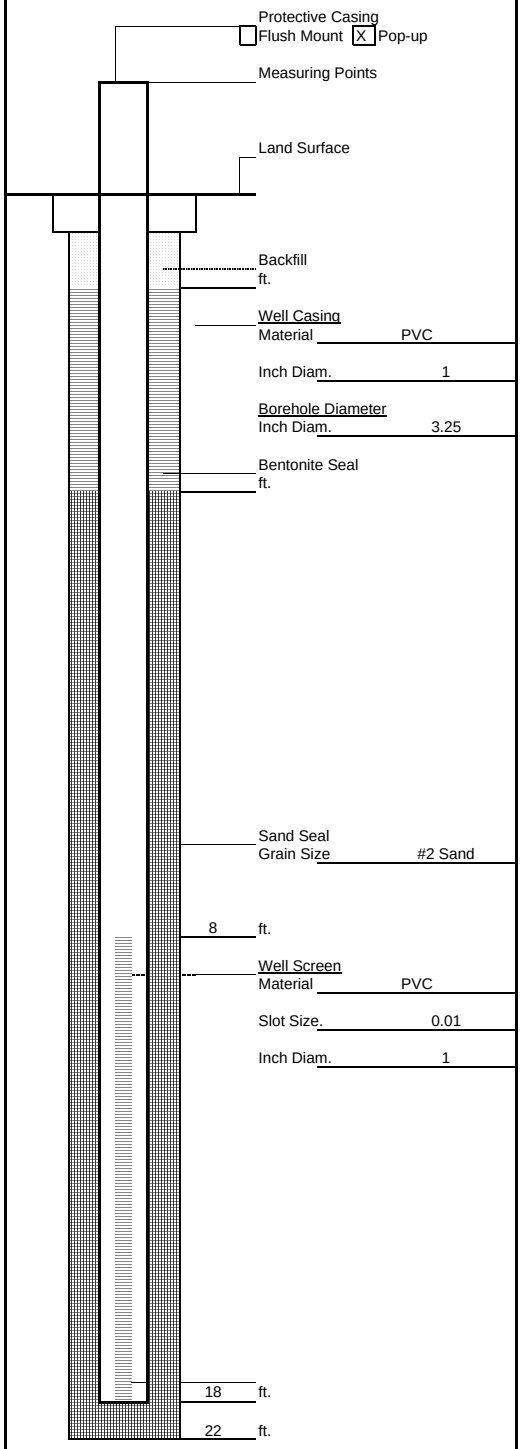


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-2
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	14.73 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

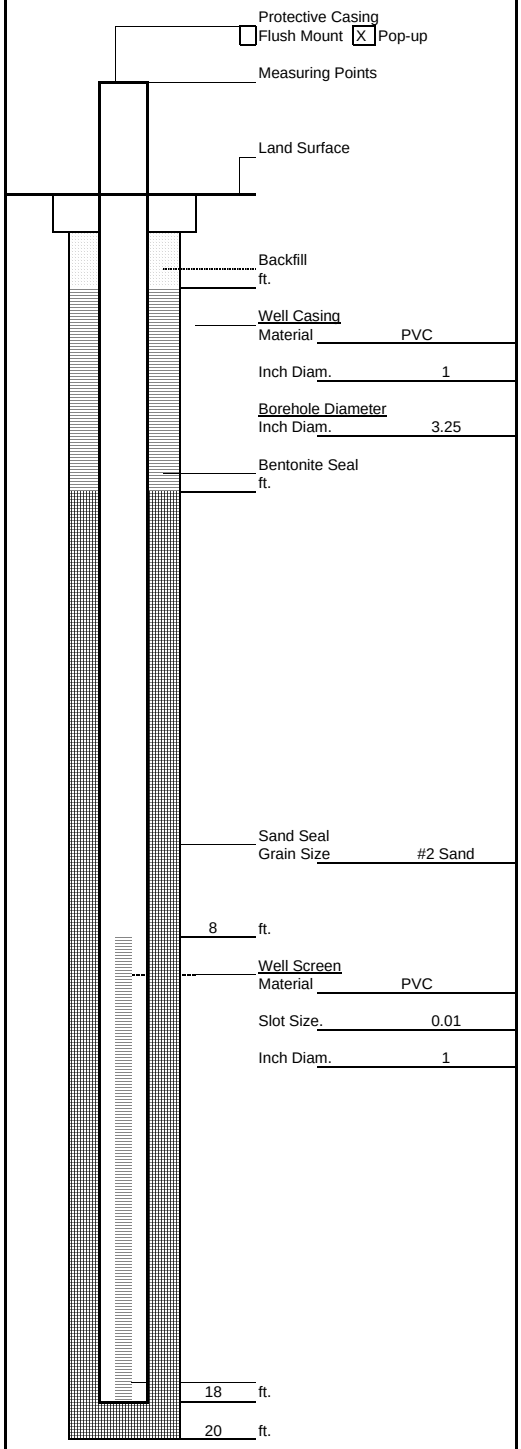


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-3
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	13.98 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

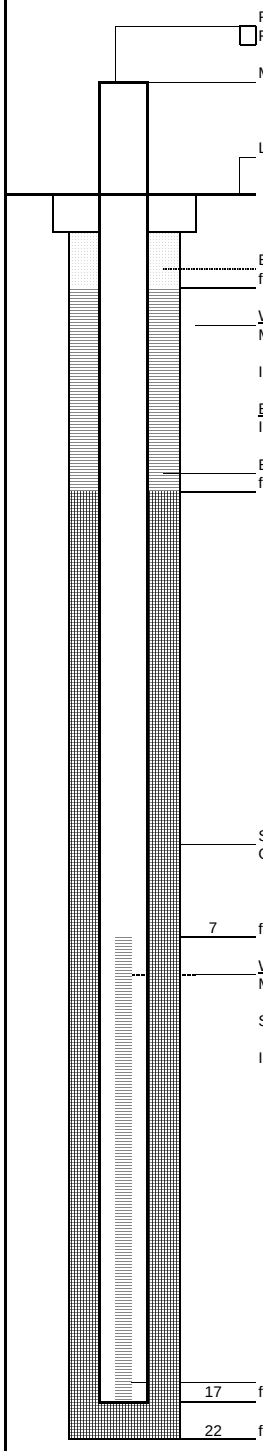


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-4
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	13.27 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

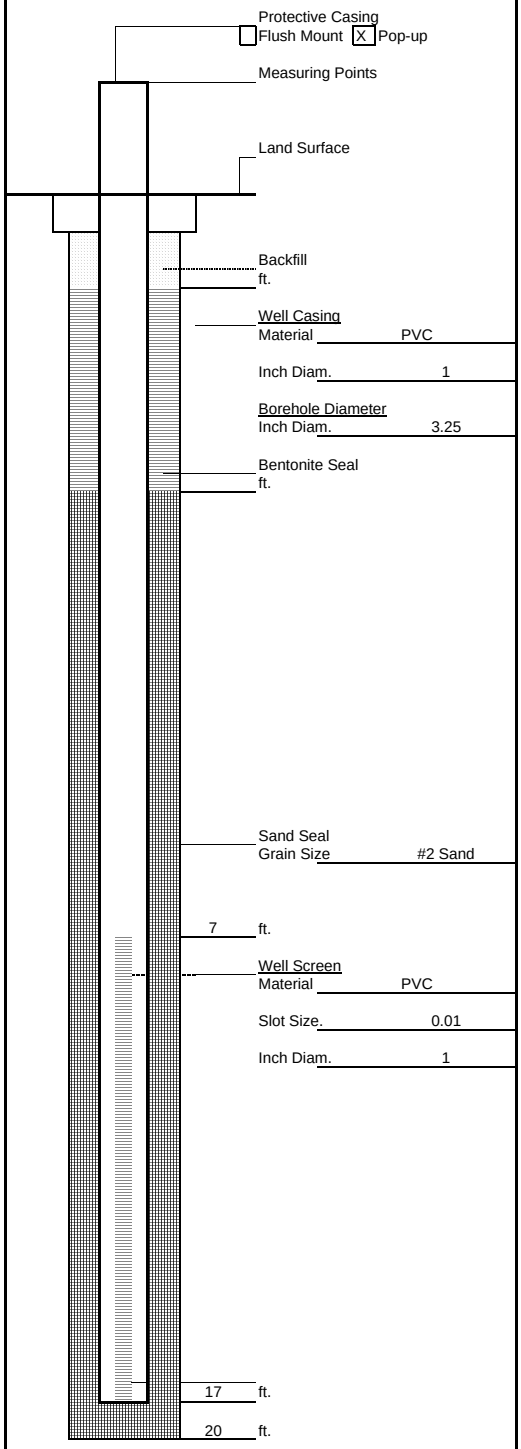


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-5
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	9.50 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-6
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	10 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

APPENDIX D

EXCAVATION WORK PLAN

Former Canine Kennel Site

SUFFOLK COUNTY, NEW YORK

Excavation Work Plan

NYSDEC Site Number: 152079/C152079

Prepared for:

Suffolk County Department of Health Services
Office of Pollution Control
15 Horseblock Place
Farmingville, NY 11738

Prepared by:

P.W. Grosser Consulting Engineer & Hydrogeologist P.C.
630 Johnson Avenue, Suite 7
Bohemia, NY 11716
631-589-6353

OCTOBER 2018

TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

1.0 EXCAVATION WORK PLAN (EWP)

1.1 Notification

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. **Table 1** includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in **Appendix A**.

Table 1: Notifications*

Name	Contact Information
Heather Bishop, NYSDEC Project Manager	518-402-9692; heather.bishop@dec.ny.gov
Walter Parish, NYSDEC Regional HW Engineer	631-444-0241; walter.parish@dec.ny.gov
NYSDEC Site Control	TBD

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix E of the SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2.0 SOIL AND MATERIALS MANAGMENT

2.1 Soil Screening Methods

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections 6.0 and 7.0 of this EWP.

2.2 Soil Staging Methods

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

2.3 Materials Excavation and Load-Out

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

2.4 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows: trucks will exit the airport property via South Perimeter Road, and head north on Old Riverhead Road (County Road 31) to Sunrise Highway (New York Route 27); further routing will be dependent on the destination of the material being transported off site. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

2.5 Materials Disposal Off-Site

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will

be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

2.6 Materials Reuse On-Site

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

2.7 Fluids Management

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

2.8 Cover System Restoration

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP and Record of Decision. The existing cover system is comprised of a minimum of 12 inches of clean soil. No demarcation layer was installed prior to backfilling; as such, for the purposes of long term site management, all soils at the site will be considered potentially impacted unless demonstrated otherwise by laboratory analysis. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

2.9 Backfill from Off-Site Sources

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards for backfill material will be the lower of the Commercial Use SCO or Protection of Groundwater SCO. Soils that meet ‘exempt’ fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil

objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

2.10 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

2.11 Excavation Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

3.0 HEALTH AND SAFETY

3.1 Health and Safety Plan

A site-specific HASP for is included as Appendix E of the SMP. Contractors or sub-contractors working at the site may adopt this HASP or provide their own HASP for review and approval by NYSDEC prior to conducting work. If contractors provide their own HASP, it must meet the minimum requirements of the HASP included in Appendix E of the SMP. The HASP is consistent with the requirements of NYSDEC DER–10, Occupational Safety and Health Administration (OSHA) (29 CFR 1910 and 1926), federal, state and local authorities. The Health and Safety Plan will be followed during any ground intrusive activities that may encounter contaminated soil at the site.

3.2 Community Air Monitoring Plan

Community Air Monitoring will be performed in accordance with the Community Air Monitoring Plan (CAMP) included as Appendix F of the SMP. Air monitoring locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

3.3 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis may include:

- Limiting the area of open excavations.
- Limiting the size of soil stockpiles.
- Shrouding open excavations with tarps and other covers.
- Use of foams to cover exposed odorous soils.
- Other industry standard odor control methods.

If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

3.4 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

3.5 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX A
SITE CONTACT LIST

APPENDIX A – LIST OF SITE CONTACTS

Site Owner: Suffolk County

- Contact Person: James Meyers, SCDHS
- Contact Phone:
- Contact Email: James.Meyers@suffolkcountyny.gov

Environmental Professional: P.W. Grosser Consulting, Inc.

- Contact Person: Thomas Melia
- Contact Phone: 631-589-6353
- Contact Email: thomasm@pwgrosser.com

NYSDEC Remedial Project Manager

- Contact Person: Heather Bishop
- Contact Phone: 518-402-9692
- Contact Email: heather.bishop@dec.ny.gov

NYSDEC Regional Hazardous Waste Engineer

- Contact Person: Walter Parish
- Contact Phone: 631-444-0241
- Contact Email: walter.parish@dec.ny.gov

APPENDIX E

HEALTH AND SAFETY PLAN

P.W. GROSSER CONSULTING INC.
PROJECT No. SHD1303

HEALTH AND SAFETY PLAN

FORMER CANINE KENNEL SITE
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK
BCP Site # C152079
IHWDS Site # 152079

Submitted:
September 2014

Prepared for:
The New York State Department of Environmental Conservation
Division of Environmental Remediation

On behalf of:
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738

Prepared By:
P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
631-589-6353

TABLE OF CONTENTS **PAGE**

TABLE OF CONTENTS **PAGE**

TABLES

APPENDICES

P.W. GROSSER CONSULTING INC.
PROJECT No. SHD1303

HEALTH AND SAFETY PLAN

FORMER CANINE KENNEL SITE
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK
BCP Site # C152079
IHWDS Site # 152079

Submitted:
September 2014

Prepared for:
The New York State Department of Environmental Conservation
Division of Environmental Remediation

On behalf of:
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738

Prepared By:
P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
631-589-6353

1.0 STATEMENT OF COMMITMENT

This Health and Safety Plan (HASP) has been prepared to ensure that workers are not exposed to chemical, biological and physical hazards during the planned Interim Remedial Measure (IRM) to be performed at the Former Canine Kennel site, Gabreski Airport, Westhampton Beach, New York. P.W. Grosser Consulting Inc.'s (PWGC's) policy is to minimize the possibility of work-related exposure through awareness and qualified supervision, health and safety training, medical monitoring, use of appropriate personal protective equipment, and the following activity specific safety protocols contained in this HASP. PWGC has established a guidance program to implement this policy in a manner that protects personnel to the maximum reasonable extent.

This HASP, which applies to persons present at the site actually or potentially exposed to safety or health hazards, describes emergency response procedures for actual and potential physical, biological and chemical hazards. This HASP is also intended to inform and guide personnel entering the work area or exclusion zone. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy.

2.0 INTRODUCTION

2.1 Purpose

This HASP addresses the minimum health and safety practices that will be employed by site workers participating in IRM activities at the project site located at Former Canine Kennel, Gabreski Airport, Westhampton Beach, New York.

The HASP takes into account the specific hazards inherent to the site and presents the minimum requirements which are to be met by P.W. Grosser Consulting, Inc. (PWGC), its' subcontractors, and other on-site personnel in order to avoid and, if necessary, protect against health and/or safety hazards. PWGC sub-contractors will have the option of adopting this HASP or developing their own site-specific document. If a subcontractor chooses to prepare their own HASP, it must meet the minimum requirements as detailed in this HASP and must be made available to PWGC.

Activities performed under this HASP will comply with applicable parts of Occupational Safety and Health Administration (OSHA) Regulations, primarily 29 CFR Parts 1910 and 1926 and all other applicable federal, state, and local regulations. Modifications to the HASP may be made with the approval of the PWGC Health and Safety Manager (HSM) and/or Project Manager (PM). A copy of this HASP will be maintained on-site during all work activities.

Refusal to comply with the HASP or violation of any safety procedures by field personnel may result in their immediate removal from the site following consultation with the HSM and the Field Team Leader (FTL).

2.2 Scope

This HASP addresses the potential hazards related to the RI activities. The primary RI activities include the following:

- Site Mobilization/Demobilization;
- Geophysical Survey;
- Excavation;
- Drilling, and;
- Soil and Groundwater Sampling

The potential hazards associated with this scope are listed below and are discussed in more detail in this HASP after the project organization and responsibilities section.

- Chemical Hazards
- Biological Hazards
- Physical Hazards

2.3 Application

The HASP applies to all personnel involved in the above tasks who wish to gain access to active work areas, including but not limited to:

- PWGC employees and subcontractors;
- Client representatives; and
- Federal, state or local representatives.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

This section specifies the project organization and responsibilities.

3.1 Project Manager

- Participates in major incident investigations;
- Ensures that the HASP has all of the required approvals before site work is conducted; and
- Has the overall project responsibility for project health and safety.

3.2 Field Team Leader (FTL)/ Site Health and Safety Officer (SHSO)

- Ensures that the HASP is implemented in conjunction with the Health and Safety Manager (HSM);
- Ensures that field work is scheduled with adequate equipment to complete the job safely;
- Enforces site health and safety rules;
- Ensures that proper personal protective equipment is utilized;
- Ensures that the HSM is informed of project changes that require modifications to the HASP;
- Ensures that the procedure modifications are implemented;
- Investigates incidents;
- Conducts the site safety briefing;
- Reports to HSM to provide summaries of field operations and progress; and
- Acts as Emergency Coordinator.

3.3 Health and Safety Manager

- Provides for the development of the HASP;
- Serves as the primary contact to review health and safety matters that may arise;
- Approves individuals who are assigned SHSO responsibilities;
- Coordinates revisions of this HASP with field personnel; and
- Assists in the investigation of major accidents.

3.4 Site Personnel

- Report any unsafe or potentially hazardous conditions to the FTL/SHSO;
- Maintain knowledge of the information, instructions and emergency response actions contained in this HASP; and
- Comply with rules, regulations and procedures as set forth in this HASP and any revisions.

4.0 SITE HISTORY AND PROJECT DESCRIPTION

4.1 Project Background

This Health and Safety Plan (HASP) has been prepared by PWGC, on behalf of Suffolk County. Polychlorinated biphenyls (PCBs) and pesticides have been identified above guidance levels and/or standards in soil at the site.

4.2 Site Location and Description

The area of concern is a section of disturbed ground, irregular in shape; approximately 0.5 acres. The site is located in a remote portion of the airport, south of the canine kennel and just east of a boat storage yard near the eastern property line, coordinates 40° 50' 20.8'' and 72° 37' 13.6''. Currently, the former dog kennel is abandoned and in a state of disrepair.

The Suffolk County Airport has no commercially scheduled service, but does support private planes and presently is the home of the 106th Rescue Wing of the New York Air National Guard (NYANG).

The western portion of the airport consists of a largely developed space with support buildings and hangers. The central portion of the site consists of the airport runways and maintained open space. The eastern area of the site is largely undeveloped.

The airport is located within the Long Island Pine Barrens. The Pine Barrens are characterized by open, sunlit woodlands dominated by pitch pine interspersed with white and scarlet oak. The nearby Quogue Wildlife Refuge is characterized by dwarf pitch pines ranging from 3 to 6 ft tall. The airport itself is characterized by surrounding wooded areas consisting of 25 ft pitch pines and scattered scrub oak.

5.0 POTENTIAL HAZARDS OF THE SITE

This section presents an assessment of the chemical, biological, and physical hazards that may be encountered during the tasks specified under Section 1.0. Additional information can be found in **Appendix A** - Material Safety Data Sheets or in **Appendix B** - Activity Hazard Analyses.

5.1 Chemical Hazards

Review of historical information from the site indicates that the soil at the site is contaminated with pesticides (4,4 DDE and Dieldrin) and PCBs (Aroclor 1254, 1260), which are present at ppm levels in soil. These compounds may present an occupational exposure hazard during site operations.

The chemicals identified above may have an effect on the central nervous system, respiratory system and may cause chronic liver and kidney damage. Acute exposure symptoms may include headache, dizziness, nausea, diarrhea and skin and eye irritation. Specific information on the chemicals identified at the Site can be found in Table 5-1 as well as on the Material Safety Data Sheets found in **Appendix A**.

Table 5-1

Chemical Hazards

COMPOUND	CAS#	OSHA PEL	ROUTES OF EXPOSURE	SYMPTOMS OF EXPOSURE	TARGET ORGANS	PHYSICAL DATA
Aroclor 1254	11097-69-1	TWA 0.5 mg/m^3	Inhalation Ingestion Skin/Eye	Irritation eyes, chloracne, liver damage, reproductive effects	Skin, liver, reproductive system	VP= 0.00006 mmHg Colorless to yellow liquid w/ distinct odor
Aroclor 1260	11096-82-5	TWA 0.5 mg/m^3	Inhalation Ingestion Skin/Eye	Irritation eyes, chloracne, liver damage, reproductive effects	Skin, liver, reproductive system	VP= 0.00006 mmHg Yellow solid; odor not available
Dieldrin	60-57-1	TWA 0.25 mg/m^3	Inhalation Ingestion Skin/Eye	Convulsions, dizziness, headache, nausea, vomiting, muscle twitching may result from ingestion.	CNS, liver, kidneys, skin	VP= 0.0004 mm Hg Colorless to tan crystal; mild odor
4,4'-DDE	72-55-9	None	Inhalation Ingestion Skin/Eye	Menstrual irregularities, nausea, vomiting, diarrhea, stomach pains, confusion, apprehension, irritability, excitability, dizziness, headache, disorientation, weakness, parenthesis, muscle twitching, tremor, stupor, coma and convulsions	Liver, kidneys	VP= unavailable White crystal, no odor

Abbreviations

C = Ceiling limit, not to be exceeded

CNS = Central Nervous System

PEL=Permissible Exposure Limit

OSHA = Occupational Safety and Health Administration

ppm = parts per million

VP = vapor pressure at approximately 68□ F in mm Hg (mercury)

TWA = Time-weighted average (8 hours)

5.2 Biological Hazards

Work will be performed in an undeveloped area of the Long Island Pine Barrens, during the course of the project, there is potential for workers to come into contact with biological hazards such as animals, insects and plants. The Activity Hazard Analyses found in **Appendix B** includes specific hazards and control measures for each task, if applicable.

5.2.1 *Animals*

The Site is located in a predominantly undeveloped area. It is possible that white tailed deer, raccoon, foxes, possum, dogs, cats, rats and mice may be present. Workers shall use discretion and avoid all contact with animals.

5.2.2 *Insects*

Insects, such as mosquitoes, ticks, bees and wasps may be present during certain times of the year. Workers will be encouraged to wear repellents and PPE, if deemed necessary, when working in areas where insects are expected to be present.

During the months of April through October, particular caution must be exercised to minimize exposure to deer ticks and the potential for contracting Lyme disease. Specific precautionary work practices that are recommended include the following:

- Cover your body as much as possible. Wear long pants and long sleeved shirts. Light color clothing makes spotting of ticks easier.
- Try to eliminate possible paths by which the Deer Tick may reach unprotected skin. For example, tuck bottoms of pants into socks or boots and sleeves into gloves. (Duct tape may be utilized to help seal cuffs and ankles). If heavy concentrations of ticks or insects are anticipated or encountered, Tyvek coveralls may be utilized for added protection when the potential for heat stress is not a concern.
- Conduct periodic and frequent, (e.g., hourly), surveys of your clothing for the presence of ticks. Remove any tick, save it and report to the clinic with the tick.
- Use insect /tick repellents that contain the chemical DEET (n,n-Diethyltoluamide). Apply repellents in accordance with manufacturers' recommendations. These repellents are readily available and include such brands as Deep Woods OFF and Maximum Strength OFF.

5.2.3 *Plants*

Poison ivy, sumac and oak may be present on site. The FTL/SHSO should identify the susceptible individuals. Worker shall avoid all contact with these plants.

5.3 Physical Hazards

Most safety hazards are discussed in the Activity Hazard Analyses (AHA) in **Appendix B** for the different phases of the project. In addition to the AHAs, general work rules and other safety procedures are described in Section 10 of this HASP.

5.3.1 *Temperature Extremes*

Heat Stress

Heat stress is a significant potential hazard, which is greatly exacerbated with the use of PPE in hot environments. The potential hazards of working in hot environments include dehydration, cramps, heat rash, heat exhaustion, and heat stroke.

Cold Stress

At certain times of the year, workers may be exposed to the hazards of working in cold environments. Potential hazards in cold environments include frostbite, trench foot or immersion foot, hypothermia as well as slippery surfaces, brittle equipment, and poor judgment.

PWGC's Heat/Cold Stress Protocols are specified in **Appendix C**.

5.3.2 *Steam, Heat and Splashing*

Exposure to steam/heat/splashing hazards can occur during steam cleaning activities. Splashing can also occur during well development and sampling activities. Exposure to steam/heat/splashing can result in scalding/burns, eye injury, and puncture wounds.

5.3.3 *Noise*

Noise is a potential hazard associated with the operation of heavy equipment, drill rigs, pumps and engines. Workers will wear hearing protection while in the work zone when these types of machinery are operating.

5.3.4 *Fire and Explosion*

When conducting excavation or drilling activities, the opportunity of encountering fire and explosion hazards may exist from encountering underground utilities, from the use of diesel engine equipment, and other

potential ignition sources. During dry periods there is an increased chance of forest and

brush fires starting at the job site. If these conditions occur no smoking will be permitted at the site and all operations involving potential ignition sources will be monitored continuously (fire watch).

5.3.5 *Manual Lifting/Material Handling*

Manual lifting of heavy objects may be required. Failure to follow proper lifting technique can result in back injuries and strains. Back injuries are a serious concern as they are the most common work place injury, often resulting in lost or restricted work time, and long treatment and recovery periods.

5.3.6 *Slips, Trips and Falls*

Working in and around the site will pose slip, trip and fall hazards due to slippery surfaces that may be oil covered, or from rough terrain, surfaces that are steep inclines, surfaced debris, or surfaces which are wet from rain or ice. Falls may result in twisted ankles, broken bones, head trauma or back injuries.

5.3.7 *Heavy Equipment Operation*

An excavator/backhoe will be used to excavate where required. Working with or near heavy equipment poses many potential hazards, including electrocution, fire/explosion, being struck by or against, or pinched/caught/crushed by, and can result in serious physical harm.

5.3.8 *Electrocution*

Encountering underground utilities may pose electrical hazards to workers. Additionally, overhead electrical lines can be a concern during drilling operations. Potential adverse effects of electrical hazards include burns and electrocution, which could result in death.

6.0 ACTIVITY HAZARD ANALYSES

The Activity Hazard Analysis (AHA) is a systematic way of identifying the potential health and safety hazards associated with major phases of work on the project and the methods to avoid, control and mitigate those hazards. The AHAs will be used to train work crews in proper safety procedures during phase preparatory meetings.

AHAs have been developed by PWGC for the following phases of work:

1. Site Mobilization/Demobilization;
2. Excavation
3. Soil and Groundwater sampling; and
4. Decontamination

Copies of these AHAs are included in **Appendix B** of this HASP.

7.0 PERSONAL PROTECTIVE EQUIPMENT

The personal protective equipment (PPE) specified in **Table 7-1** represents the hazard analysis and PPE selection required by 29 CFR 1910.132. Specific information on known potential hazards can be found under Section 4.0 and **Appendix B** - Activity Hazard Analyses. For the purposes of PPE selection, the HSM and FTL/SHSO are considered competent persons. The signatures on the approval page of the HASP constitute certification of the hazard assessment. For activities not covered by **Table 7-1**, the FTL/SHSO will conduct the hazard assessment, select the PPE, and document changes in the appropriate field logs. PPE selection will be made in consultation with the HSM.

Modifications for initial PPE selection may also be made by the FTL/SHSO in consultation with the HSM and changes documented accordingly. If major modifications occur, the HSM will notify the PM.

7.1 PPE Abbreviations

HEAD PROTECTION

HH = Hard Hat

HEARING PROTECTION

EP = ear plugs

EM = ear muffs

HAND PROTECTION

Cot = cotton

But = Butyl

LWG = Leather Work Gloves

Neo = Neoprene

Nit = Nitrile

Sur = Surgical

EYE/FACE PROTECTION

APR = Full Face Air Purifying Respirator

MFS = Mesh Face shield

PFS =Plastic Face shield

SG = ANSI approved safety glasses with side shields

BODY PROTECTION

WC = work clothes

Cot Cov = Cotton Coveralls

Poly = Polyethylene coated Tyvek® coveralls

Saran = Saranex coated coveralls

Tyvek® = Uncoated Tyvek® coveralls

FOOT PROTECTION

Neo = Neoprene

OB = Overboot

Poly = polyethylene coated boot

Rub = rubber slush boots

STB = Leather work boots with steel toe

RESPIRATORY PROTECTION

APR = Full-face air purifying respirator with organic vapor cartridges

ASR = Full face air supplied respirator with escape bottle

SCBA = Self-contained breathing apparatus

7.2 Hazard Assessment for Selection of Personal Protective Equipment

The initial selection of personal protective equipment for each task was done by performing a hazard assessment taking into consideration the following:

- Potential chemical and physical present;
- Work operations to be performed;
- Potential routes of exposure;
- Concentrations of contaminants present; and
- Characteristics, capabilities and limitations of PPE and any hazard that the PPE presents or magnifies.

A review of the analytical data from previous sampling events indicates that pesticides and PCBs identified in **Table 5-1** are the primary contaminants of concern. The maximum concentration detected for contaminates of concern in soil are as follows:

- Aroclor-1254 280,000 ppm
- Aroclor-1260 3,800 ppm
- Dieldrin 1,900 ppm
- 4,4'-DDE 2,000 ppm

The exposure routes for these chemicals are inhalation, skin absorption, skin/eye contact and ingestion. Chemical protective gloves will be required for all activities that involve sample handling and the likelihood for skin contact. The proper use of PPE and strict adherence to decontamination and personal hygiene procedures will effectively minimize skin contact and ingestion as potential routes of exposure.

Table 7-1

Personal Protective Equipment Selection

TASK	HEAD	EYE/FACE	FEET	HANDS	BODY	HEARING	RESPIRATOR
Mobilization/ Demobilization	HH	SG	STB	WG	WC	None	None
Excavation, loading and backfilling	HH	SG	STB	WG	WC	EM or EP	None initially APR if action levels exceeded
Drilling Activities	HH	SG	STB	WG	WC	EM or EP	None initially APR if action levels exceeded
Soil/GW sampling	HH	SG	STB	WG, Nit & Sur as needed	WC, Tyvek® as needed	None	None initially APR if action levels exceeded
Decontamination	HH	SG	STB	Nit + Sur	WC, Tyvek® as needed	None	None initially APR if action levels exceeded

7.3 Respirator Cartridge Change-Out Schedule

A respirator cartridge change-out schedule has been developed in order to comply with 29 CFR 1910.134. If the use of respirators is necessary, the respirator cartridge change-out schedule for this project will be as follows:

1. Cartridges shall be removed and disposed of at the end of each shift, when cartridges become wet or wearer experiences breakthrough, whichever occurs first; and
2. If the humidity exceeds 85%, then cartridges shall be removed and disposed of after 4 hours of use.

Respirators shall not be stored at the end of the shift with contaminated cartridges left on. Cartridges shall not be worn on the second day, no matter how short of time period they were used the day before.

The schedule was developed based on the following scientific information and assumptions:

- Analytical data that is available regarding site contaminants;
- Using the Rule of Thumb provided by the AIHA;
- All of the chemicals have boiling points greater than 70□C;
- Total airborne concentration of contaminants is anticipated to be less than 200 ppm;
- The humidity is expected to be less than 85%; and
- Desorption of the contaminants (including those with poor warning properties) after partial use of the chemical cartridge can occur after a short period (hours) without use (eg, overnight) and result in a non-use exposure.

The following is a partial list of factors that may affect the usable cartridge service life and/or the degree of respiratory protection attainable under actual workplace conditions. These factors have been considered when developing the cartridge change-out schedule.

Type of contaminant(s);

- Contaminant concentration;
- Relative humidity;
- Breathing rate; Temperature; Changes in contaminant concentration, humidity, breathing rate and temperature;

- Mixtures of contaminants;
- Accuracy in the determination of the conditions;
- The contaminant concentration in the workplace can vary greatly. Consideration must be given to the quality of the estimate of the workplace concentration;
- Storage conditions between multiple uses of the same respirator cartridges. It is recommended that the chemical cartridges be replaced after each work shift. Contaminants adsorbed on a cartridge can migrate through the carbon bed without airflow;
- Age of the cartridge;
- Condition of the cartridge and respirator;
- Respirator and cartridge selection respirator fit;
- Respirator assembly, operation, and maintenance;
- User training, experience and medical fitness;
- Warning properties of the contaminant; and
- The quality of the warning properties should be considered when establishing the chemical cartridge change schedule. Good warning properties may provide a secondary or back-up indication for cartridge change-out.

8.0 AIR MONITORING

Air monitoring will be performed for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from remedial activities at the site. Air monitoring will be used to help to confirm that the remedial work will not spread contamination off-site through the air. The primary concerns for this site are dust particulates and PCBs. Although no VOCs have been reported during previous sampling events at the site monitoring with a photo-ionization detector (PID) will be performed during any invasive activities

Since direct-reading instrumentation for PCBs has not been developed, respirable particulate action levels have been established that will ensure compliance with the respirable particulate OSHA permissible exposure level (PEL) (5.0 mg/m^3 particulates and 0.5 mg/m^3 for PCBs).

Real-time monitoring for dust and VOCs will be conducted both within the work area, and along the site perimeter, during intrusive activities such as excavation and drilling activities.

Airborne concentrations of respirable particulates, that are protective of exposures to PCBs, can be calculated if 1) the concentration of PCBs in site media is known, and 2) the concentration of PCBs in air is also known. For the purposes of determining the respirable particulate action levels, the following assumptions are made:

- The PCB concentration in site media is assumed to be equal to the maximum concentration of PCBs identified in the media at the site; and
- The chemical concentration of PCBs in air is set equal to the maximum allowable exposure of 0.25 mg/m^3 (one-half the OSHA PEL).

The following formula results from these assumptions:

$$\frac{\text{Allowable PCBs concentration in air}}{\text{Maximum PCBs concentration in media}} = \text{Maximum allowable particulate concentration in air}$$

The following illustrates how the action level for PCB exposure for the investigation was established, using half the OSHA PEL as the maximum allowable exposure:

$$\frac{(0.25 \text{ mg PCBs/m}^3 \text{ of air})}{(283{,}800 \text{ mg PCBs/1,000,000 mg soil})} = 0.88 \text{ mg respirable particulates/m}^3 \text{ of air}$$

Level D level of protection will be utilized unless dust monitoring exceeds 0.88 mg/ m^3.

Detailed information on the types, frequency and location of real-time monitoring and community air monitoring requirements are provided in the Community Air Monitoring Plan prepared for this project.

9.0 ZONES, PROTECTION AND COMMUNICATION

9.1 Site Control

Site zones are intended to control the potential spread of contamination throughout the site and to assure that only authorized individuals are permitted into potentially hazardous areas. A three-zone approach will be utilized. It shall include an Exclusion Zone (EZ), Contamination Reduction Zone (CRZ) and a Support Zone (SZ). Specific zones shall be established on the work site when operations begin.

This project is a hazardous waste remediation project, and any person working in an area where the potential for exposure to site contaminants exists, will only be allowed access after providing the FTL/SHSO with proper training and medical documentation.

The zones are based upon current knowledge of proposed site activities. It is possible that the zone configurations may be altered due to work plan revisions. Should this occur, the work zone will be adjusted accordingly, and documented through use of a field-change request form.

The following shall be used for guidance in revising these preliminary zone designations, if necessary.

Support Zone **-** The SZ is an uncontaminated area that will be the field support area for most operations. The SZ provides for field team communications and staging for emergency response. Appropriate safety equipment will be located in this zone. Potentially contaminated personnel/materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples.

Contamination Reduction Zone **-** The CRZ is established between the EZ and the SZ. The CRZ contains the contamination reduction corridor and provides for an area for decontamination of personnel and portable hand-held equipment, tools and heavy equipment. A personnel decontamination area will be prepared at each exclusion zone. The CRZ will be used for EZ entry and egress in addition to access for heavy equipment and emergency support services.

Exclusion Zone **-** All activities, which may involve exposure to site contaminants, hazardous materials and/or conditions, should be considered an EZ. The FTL/SHSO may establish more than one EZ where different levels of protection may be employed or different hazards exist. The size of the EZ shall be determined by the site HSO allowing adequate space for the activity to be completed, field members and emergency equipment.

9.2 Contamination Control

Decontamination areas will be established for the following activities.

- Drilling/Sampling Activities
- Excavation

9.2.1 *Personnel Decontamination Station*

All personnel and portable equipment used in the EZ shall be subject to a thorough decontamination process, as deemed necessary by the FTL/SHSO. Sampling equipment shall be decontaminated. As necessary, all boots and gloves will be decontaminated using soap and water solution and scrub brushes or simple removal and disposal. All used respiratory protective equipment will be decontaminated daily and sanitized with appropriate sanitizer solution.

All drums generated as a result of sampling and decontamination activities will be marked and stored at a designated area at the site until the materials can be property disposed of off-site.
All non-expendable sampling equipment will be decontaminated. This usually entails the use of Alconox, solvent and distilled/deionized water rinses to eliminate contaminants.

9.3 Communication

- Each team member will have a Nextel cell phone/radio for communication with the PM, HSO and other team members during field activities.
- Hand Signals - Hand signals shall be used by field teams, along with the buddy system. The entire field team shall know them before operations commence and their use covered during site-specific training. Typical hand signals are the following:

SIGNAL	MEANING
Hand gripping throat	Out of air, can't breathe
Grip on a partner's wrist or placement of both hands around a partner's waist.	Leave the area immediately, no debate.
Hands on top of head	Need assistance
Thumbs up	Okay, I'm all right, I understand.
Thumbs down	No, negative.

10.0 MEDICAL SURVEILLANCE PROCEDURES

All contractor and subcontractor personnel performing field work where potential exposure to contaminants exists at the site are required to have passed a complete medical surveillance examination in accordance with 29 CFR 1910.120(f).

10.1 Medical Surveillance Requirements

A physician's medical release for work will be confirmed by the HSM before an employee can work in the exclusion zone. The examination will be taken annually at a minimum and upon termination of hazardous waste site work if the last examination was not taken within the previous six months. Additional medical testing may be required by the HSM in consultation with the Corporate Medical Consultant and the FTL/SHSO if an over-exposure or accident occurs, if an employee exhibits symptoms of exposure, or if other site conditions warrant further medical surveillance.

10.2 Medical Data Sheet

A medical data sheet is provided in **Appendix D**. This medical data sheet is voluntary and should be completed by all on-site personnel and will be maintained at the site. Where possible, this medical data sheet will accompany the personnel needing medical assistance. The medical data sheet will be maintained in a secure location, treated as confidential, and used only on a need-to-know basis.

11.0 SAFETY CONSIDERATIONS

11.1 General Health and Safety Work Practices

A list of general health and safety work practices is included as an included in **Appendix E**. The work rules will be posted in a conspicuous location at the site.

11.2 The Buddy System

At a minimum, employees shall work in groups of two in such a manner that they can observe each other and maintain line-of-sight for each employee within the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

11.3 Sample Handling

Personnel responsible for the handling of samples should wear the prescribed level of protection. Samples should be identified as to their hazard and packaged as to prevent spillage or breakage. Sample containers shall be decontaminated in the CRZ or EZ before entering a clean Support Zone area. Any unusual sample conditions, odors, or real-time readings should be noted. Laboratory personnel should be advised of sample hazard level and the potential contaminants present. This can be accomplished by a phone call to the lab coordinator and/or including a written statement with the samples reviewing lab safety procedures in handling, in order to assure that the practices are appropriate for the suspected contaminants in the sample.

11.4 Drill Rigs

When conducting drilling activities, the opportunity of encountering fire and explosion hazards exists from underground utilities and gases. The locations of underground utilities will be verified prior to performing any intrusive activities. Additionally, because of the inherently hazardous nature of drilling operations, safety and accident prevention are crucial when drilling operations are performed. Most drilling accidents occur as a direct result of lack of training and supervision, improper handling of equipment, and unsafe work practices. Hazards include: assembling and disassembling rigs, rotary and auger drilling, and grouting. The drilling contractor shall perform drilling in accordance with its own Health & Safety Program for Drill Rig Safety.

11.4.1 *Safety During Drilling Operations*

- Safety requires the attention and cooperation of every worker and site visitor.
- Do not drive the drill rig from hole to hole with the mast (derrick) in the raised position.
- Before raising the mast (derrick), look up to check for overhead obstructions.
- Maintain a minimum of 15 feet clearance from all overhead electric lines.

- Before raising the mast (derrick), all drill rig personnel (with the exception of the operator) and visitors shall be cleared from the areas immediately to the rear and the sides of the mast. All drill rig personnel and visitors shall be informed that the mast is being raised prior to raising it.
- Before the mast (derrick) of a drill rig is raised and drilling is commenced, the drill rig must first be leveled and stabilized with leveling jacks and/or solid cribbing. Lower the mast (derrick) only when the leveling jacks are down and do not raise the leveling jack pads until the mast (derrick) is lowered completely.
- The operator of a drill rig shall only operate a drill rig from the position of the controls.
- Throwing or dropping tools shall not be permitted. All tools shall be carefully passed by hand between personnel or a hoist line shall be used.
- Do not consume alcoholic beverages or other depressants or chemical stimulants prior to starting work on a drill rig or while on the job.
- All unattended boreholes must be adequately covered or otherwise protected to prevent drill rig personnel, site visitors, or animals form stepping or falling into the hole.
- Terminate drilling operations during an electrical storm and move the entire crew away from the drill rig.

11.5 Excavation

Although extensive excavation is not anticipated for the scope of this project, excavations will be conducted in accordance with the requirements contained in 29 CFR 1926, Subpart P-Excavations. It provides for the designation of a "Competent Person" and general requirements for safe excavating practices. The program also incorporates company standards for the monitoring of potentially hazardous atmospheres; protection from water hazards; analyzing and maintaining the stability of adjacent structures; daily competent person inspections; soil classification; sloping and benching; protective systems; and training.

The Competent Person will be the FTL or other designee with appropriate training and experience. The Competent Person will be assisted in his/her duties by other technical personnel such as the HSM, geologists, structural engineers and soils engineers.

No entry into excavations will be allowed for this phase of the project.

12.0 DISPOSAL PROCEDURES

All discarded materials, waste materials or other objects shall be handled in such a way as to preclude the potential for spreading contamination, creating a sanitary hazard or causing litter to be left on site.

All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary, labeled and segregated for disposal. All non-contaminated materials will be collected and bagged for appropriate disposal as non-hazardous solid waste. Additional waste disposal procedures may be developed as applicable.

13.0 EMERGENCY RESPONSE PLAN

This section establishes procedures and provides information for use during a project emergency. Emergencies happen unexpectedly and quickly, and require an immediate response; therefore, contingency planning and advanced training of staff is essential. Specific elements of emergency support procedures which are addressed in the following subsections include communications, local emergency support units, preparation for medical emergencies, first aid for injuries incurred on site, record keeping, and emergency site evacuation procedures.

13.1 Responsibilities

13.1.1 *Health and Safety Manager (HSM)*

The HSM oversees and approves the Emergency Response/Contingency Plan and performs audits to determine that the plan is in effect and that all pre-emergency requirements are met. The HSM acts as a liaison to applicable regulatory agencies and notifies OSHA of reportable accidents.

13.1.2 *Field Team Leader/Site Health and Safety Officer (FOL/HSO)*

The FTL/SHSO is responsible for ensuring that all personnel are evacuated safely and that machinery and processes are shut down or stabilized in the event of a stop work order or evacuation. The FTL/SHSO is required to immediately notify the HSM of any fatalities or catastrophes (three or more workers injured and hospitalized) so that the HSM can ensure that OSHA is notified within the required time frame. The HSM will be notified of all OSHA recordable injuries, fires, spills, releases or equipment damage in excess of $500 within 24 hours.

13.1.3 *Emergency Coordinator*

The Emergency Coordinator for the project is the FTL/SHSO.

The Emergency Coordinator shall make contact with Local Emergency Response personnel prior to beginning work on site. In these contacts the emergency coordinator will inform interested parties about the nature and duration of work expected on the site and the type of contaminants and possible health or safety effects of emergencies involving these contaminants. The emergency coordinator will locate emergency phone numbers and identify hospital routes prior to beginning work on site. The emergency coordinator shall make necessary arrangements to be prepared for any emergencies that could occur.

The Emergency Coordinator will implement the Emergency Response/Contingency Plan whenever conditions

at the site warrant such action.

13.1.4 *Site Personnel*

Site personnel are responsible for knowing the Emergency Response/Contingency Plan and the procedures contained herein. Personnel are expected to notify the Emergency Coordinator of situations that could constitute a site emergency.

13.2 Communication

A variety of communication systems may be utilized during emergency situations. These are discussed in the following sections.

13.2.1 *Hand Signals*

Downrange field teams will employ hand signals where necessary for communication during emergency situations. Hand signals are found in Section 8.3.

13.2.2 *Field Radios and Cell Phones*

PWGC field personnel are provided cellular phones with telephone and two-way radio capabilities for site communication and emergency use.

13.3 Local Emergency Support Units

A route map from the site to the nearest hospital can be found in **Appendix F**. This map will be placed with the above emergency telephone numbers in all on-site vehicles.

13.4 Pre-Emergency Planning

PWGC will communicate directly with administrative personnel from the emergency room at the hospital to determine whether the hospital has the facilities and personnel needed to treat cases of trauma resulting from exposure to any of the contaminants expected to be found on the site. Instructions for finding the hospital will be posted conspicuously in the site office and in each site vehicle.

Before the field activities begin, the local emergency response personnel will be notified of the schedule for field activities and about the materials that are thought to exist on the site so that they will be able to respond quickly and effectively in the event of a fire, explosion, or other emergency. Before fieldwork on the site commences, each person who will be working there or observing the operations will complete a medical data sheet (**Appendix D**). These data sheets will be filled out during site-specific training and will be kept on the

site.

In the event of an incident where a team member becomes exposed or suffers from an acute symptom of exposure to site materials and has to be taken to a hospital, a copy of his/her medical data sheet will be presented to the attending physician.

Table 13-1

Emergency Telephone Numbers

Contact	Firm or Agency	Telephone Number
Police		911
Fire		911
Hospital	Central Suffolk	(631) 548-6000
Ambulance		911
Project Manager/Health and Safety Manager	Andrew Lockwood PWGC	(631) 589-6353
Health & Safety Officer	Rocky Wenskus PWGC	(631) 589-6353
NYSDEC Site Contact	Heather Bishop	(518) 402-9625
Poison Control Center		(800) 962-1253
Chemtrec		(800) 424-9300
SCDHS Site Contact	Jim Meyers	(631) 854-2529

13.5 Emergency Medical Treatment

The procedures and rules in this HASP are designed to prevent employee injury. However, should an injury occur, no matter how slight, it will be reported to the FTL/SHSO immediately. First aid equipment will be available on site at the following locations:

- First Aid Kit: Support Zone (or designated by FTL/SHSO upon arrival)
- Emergency Eye Wash: Support Zone (or designated by FTL/SHSO upon arrival)

During site-specific training, project personnel will be informed of the location of the first aid station(s) that has been set up. Unless they are in immediate danger, severely injured persons will not be moved until paramedics can attend to them. Some injuries, such as severe cuts and lacerations or burns, may require immediate treatment. Any first aid instructions that can be obtained from doctors or paramedics, before an

emergency-response squad arrives at the site or before the injured person can be transported to the hospital, will be followed closely.

There will be at least two people with current First Aid and CPR certification on each active work shift. When personnel are transported to the hospital, the FTL/SHSO will provide a copy of the Medical Data Sheet to the paramedics and treating physician.

Only in non-emergency situations will an injured person be transported to the hospital by means other than an ambulance. **A map and directions to the hospital can be found in Appendix F.**

13.6 Emergency Site Evacuation Routes and Procedures

In order to mobilize the manpower resources and equipment necessary to cope with a fire or other emergency, a clear chain of authority will be established. The EC will take charge of all emergency response activities and dictate the procedures that will be followed for the duration of the emergency. The EC will report immediately to the scene of the emergency, assess the seriousness of the situation, and direct whatever efforts are necessary until the emergency response units arrive. At his/her discretion, the EC also may order the closure of the site for an indefinite period.

All project personnel will be instructed on proper emergency response procedures and locations of emergency telephone numbers during the initial site safety meeting. If an emergency occurs, including but not limited to fire, explosion or significant release of toxic gas into the atmosphere, an air horn will be sounded on the site. The horn will sound continuously for one blast, signaling that immediate evacuation of all personnel is necessary due to an immediate or impending danger. All heavy equipment will be shut down and all personnel will evacuate the work areas and assemble at the evacuation meeting point, which will be determined upon arrival at the site by the FTL/SHSO, prior to work beginning. This will then be conveyed to all crew members during the site-specific briefing.

The EC will give directions for implementing whatever actions are necessary. Any project team member may be assigned to be in charge of emergency communications during an emergency. He/she will attend the site telephone specified by the EC from the time the alarm sounds until the emergency has ended.

After sounding the alarm and initiating emergency response procedures, the EC will check and verify that

access roads are not obstructed. If traffic control is necessary, as in the event of a fire or explosion, a project team member, who has been trained in these procedures and designated at the site safety meeting, will take over these duties until local police and fire fighters arrive.

The EC will remain at the site to provide any assistance requested by emergency-response squads as they arrive to deal with the situation. A map showing evacuation routes, meeting places and the location of emergency equipment will be posted in all trailers and used during site-specific training.

13.7 Fire Prevention and Protection

In the event of a fire or explosion, procedures will include immediately evacuating the site (air horn will sound for a single continuous blast), and notification of local fire and police departments. No personnel will fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

13.7.1 *Fire Prevention*

Adhering to the following precautions will prevent fires:

- Good housekeeping and storage of materials;
- Storage of flammable liquids and gases away from oxidizers;
- No smoking in the exclusion zone or any work area;
- No hot work without a properly executed hot work permit;
- Shutting off engines to refuel;
- Grounding and bonding metal containers during transfer of flammable liquids;
- Use of UL approved flammable storage cans;
- Fire extinguishers rated at least 10 pounds ABC located on all heavy equipment, in all trailers and near all hot work activities; and
- Monthly inspections of all fire extinguishers.

13.8 Overt Chemical Exposure

The following are standard procedures to treat chemical exposures. Other, specific procedures detailed on the Material Safety Data Sheet or recommended by the Corporate Medical Consultant will be followed, when necessary.

SKIN AND EYE CONTACT: Use copious amounts of soap and water. Wash/rinse affected areas thoroughly, and

then provide appropriate medical attention. Eyes should be rinsed for 15 minutes upon chemical contamination. Skin should also be rinsed for 15 minutes if contact with caustics, acids or hydrogen peroxide occurs.

INHALATION: Move to fresh air. Decontaminate and transport to hospital or local medical provider.

INGESTION: Decontaminate and transport to emergency medical facility.

PUNCTURE WOUND OR LACERATION: Decontaminate and transport to emergency medical facility.

13.9 Decontamination during Medical Emergencies

If emergency life-saving first aid and/or medical treatment is required, normal decontamination procedures may need to be abbreviated or postponed. The FTL/SHSO or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination, when necessary. The outer garments can be removed if they do not cause delays, interfere with treatment or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed on-site, a plastic barrier placed between the injured individual and clean surfaces should be used to help prevent contamination of the inside of ambulances and/or medical personnel. Outer garments may then be removed at the medical facility. No attempt will be made to wash or rinse the victim if his/her injuries are life threatening, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury or loss of life to emergency response personnel. For minor medical problems or injuries, the normal decontamination procedures will be followed.

13.10 Accident/Incident Reporting

As soon as first aid and/or emergency response needs have been met, the following parties are to be contacted by telephone:

- Health and Safety Manager;
- Project Manager; and
- The employer of any injured worker who is not a PWGC employee.

Written confirmation of verbal reports are to be completed by the FTL/SHSO using the Incident Report Form and submitted within 24 hours. The incident report and investigation form is found in **Appendix G**. If the

employee involved is not a PWGC employee, his employer will receive a copy of the report.

13.11 Adverse Weather Conditions

In the event of adverse weather conditions, the FTL/SHSO will determine if work can continue without potentially risking the safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries;
- Potential for cold stress and cold-related injuries;
- Treacherous weather-related working conditions (hail, rain, snow, ice, high winds);
- Limited visibility (fog);
- Potential for electrical storms;
- Earthquakes; and
- Other major incidents.

Site activities will be limited to daylight hours, or when suitable artificial light is provided, and acceptable weather conditions prevail. The FTL/SHSO will determine the need to cease field operations or observe daily weather reports and evacuate, if necessary, in case of severe inclement weather conditions.

13.12 Spill Control and Response

All small hazardous spills/environmental releases shall be contained as close to the source as possible. Whenever possible, the MSDS will be consulted to assist in determining the best means of containment and cleanup. For small spills, sorbent materials such as sand, sawdust or commercial sorbents should be placed directly on the substance to contain the spill and aid recovery. Any acid spills should be diluted or neutralized carefully prior to attempting recovery. Berms of earthen or sorbent materials can be used to contain the leading edge of the spills. Drains or drainage areas should be blocked. All spill containment materials will be properly disposed. An exclusion zone of 50 to 100 feet around the spill area should be established depending on the size of the spill. The following seven steps should be taken by the Emergency Coordinator:

- Determine the nature, identity and amounts of major spill components;
- Make sure all unnecessary persons are removed from the spill area;
- Notify appropriate response teams and authorities;
- Use proper PPE in consultation with the FTL/SHSO;

- If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking and/or explosive proof equipment to contain or clean up the spill (diesel only vehicles, air operated pumps, etc.);
- If possible, try to stop the leak with appropriate material; and,
- Remove all surrounding materials that can react or compound with the spill.

13.13 Emergency Equipment

The following minimum emergency equipment shall be kept and maintained on-site:

- Industrial first aid kit;
- Burn kit and portable eye washes (one per field team);
- Fire extinguishers (one per work area); and
- Absorbent material /spill kit.

14.0 TRAINING

14.1 General Health and Safety Training

In accordance with PWGC corporate policy, and pursuant to 29 CFR 1910.120, hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations unless otherwise noted in the above reference. At a minimum, the training shall have consisted of instruction in the topics outlined in the standard. Personnel who have not met the requirements for initial training shall not be allowed to work in any site activities in which they may be exposed to hazards (chemical or physical).

14.1.1 *Three Day Supervised On the Job Training*

In addition to the required initial hazardous waste operations training, each employee shall have received three days of directly supervised on-the-job training. This training will address the duties the employees are expected to perform.

14.2 Annual Eight-Hour Refresher Training

Annual eight-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualifications for fieldwork. The training will cover a review of 1910.120 requirements and related company programs and procedures.

14.3 Site-Specific Training

Prior to commencement of field activities, all field personnel assigned to the project will have completed training that will specifically address the activities, procedures, monitoring, and equipment used in the site operations. It will include site and facility layout, hazards and emergency services at the site, and will highlight all provisions contained within this HASP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

14.4 On-Site Safety Briefings

Project personnel and visitors will be given on-site health and safety briefings daily by the FTL/SHSO to assist site personnel in safely conducting their work activities. A copy of the Daily Briefing Sign-In Sheet is contained in **Appendix H**. The briefings will include information on new operations to be conducted, changes in work practices or changes in the site's environmental conditions, as well as periodic reinforcement of previously discussed topics. The briefings will also provide a forum to facilitate conformance with safety requirements

and to identify performance deficiencies related to safety during daily activities or as a result of safety inspections. The meetings will also be an opportunity to periodically update the crews on monitoring results. Prior to starting any new activity, a training session using the Activity Hazard Analysis will be held for crew members involved in the activity.

14.5 First Aid and CPR

The HSM will identify those individuals requiring first aid and CPR training to ensure that emergency medical treatment is available during field activities. It is anticipated that a minimum of one field person on-site at any one time will have first aid and CPR training. The training will be consistent with the requirements of the American Red Cross Association or American Heart Association. If none are available on-site, then the HSM shall be notified.

14.6 Supervisory Training

Supervisors and health and safety personnel shall have completed an additional eight hours of specialized training in accordance with 29 CFR 1910.120.

15.0 LOGS, REPORTS AND RECORDKEEPING

Changes to the HASP will be documented in the Health and Safety log book and as appropriate, the HSM and/or PM will be notified. Daily tailgate meetings will be documented in the H&S log book as well as personnel on-site.

15.1 Medical and Training Records

Copies or verification of training (40-hour, 8-hour, supervisor, site-specific training and documentation of three day OJT) and medical clearance for hazardous waste site work and respirator use will be maintained on-site. Records for all subcontractor employees will also be kept on-site.

15.2 Incident Report and Investigation Form

The incident report and investigation form is to be completed for all accidents and incidents, including near misses. The form can be found in **Appendix G**.

15.3 Health and Safety Logbooks

The FTL/SHSO will maintain a logbook during site work. The daily site conditions, personnel, monitoring results and significant events will be recorded. The original logbooks will become part of the exposure records file.

16.0 FIELD PERSONNEL REVIEW

This form serves as documentation that field personnel have read, or have been informed of, and understand the provisions of the HASP. It is maintained on site by the FTL/SHSO as a project record. Each field team member shall sign this section after site-specific training is completed and before being permitted to work on site.

I have read, or have been informed of, the Health and Safety Plan and understand the information presented. I will comply with the provisions contained therein.

Name (Print and Sign)	***Date***

Appendix A
Material Safety Data Sheets

MATERIAL SAFETY DATA SHEET

SRM Supplier: **National Institute of Standards and Technology**
Standard Reference Materials Program
100 Bureau Drive, Mail Stop 2321
Gaithersburg, Maryland 20899

SRM Number: 3079
MSDS Number: 3079
SRM Name: Aroclor 1254 in Transformer Oil
Date of Issue: 23 May 2003

MSDS Coordinator: Carmen S. Davis
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Aroclor 1254 in Transformer Oil

Description: SRM 3079 consists of five 2-mL ampoules, each containing approximately 1.2 mL of a solution of aroclor 1254 in transformer oil.

Other Designations: **Aroclor 1254** (PCB 1254; polychlornated biphenyl (aroclor 1254); chlorodiphenyl (54 %) Cl) in **Transformer Oil** (hydrotreated light napthenic distilltate; hydraulic petroleum oil)

Name	Chemical Formula	CAS Registry Number
Transformer Oil	complex mixture	64742-53-6
Aroclor 1254	complex molecule	11097-69-1

DOT Classification: Not Hazardous under DOT regulations.

Manufacturer/Supplier: Available from a number of suppliers

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Transformer Oil	99	ACGIH TLV-TWA: 5 mg/m^3 (mineral oil mist)
		Rat, Oral: LD_{50}: greater than 5 g/kg body weight
		Rabbit, Acute Dermal: LD_{50}: greater than 5 g/kg body weight
Aroclor 1254	1	ACGIH TWA: 0.5 mg/m^3 (skin)
		OSHA TWA: 0.5 mg/m^3 (skin)
		Rat, Oral: LD_{50}: 1 010 mg/kg
		Rat, Intravenous: LD_{50}: 358 mg/kg

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Transformer Oil	Aroclor 1254
Appearance and Odor: a clear liquid with a mild, bland petroleum odor	**Appearance and Odor:** a colorless to yellow liquid with a distinct odor
Relative Molecular Mass: ~ 255	**Relative Molecular Mass:** complex molecule
Specific Gravity: 0.88 g/mL	**Density (water = 1):** 1.50
Boiling Point: ~ 238 °C	**Boiling Point:** 365 °C to 390 °C
Freezing Point: not available	**Freezing Point:** 10 °C
Vapor Pressure (@ 20 °C): < 0.01 mm Hg	**Vapor Pressure:** negligible
Evaporation Rate: not available	**Evaporation Rate (butyl acetate = 1):** not available
Viscosity (@ 40 °C): 12.0 cSt	**Viscosity (@ 20 °C):** 140 to 2500
Water Solubility: insoluble	**Water Solubility:** very slightly soluble
Solvent Solubility: not available	**Solvent Solubility:** soluble in oils, organic solvents

NOTE: The physical and chemical data provided are for the pure components. Physical and chemical data for this transformer oil/aroclor 1254 solution **DO NOT** exist. The actual behavior of the solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Transformer Oil
Flash Point: 146 °C **Method Used:** COC **Autoignition Temperature:** > 204 °C

Flammability Limits in Air (Volume %): **UPPER:** 7
LOWER: 0.9

Aroclor 1254
Flash Point: 222 °C **Method Used:** Closed Cup **Autoignition Temperature:** Not Available

Flammability Limits in Air (Volume %): **UPPER:** Not Available
LOWER: Not Available

Unusual Fire and Explosion Hazards: Transformer oil is a slight fire hazard. Heating this material greatly increases the fire hazard. Thermal oxidative degradation may also yield hazardous gases.

Aroclor 1254 is a slight fire hazard.

Extinguishing Media: Use a dry chemical powder, carbon dioxide, or foam. Use a water spray to cool fire exposed containers only. **DO NOT** use a forced water stream directly into an oil fire as this will only scatter the fire; use a smothering technique for extinguishing the fire of this combustible material.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: **X** **Stable** _____ **Unstable**

Conditions to Avoid: Avoid contact with heat, sparks, flames, or other sources of ignition. Avoid inhalation of vapors or combustion by-products. Avoid contact with the skin. **DO NOT** allow the material to contaminate water sources.

Incompatibility (Materials to Avoid): Transformer oil is a fire and explosion hazard when exposed to strong oxidizing agents.

Aroclor 1254 is incompatible with acid halides, chlorine, oxides of carbon, and halogenated compounds.

See Section IV: *Unusual Fire and Explosion Hazards*

Hazardous Decomposition or Byproducts: Transformer oil will produce fumes, smoke, carbon monoxide, sulfur oxides, and aldehydes along with other decomposition products can be produced with incomplete combustion.

Thermal decomposition products of aroclor 1254 may include acid halides, chlorine, oxides of carbon, and halogenated compounds.

Hazardous Polymerization _____ **Will Occur** **X** **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: **X** **Inhalation** **X** **Skin** **X** **Ingestion**

Transformer Oil: The vapor pressure of this material is very low therefore, vapor inhalation under ambient conditions is normally not a problem. However, health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists, or fumes should be minimized.

Prolonged or repeated skin contact with this product may remove skin oils possibly leading to irritation and dermatitis; contact with the eyes may cause eye irritation. Repeated application of mildly hydrotreated oils to the skin of mice induced a moderate incidence of skin tumors. This product has a low order of oral toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

PCB 1254 (Aroclor): PCBs show high levels of bio-accumulation in the fatty tissues with very slow metabolism, especially for pentachloride $(Cl)_{5\ 1q}$ compounds and above. The skin lesions consist of small pimples and, in the initial stages, dark pigmentation of the exposed pores. In the later stages, blackheads and pustules develop. The PCBs are potent liver toxins that can be absorbed through the skin in hazardous amounts without immediately discernible pain or discomfort. This liver toxicity of chlorinated biphenyls appears to be increased if there is exposure to carbon tetrachloride at the same time. Where liver damage is extensive, the patient may become comatose and die. The higher the chlorine content of the diphenyl compound, the more probable it is toxic. Acute and chronic ingestion studies of aroclor 1254, involving rats, produced decreased motor activity, severe body weight loss, and deaths.

Medical Conditions Generally Aggravated by Exposure: Methanol may affect eye disorders, kidney disorders, skin disorders, and allergies. Aroclor 1242 may affect liver disorders, skin disorders, and allergies.

Listed as a Carcinogen/Potential Carcinogen (Transformer Oil):

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs	X	
By the Occupational Safety and Health Administration (OSHA)		X

Listed as a Carcinogen/Potential Carcinogen (Aroclor 1254):

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	X	
In the International Agency for Research on Cancer (IARC) Monographs	X	
By the Occupational Safety and Health Administration (OSHA)		X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingested, wash out mouth with water. Obtain medical assistance immediately.

TARGET ORGAN(S) OF ATTACK: **Transformer Oil:** skin and upper respiratory tract (URT)
Aroclor 1254: liver

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released or Spilled: Notify safety personnel of major spills and/or leaks. Evacuate nonessential personnel. Absorb small spills with sand or other absorbent material and place into containers for disposal. **DO NOT** flush into a sewer. Keep out of watersheds and waterways.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Persons handling this material must wear protective eyewear, clothing, and gloves to prevent contact with this material.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Protect containers from physical damage. Sealed ampoules, as received, should be stored in the dark at temperatures lower than 30 °C. Keep material in a well-ventilated area away from incompatible materials.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: MDL Information Systems, Inc., MSDS *Transformer Oil*, 16 December 2002.
MDL Information Systems, Inc., MSDS *Aroclor 1254*, 22 March 2001.
Merck Index, 11th Ed., 1989.
The Sigma Aldrich Library of Chemical Safety Data, Ed. II, 1988.

MATERIAL SAFETY DATA SHEET

SRM Supplier: **National Institute of Standards and Technology**
Standard Reference Materials Program
100 Bureau Drive, Mail Stop 2321
Gaithersburg, Maryland 20899

SRM Number: 3080
MSDS Number: 3080
SRM Name: Aroclor 1260 in Transformer Oil
Date of Issue: 23 May 2003

MSDS Coordinator: Carmen S. Davis
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Aroclor 1260 in Transformer Oil

Description: SRM 3080 consists of five 2-mL ampoules, each containing approximately 1.2 mL of a solution of aroclor 1260 in transformer oil.

Other Designations: **Aroclor 1260** (PCB 1260; polychlornated biphenyl (aroclor 1260); chlorodiphenyl (60 % Cl) in **Transformer Oil** (hydrotreated light napthenic distilltate; hydraulic petroleum oil)

Name	Chemical Formula	CAS Registry Number
Transformer Oil	complex mixture	64742-53-6
Aroclor 1260	complex molecule	11096-82-5

DOT Classification: Not Hazardous under DOT regulations.

Manufacturer/Supplier: Available from a number of suppliers

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Transformer Oil	99	ACGIH TLV-TWA: 5 mg/m^3 (mineral oil mist)
		Rat, Oral: LD_{50}: greater than 5 g/kg body weight
		Rabbit, Acute Dermal: LD_{50}: greater than 5 g/kg body weight
Aroclor 1260	1	NIOSH TWA: 1 μg/m^3 (10 hours)
		Rat, Oral: LD_{50}: 1315 mg/kg
		Rabbit, Skin: LD_{LO}: 2 g/kg

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Transformer Oil	Aroclor 1260
Appearance and Odor: a clear liquid with a mild, bland petroleum odor	**Appearance and Odor:** a yellow solid; odor not available
Relative Molecular Mass: ~ 255	**Relative Molecular Mass:** complex molecule
Specific Gravity: 0.88 g/mL	**Density (water = 1):** 1.58
Boiling Point: ~ 238 °C	**Boiling Point:** 385 °C to 420 °C
Freezing Point: not available	**Freezing Point:** not available
Vapor Pressure (@ 20 °C): < 0.01 mm Hg	**Vapor Pressure (@ 20 °C):** negligible
Evaporation Rate: not available	**Evaporation Rate:** not available
Viscosity (@ 40 °C): 12.0 cSt	**Viscosity:** not applicable
Water Solubility: insoluble	**Water Solubility:** very slightly soluble
Solvent Solubility: not available	**Solvent Solubility:** soluble in oils and organic solvents

NOTE: The physical and chemical data provided are for the pure components. Physical and chemical data for this transformer oil/aroclor 1260 solution **DO NOT** exist. The actual behavior of the solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Transformer Oil
Flash Point: 146 °C **Method Used:** COC **Autoignition Temperature:** > 204 °C

Flammability Limits in Air (Volume %): **UPPER:** 7
LOWER: 0.9

Aroclor 1260
Flash Point: >385 °C **Method Used:** Not Available **Autoignition Temperature:** Not Available

Flammability Limits in Air (Volume %): **UPPER:** Not Available
LOWER: Not Available

Unusual Fire and Explosion Hazards: Transformer oil is a slight fire hazard. Heating this material greatly increases the fire hazard. Thermal oxidative degradation may also yield hazardous gases.

Aroclor 1260 is a slight fire hazard.

Extinguishing Media: Use a dry chemical powder, carbon dioxide, or foam. Use a water spray to cool fire exposed containers only. **DO NOT** use a forced water stream directly into an oil fire as this will only scatter the fire; use a smothering technique for extinguishing the fire of this combustible material.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: **X** **Stable** _____ **Unstable**

Conditions to Avoid: Avoid contact with heat, sparks, flames, or other sources of ignition. Avoid inhalation of vapors or combustion by-products. Avoid contact with the skin. **DO NOT** allow the material to contaminate water sources.

Incompatibility (Materials to Avoid): Transformer oil is a fire and explosion hazard when exposed to strong oxidizing agents.

Aroclor 1260 is incompatible with oxidizing materials and combustible materials.

See Section IV**:** *Unusual Fire and Explosion Hazards*

Hazardous Decomposition or Byproducts: Transformer oil will produce fumes, smoke, carbon monoxide, sulfur oxides, and aldehydes along with other decomposition products can be produced with incomplete combustion.

Thermal decomposition products of aroclor 1260 may include acid halides, chlorine, oxides of carbon, and halogenated compounds.

Hazardous Polymerization _____ **Will Occur** **X** **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: **X** **Inhalation** **X** **Skin** **X** **Ingestion**

Transformer Oil: The vapor pressure of this material is very low therefore, vapor inhalation under ambient conditions is normally not a problem. However, health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists, or fumes should be minimized.

Prolonged or repeated skin contact with this product may remove skin oils possibly leading to irritation and dermatitis; contact with the eyes may cause eye irritation. Repeated application of mildly hydrotreated oils to the skin of mice induced a moderate incidence of skin tumors. This product has a low order of oral toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

PCB 1260 (Aroclor): PCBs show high levels of bio-accumulation in the fatty tissues with very slow metabolism, especially for pentachloride $(Cl)_5$ compounds and above. The skin lesions consist of small pimples and, in the initial stages, dark pigmentation of the exposed pores. In the later stages, blackheads and pustules develop. The PCBs are potent liver toxins that can be absorbed through the skin in hazardous amounts without immediately discernible pain or discomfort. This liver toxicity of chlorinated biphenyls appears to be increased if there is exposure to carbon tetrachloride at the same time. Where liver damage is extensive, the patient may become comatose and die. The higher the chlorine content of the diphenyl compound, the more probable it is toxic.

Medical Conditions Generally Aggravated by Exposure: Methanol may affect eye disorders, kidney disorders, skin disorders, and allergies. Aroclor 1260 may affect liver disorders, skin disorders, and allergies.

Listed as a Carcinogen/Potential Carcinogen (Transformer Oil):

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs	X	
By the Occupational Safety and Health Administration (OSHA)		X

Listed as a Carcinogen/Potential Carcinogen (Aroclor 1260):

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	X	
In the International Agency for Research on Cancer (IARC) Monographs	X	
By the Occupational Safety and Health Administration (OSHA)		X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingested, wash out mouth with water. Obtain medical assistance immediately.

TARGET ORGAN(S) OF ATTACK: **Transformer Oil:** skin and upper respiratory tract (URT)
Aroclor 1260: liver

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released or Spilled: Notify safety personnel of major spills and/or leaks. Evacuate nonessential personnel. Absorb small spills with sand or other absorbent material and place into containers for disposal. **DO NOT** flush into a sewer. Keep out of watersheds and waterways.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Persons handling this material must wear protective eyewear, clothing, and gloves to prevent contact with this material.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Protect containers from physical damage. Sealed ampoules, as received, should be stored in the dark at temperatures lower than 30 °C. Keep material in a well-ventilated area away from incompatible materials.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: MDL Information Systems, Inc., MSDS *Transformer Oil*, 16 December 2002.
MDL Information Systems, Inc., MSDS *Aroclor 1260*, 16 December 2002.
Merck Index, 11th Ed., 1989.
The Sigma Aldrich Library of Chemical Safety Data, Ed. II, 1988.

DIELDRIN

0787
March 1998

CAS No: 60-57-1
RTECS No: IO1750000
UN No: 2761
EC No: 602-049-00-9

1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo-1,4-exo-5,8-dimethanonaphthalene
3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2ß,2aalpha,3ß,6ß,6aalpha,7ß,7aalpha)-2,7:3,6-dimethanonaphth(2,3-b)oxirene
HEOD
$C_{12}H_8Cl_6O$
Molecular mass: 380.9

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		**PREVENT DISPERSION OF DUST! STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!**	
Inhalation	(see Ingestion).	Ventilation (not if powder).	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! See Ingestion.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes		Safety goggles, or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Convulsions. Dizziness. Headache. Nausea. Vomiting. Muscle twitching.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give a slurry of activated charcoal in water to drink. Do NOT induce vomiting. Rest. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING	
Do NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place (extra personal protection: chemical protection suit including self-contained breathing apparatus).	T+ Symbol N Symbol R: 25-27-40-48/25-50/53 S: (1/2-)22-36/37-45-60-61 UN Hazard Class: 6.1 UN Pack Group: II	Do not transport with food and feedstuffs. Severe marine pollutant.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-61G41b.	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs and incompatible materials: See Chemical Dangers. Well closed. Keep in a well-ventilated room.

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
COLOURLESS CRYSTALS

Chemical Dangers
The substance decomposes on heating producing toxic fumes including hydrogen chloride. Reacts with oxidants and acids. Attacks metal due to the slow formation of hydrogen chloride in storage.

Occupational Exposure Limits
TLV (as TWA): 0.25 mg/m^3, A4 (skin) (ACGIH 1997).

Routes of Exposure
The substance can be absorbed into the body through the skin and by ingestion.

Inhalation Risk
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

Effects of Short-term Exposure
The substance may cause effects on the central nervous system, resulting in convulsions. Medical observation is indicated.

Effects of Long-term or Repeated Exposure
The substance accumulates in the human body. Cumulative effects are possible: see acute hazards/symptoms.

PHYSICAL PROPERTIES

Melting point: 175-176°C
Density: 1.7 g/cm^3
Solubility in water: none

Vapour pressure, Pa at 20°C: 0.0004
Octanol/water partition coefficient as log Pow: 6.2

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to honey bees, birds. In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. It is strongly advised not to let the chemical enter into the environment because it persists in the environment. The substance may cause long-term effects in the aquatic environment. Avoid release to the environment in circumstances different to normal use.

NOTES

Depending on the degree of exposure, periodic medical examination is indicated. If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Alvit, Dieldrex, Dieldrite, Illoxol, Octalox, Panoram, and Quintox are trade names. Also consult ICSC #0774, Aldrin.

ADDITIONAL INFORMATION

February 22, 2007

RM Number: 8467 (Renewals)
MSDS Number: 8467
RM Name: 4,4'-DDE
Issued: May, 1992

MATERIAL SAFETY DATA SHEET

National Institute of Standards and Technology
Standard Reference Materials Program
Gaithersburg, Maryland 20899
(301) 975-2019

SECTION I. MATERIAL IDENTIFICATION

Material Name: 4,4'-DDE

Description: This material is a degradation product of DDT found as an impurity in DDT residues. A unit of RM 8467 consists of one vial containing approximately 100 mg of 4,4'-DDE.

Other Designations: *p,p'*-DDE, 1,1'-(dichloroethenyldiene)bis[4-chlorobenzene]; 2,2-bis-(4-chlorophenyl)-1,1-dichloroethene; ethylene, 1,1-dichloro-2,2-bis(*p*-chlorophenyl); 1,1'-(dichloroethenylidene)bis(4-chloro-benzene); dichlorodiphenyldichloroethylene

Chemical Formula: Cl-C_6-H.-C-(C-Cl_2)-C_6-H.-Cl

CAS Reg. No.: 72-55-9

DOT Classification: Class 6.1 Poison

Manufacturer/ Supplier: Available from a number of suppliers.

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration	Limits and Toxicity Data
4,4'-DDE	~ 100%	*No TLV established. Rat, Oral: LD_{50}: 880 mg/kg

Mouse, Oral:

LD_{50}: 700 mg/kg

*The suggested ACGIH-TWA for particulates not otherwise regulated is 10 mg/m³ for total dust.

SECTION III. PHYSICAL/ CHEMICAL CHARACTERISTICS

4,4'-DDE

Appearance and Odor: A white crystalline solid.
Molecular Weight: 318.03
Melting Point (Range): 88 - 90 °C
Solubility in Water: 0.12 ppm
Solubility in Other Compounds: Soluble in ethanol, acetone, dichloromethane, fat and most organic solvents.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A

(Method Used): N/A

Autoignition Temperature: N/A

Flammability Limits in Air (Volume %): UPPER: N/A
LOWER: N/A

Extinguishing Media: Use dry chemical, water spray of regular foam.

Special Fire Procedures: Fire-fighters should wear self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode and other protective clothing when fighting fires involving this material.

Unusual Fire and Explosion Hazards: This material is a negligible fire hazard when exposed to heat or flame. This material may burn but does not ignite readily. Containers may explode in the heat of a fire.

This pesticide material with strong oxidizers can present a fire and explosion hazard.

SECTION V. REACTIVITY DATA

Stability: __X__ **Stable** ____ **Unstable**

Conditions to Avoid: Avoid incompatible materials.

Incompatibility (Materials to Avoid): Keep this material from strong oxidizing materials.

See Section IV: Fire and Explosion Hazard Data.

Hazardous Decomposition or Byproducts: Thermal decomposition may include toxic and corrosive fumes of chlorides and toxic oxides of carbon.

Hazardous Polymerization: ____ **Will Occur** __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: __X__ **Inhalation** __X__ **Skin** __X__ **Ingestion**

Health Hazards (Acute and Chronic): Effects for **organochlorine pesticides** (i.e. DDT) may occur for exposures of 4,4'-DDE. Ingestion can occur through oral administration or may occur if sufficient amounts are absorbed from the lungs. A study of occupational exposure to DDT reported a higher frequency of white blood cells with chromosomal abnormalities among workers with high DDT blood levels. Menstrual irregularities are the most frequent complaint among migrant farm workers were observed in another study. Signs of liver and kidney damage can develop. Liver *necrosis* (localized death of living tissue) has been reported in experimental animals. Death may be due to respiratory failure or ventricular fibrillation. Symptoms of poisoning may not occur until several hours after ingestion.

This material may cross the placenta and be excreted in breast milk. It may also impair fertility. Stimulants such as epinephrine or ephedrine may induce *ventricular fibrillation* (a muscular twitching involving individual muscle fibers, acting without coordination, of the chamber of the heart which receives blood from a corresponding atrium and from which blood is forced into the arteries).

Signs and Symptoms of Exposure: Ingestion of organochlorine pesticides may cause gastrointestinal effects of nausea, vomiting, diarrhea, and stomach pains. Confusion, apprehension, irritability, excitability, dizziness, headache, disorientation, weakness, paresthesias, muscle twitching, tremor, stupor, coma and convulsions may also be experienced.

Medical Conditions Generally Aggravated by Exposure: N/A

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	____	_X_
In the International Agency for Research (IARC) Monographs	____	_X_
By the Occupational Safety and Health Administration (OSHA)	____	_X_

Note: A high incidence of liver-cell tumors was observed in mice administered DDE orally (IARC).

The carcinogenicity of this material is still undetermined.

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Contact medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15

minutes. Contact medical assistance if necessary.

Inhalation: If inhaled, remove the victim to fresh air. If breathing is difficult, give oxygen; if victim is not breathing, give artificial respiration. Contact medical assistance if necessary.

Ingestion: If ingested, wash out mouth with water. If the person is conscious and not convulsing, induce vomiting by administering syrup of ipecac (when vomiting occurs, keep the head above below the hips to prevent aspiration). Medical personal can administer activated charcoal followed by gastric lavage. Follow with a saline cathartic. **DO NOT** give fats or oils. Intestinal lavage with 20% mannitol (200 mL) by stomach tube is also useful. Give artificial respiration with oxygen if respiration is depressed. Treat symptomatically and supportively.

TARGET ORGAN(S) OF ATTACK: The blood, liver and kidneys.

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in Case Material is Released or Spilled: Notify safety personnel of major spills and/or leaks. Evacuate all nonessential personnel. Ventilate closed area before entering. Stop the leak if you can do so without risk. Use water spray to reduce vapors. Small spills can be absorbed with sand or other absorbent material and place in containers for later disposal. Small dry spills can be recovered with a clean shovel and placed in covered containers. For larger spills, dike far ahead of the spill for later disposal.

Note: Reportable Quantity (RQ): 1 Pound (4.536 Grams)

The Superfund Amendments and Reauthorization Act (SARA) section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local Emergency Planning Committee and the State Emergency Response Commission (40 CFR 355.40). If the release of this substance is reportable under Cercla Section 103, The National Response Center must be notified immediately.

Waste Disposal: Disposal must be in accordance with 40 CFR 165 recommended procedures for the disposal and storage of pesticides and pesticide containers. Follow all Federal, state and local regulations.

Handling and Storage: Employees handling this material must wear protective clothing and gloves to prevent skin contact and splash-proof or dust-resistant safety goggles to prevent eye contact with this substance. Any chemical cartridge respirator with an organic vapor cartridge in combination with a dust and mist filter must be worn to prevent inhalation. The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA).

Note: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the lab.

Provide local exhaust ventilation. Ventilation equipment must be explosion proof. Store material in accordance with 40 CFR 165 recommended procedures for the disposal and storage of pesticides and pesticide containers. Vials, as received, should be kept tightly sealed, protected from light, and stored in a refrigerator or freezer. Emergency eye wash station must be available.

SECTION VIII. SOURCE DATA/ OTHER COMMENTS

Sources: Occupational Health Services, MSDS *2,2-Bis-(4-Chlorophenyl)-1,1-Dichloroethene*, February 21, 1991.
Hawley's Condensed Chemical Dictionary, 11th ed., 1987.
Webster's Ninth New Colligiate Dictionary, 1990.

Carmelita S. Davis (301) 975-6439
National Institute of Standards and Technology
Standard Reference Materials Program
Gaithersburg, Maryland 20899

Note: Physical and chemical data contained in this MSDS are provided for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references, however NIST does not certify the data on the MSDS. The certified values for this material are given only on the NIST Certificate of Analysis.

Appendix B
Activity Hazard Analyses

Project Identification Canine Kennel IRM	**Location** Various	**Estimated Dates** TBD
Phase of Work Mobilization/ Demobilization	**Page 1 of 1**	**Analysis Approved by** Paul Boyce, PE, PM/HSM
TASKS	**HAZARDS**	**CONTROL MEASURES**
1. Mobilization and demobilization of equipment site tools, personnel	Slips/trips/falls	• Maintain alertness to slip/trip/fall hazards; • Maintain good housekeeping; • Walk, do not run; • Wear footwear with soles that grip; • Unloading areas should be on even terrain; and • Mark and repair if possible tripping hazards.
	Manual lifting and material handling	• Instruct personnel on proper lifting techniques; • Use proper lifting techniques; and • Team lifting will be used for heavy loads or use mechanical lifting devices.
	Temperature extremes	• Drink plenty of fluids: • Train personnel of signs/symptoms of heat/cold stress; • Monitor air temperatures when extreme weather conditions are present; and • Stay in visual and verbal contact with your buddy.
	Vehicular traffic	• Spotters will be used when backing up trucks and heavy equipment and when moving equipment.
	Overhead hazards	• Personnel will be required to wear hard hats that meet ANSI Standard Z89.1; • Ground personnel will stay clear of suspended loads; • Equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects; and • Overhead hazards will be identified prior to commencing work operations.
	Noise	• Ear plugs or ear muffs shall be worn for operations that exceed 85 decibels.
	Electrocution	• Equipment will be equipped with GFCI; • A licensed electrician will conduct electrical work; • Equipment will stay a minimum of 15 feet from overhead-energized electrical lines and the electrified third rail (up to 50 kV). This distance will increase 0.4 inches for each 1 kV above 50 kV.
	Biological hazards	• Be alert to the presence of biological hazards; • Wear insect repellent; • Follow procedures in Section 4.2.2 for tick bites; • FTL/SHSO should be aware of on-site personnel with allergic reactions in insect bites and stings.

Project Identification Canine Kennel IRM	**Location** Various	**Estimated Dates** TBD
Phase of Work Excavation	**Page 1 of 2**	**Analysis Approved by** Paul Boyce, PE, PM/HSM
TASKS	**HAZARDS**	**CONTROL MEASURES**
1. Excavate to required depths; soil handing and transport	Chemical hazards	• Wear appropriate PPE per Table 6-1; • Perform air monitoring per Community Air Monitoring Plan; • Practice contamination avoidance; • Follow proper decontamination procedures; and • Wash hands/face before eating, drinking or smoking.
	Hand and power tool usage	• Equip electrical equipment with GFCI's; • Inspect electrical equipment and tools prior to use; • Daily inspections will be performed; • Remove broken or damaged tools from service; • Use the tool for its intended purpose; • Use in accordance with manufacturer instructions; and Tag and remove defective equipment.
	Temperature extremes	• Drink plenty of fluids: • Train personnel of signs/symptoms of heat/cold stress; • Monitor air temperatures when extreme weather conditions are present; and, • Stay in visual and verbal contact with your buddy.
	Manual lifting and material handling	• Instruct personnel on proper lifting techniques; • Use proper lifting techniques; and • Team lifting will be used for heavy loads or use mechanical lifting devices.
	Fire/Explosion	• ABC type fire extinguishers shall be readily available; • No smoking in work area.
	Biological hazards	• Be alert to the presence of biological hazards; • Wear insect repellent; • Follow procedures in Section 4.2.2 for tick bites; • FTL/SHSO should be aware of on-site personnel with allergic reactions in insect bites and stings.
	Heavy equipment	• Ground personnel will stay clear of suspended loads; • Ground personnel will stay out of the swing radius; • Eye contact with operators will be made before approaching equipment; • Equipment will not be approached on blind sides; • Equipment will be equipped with backup alarms or spotters shall be used.
	Slips/Trips/Falls	• Maintain alertness to slip/trip/fall hazards; • Maintain good housekeeping; • Walk, do not run; • Wear footwear with soles that grip; • Unloading areas should be on even terrain; and mark and repair if possible tripping hazards are present.
	Electrocution	• Equipment will be equipped with GFCI; • A licensed electrician will conduct electrical work; • Equipment will stay a minimum of 15 feet from overhead-energized electrical lines and the electrified third rail (up to 50 kV). This distance will increase 0.4 inches for each 1 kV above 50 kV.

Project Identification Canine Kennel IRM	**Location** Various	**Estimated Dates** TBD
Phase of Work Drilling	**Page 2 of 2**	**Analysis Approved by** Paul Boyce, PE, PM/HSM
TASKS	**HAZARDS**	**CONTROL MEASURES**
	Noise	• Hearing protection mandatory at or above 85 dBA. • Instruct personnel how to properly wear heating protective devices. •Disposable ear plugs or other hearing protection required when working near noisy equipment..
	Steam/Heat/Splashing	• Use face shield and safety glasses or goggles; • Stay out of the splash/steam radius; • Do not direct steam at anyone; • Do not hold objects with your foot and steam area near it; • Direct spray to minimize spread of constituents of concern; and • Use shielding as necessary.
	Excavation hazards	• Follow 29 CFR 1926 Subpart P.
	Overhead hazards	• Personnel will be required to wear hard hats that meet ANSI Standard Z89.1; • Ground personnel will stay clear of suspended loads; • Equipment will be provided with guards, canopies or grills to protect the operator from falling or flying objects; and • Overhead hazards will be identified prior to commencing work operations.
	Electrocution	• Equipment will be equipped with GFCI; • A licensed electrician will conduct electrical work; • Equipment will stay a minimum of 15 feet from overhead-energized electrical lines and the electrified third rail (up to 50 kV). This distance will increase 0.4 inches for each 1 kV above 50 kV.
	Track Hazards	• Caution will be used when working in close proximity to the electrified third rail (see “Electrocution” above). • Workers are required to have completed NYCT Track Safety Training • Flag men will be used when necessary (e.g., working in limited access track areas).

Project Identification Canine Kennel IRM	**Location** Various	**Estimated Dates** TBD
Phase of Work Soil/Groundwater Sampling	**Page 1 of 1**	**Analysis Approved by** Paul Boyce, PE, PM/HSM
TASKS	**HAZARDS**	**CONTROL MEASURES**
1.Collect soil/groundwater samples.	Chemical hazards	• Wear appropriate PPE per Table 6-1; • Practice contamination avoidance; • Follow proper decontamination procedures; and • Wash hands/face before eating, drinking or smoking.
	Temperature extremes	• Drink plenty of fluids: • Train personnel of signs/symptoms of heat/cold stress; • Monitor air temperatures when extreme weather conditions are present; and • Stay in visual and verbal contact with your buddy.
	Manual lifting and material handling	• Site personnel will be instructed on proper lifting techniques; mechanical devices should be used to reduce manual handling of materials; team lifting should be utilized if mechanical devices are not available.
	Slips/Trips/Falls	• Maintain alertness to slip/trip/fall hazards; • Maintain good housekeeping; • Walk, do not run; • Wear footwear with soles that grip; • Unloading areas should be on even terrain; and • Mark and repair if possible tripping hazards.
	Electrocution	• Equipment will be equipped with GFCI; • A licensed electrician will conduct electrical work; • Equipment will stay a minimum of 15 feet from overhead-energized electrical lines and the electrified third rail (up to 50 kV). This distance will increase 0.4 inches for each 1 kV above 50 kV.
	Track Hazards	• Caution will be used when working in close proximity to the electrified third rail (see “Electrocution” above). • Workers are required to have completed NYCT Track Safety Training • Flag men will be used when necessary (e.g., working in limited access track areas).

Project Identification Canine Kennel IRM	**Location** Various	**Estimated Dates** TBD
Phase of Work Decontamination	**Page 1 of 1**	**Analysis Approved by** Paul Boyce, PE, PM/HSM
TASKS	**HAZARDS**	**CONTROL MEASURES**
1.Decontaminate equipment	Chemical hazards	• Wear appropriate PPE per Table 6-1; • Practice contamination avoidance; • Follow proper decontamination procedures; and • Wash hands/face before eating, drinking or smoking.
	Temperature extremes	• Drink plenty of fluids: • Train personnel of signs/symptoms of heat/cold stress; • Monitor air temperatures when extreme weather conditions are present; and • Stay in visual and verbal contact with your buddy.
	Manual lifting and material handling	• Site personnel will be instructed on proper lifting techniques; mechanical devices should be used to reduce manual handling of materials; team lifting should be utilized if mechanical devices are not available.
	Slips/Trips/Falls	• Maintain alertness to slip/trip/fall hazards; • Maintain good housekeeping; • Walk, do not run; • Wear footwear with soles that grip; • Unloading areas should be on even terrain; and • Mark and repair if possible tripping hazards.
	Electrocution	• Equipment will be equipped with GFCI; • A licensed electrician will conduct electrical work; • Equipment will stay a minimum of 15 feet from overhead-energized electrical lines and the electrified third rail (up to 50 kV). This distance will increase 0.4 inches for each 1 kV above 50 kV.
	Track Hazards	• Caution will be used when working in close proximity to the electrified third rail (see “Electrocution” above). • Workers are required to have completed NYCT Track Safety Training • Flag men will be used when necessary (e.g., working in limited access track areas).

Appendix C
Heat/Cold Stress Protocols

HEAT STRESS

Heat Stress (Hyperthermia)

Heat stress is the body's inability to regulate the core temperature. A worker's susceptibility to heat stress can vary according to his/her physical fitness, degree of acclimation to heat, humidity, age and diet.

1. Prior to site activity, the field team leader may make arrangements for heat stress monitoring (i.e., monitoring heart rate, body temperature, and body water loss) during actual site work if conditions warrant. In addition, the FTL is to ensure that each team member has been acclimatized to the prevailing environmental conditions, that personnel are aware of the signs and symptoms of heat sickness, that they have been adequately trained in first aid procedures, and that there are enough personnel on-site to rotate work assignments and schedule work during hours of reduced temperatures. Personnel should not consume alcoholic or caffeinated beverages but rather drink moderate levels of an electrolyte solution and eat well prior to commencing site work.

2. Although there is no specific test given during a baseline physical that would identify a person's intolerance to heat, some indicators are tobacco or medication use, dietary habits, body weight, and chronic conditions such as high blood pressure or diabetes.

3. *Heat cramps*, caused by profuse perspiration with inadequate fluid intake and salt replacement, most often afflict people in good physical condition who work in high temperature and humidity. Heat cramps usually come on suddenly during vigorous activity. Untreated, heat cramps may progress rapidly to heat exhaustion or heat stroke. First aid treatment: remove victim to a cool place and replace lost fluids with water.

4. Thirst is not an adequate indicator of heat exposure. Drinking fluid by itself does not indicate sufficient water replacement during heat exposure. A general rule, the amount of water administered should replace the amount of water lost, and it should be administered at regular intervals throughout the day. For every half pound of water lost, 8 ounces of water should be ingested. Water should be replaced by drinking 2 – 4 ounce servings during every rest period. A recommended alternative to water is an electrolyte drink split 50/50 with water.

5. *Heat exhaustion* results from salt and water loss along with peripheral pooling of blood. Like heat cramps, heat exhaustion tends to occur in persons in good physical health who are working in high temperatures and humidity. Heat exhaustion may come on suddenly as dizziness and collapse. Untreated, heat exhaustion may progress to heat stroke.

6. *Treatment for heat exhaustion*: Move the victim to a cool environment (e.g. air-conditioned room/car), lay victim down and fan him/her. If the air-conditioning is not available, remove the victim to a shaded area, remove shirt, and fan. If symptoms do not subside within an hour, notify 911 to transport to hospital.

7. *Heat stroke* results from the body's inability to dissipate excess heat. A true medical emergency that requires immediate care, it usually occurs when one ignores the signs of heat exhaustion and continues strenuous activities. Working when the relative humidity exceeds 60% is a particular problem. Workers in the early phase of heat stress may not be coherent of they will be confused, delirious or comatose. Changes in behavior, irritability and combativeness are useful early signs of heat stroke.

8. *Treatment of heat stroke*: Move the victim to a cool, air-conditioned environment. Place victim in a semi-reclined position with head elevated and strip to underclothing. Cool victim as rapidly as possible, applying ice packs to the arms and legs and massaging the neck and torso. Spray victim with tepid water and constantly fan to promote evaporation. Notify 911 to transport to hospital as soon as possible.

TABLE 1

SYMPTOMS OF HEAT STRESS

Heat cramps are caused by heavy sweating with inadequate fluid intake. Symptoms include;

- Muscle cramps
- Cramps in the hands, legs, feet and abdomen

Heat exhaustion occurs when body organs attempt to keep the body cool. Symptoms include;

- Pale, cool moist skin
- Core temperature elevated 1-2°
- Thirst
- Anxiety
- Rapid heart rate
- Heavy sweating
- Dizziness
- Nausea

Heat stroke is the most serious form of heat stress. Immediate action must be taken to cool the body before serious injury and death occur. Symptoms are;

- Red, hot, dry skin
- Lack of perspiration
- Seizures
- Dizziness and confusion
- Strong, rapid pulse
- Core temperature of 104° or above
- Coma

TABLE 2

HEAT STRESS INDICATORS

Heat stress indicator	When to measure	If Exceeds...	Action
Heart rate (pulse)	Beginning of rest period	110 beats per minute	Shorten next work period by 33%
Oral temperature	Beginning of rest period	99°F (after thermometer is under tongue for 3 minutes) 100.6°F	Shorten next work period by 33% Prohibit work in impermeable clothing
Body weight	1. Before workday begins (a.m.) 2. After workday ends (p.m.)		Increase fluid intake

COLD STRESS

Cold stress (Hypothermia)

In hypothermia the core body temperature drops below 95°F. Hypothermia can be attributed to a decrease in heat production, increased heat loss or both.

Prevention

Institute the following steps to prevent overexposure of workers to cold:

1. Maintain body core temperature at 98.6°F or above by encouraging workers to drink warm liquids during breaks (preferably not coffee) and wear several layers of clothing that can keep the body warm even when the clothing is wet.
2. Avoid frostbite by adequately covering hands, feet and other extremities. Clothing such as insulated gloves or mittens, earmuffs and hat liners should be worn. To prevent contact frostbite (from touching metal and cold surfaces below 20°F), workers should wear gloves. Tool handles should be covered with insulating material.
3. Adjust work schedules to provide adequate rest periods. When feasible, rotate personnel and perform work during the warmer hours of the day.
4. Provide heated shelter. Workers should remove their outer layer(s) of clothing while in the shelter to allow sweat to evaporate.
5. In the event that wind barriers are constructed around an intrusive operation (such as drilling), the enclosure must be properly vented to prevent the buildup of toxic or explosive gases or vapors. Care must be taken to keep a heat source away from flammable substances.
6. Using a wind chill chart such as the one in Table 3, obtain the equivalent chill temperature (ECT) based on actual wind speed and temperature. Refer to the ECT when setting up work warm-up schedules, planning appropriate clothing, etc. Workers should use warming shelters at regular intervals at or below an ECT of 20°F. For exposed skin, continuous exposure should not be permitted at or below an ECT of -25°F.

Frostbite

Personnel should be aware of symptoms of frostbite/hypothermia. If the following symptoms are noticed in any worker, he/she should immediately go to a warm shelter.

Condition	Skin Surface	Tissue Under Skin	Skin Color
Frostnip	Soft	Soft	Initially red, then white
Frostbite	Hard	Soft	White and waxy
Freezing	Hard	Hard	Blotchy, white to yellow-gray to gray

1. *Frostnip* is the incipient stage of frostbite, brought about by direct contact with a cold object or exposure of a body part to cool/cold air. Wind chill or cold water also can be major factors. This condition is not serious. Tissue damage is minor and the response to care is good. The tip of the nose, tips of ears, upper cheeks and fingers (all areas generally exposed) are most susceptible to frostnip.

2. *Treatment of frostnip*: Care for frostnip by warming affected areas. Usually the worker can apply warmth from his/her bare hands, blow warm air on the site, or, if the fingers are involved, hold them in the armpits. During recovery, the worker may complain of tingling or burning sensation, which is normal. If the condition does not respond to this simple care, begin treatment for frostbite.

3. *Frostbite*: The skin and subcutaneous layers become involved. If frostnip goes untreated, it becomes superficial frostbite. This condition is serious. Tissue damage may be serious. The worker must be transported to a medical facility for evaluation. The tip of the nose, tips of ears, upper cheeks and fingers (all areas generally exposed) are most susceptible to frostbite. The affected area will feel frozen, but only on the surface. The tissue below the surface must still be soft and have normal response to touch. *DO NOT* squeeze or poke the tissue. The condition of the deeper tissues can be determined by gently palpating the affected area. The skin will turn mottled or blotchy. It may also be white and then turn grayish-yellow.

4. *Treatment of frostbite*: When practical, transport victim as soon as possible. Get the worker inside and keep him/her warm. Do not allow any smoking or alcohol consumption. Thaw frozen parts by immersion, re-warming in a 100°F to 106°F water bath. Water temperature will drop rapidly, requiring additional warm water throughout the process. Cover the thawed part with a dry sterile dressing. Do not puncture or drain any blisters.

   NOTE: Never listen to myths and folk tales about the care of frostbite. *Never* rub a frostbitten or frozen area. *Never* rub snow on a frostbitten or frozen area. Rubbing the area may cause

serious damage to already injured tissues. Do not attempt to thaw a frozen area if there is any chance it will be re-frozen.

5. *General cooling/Hypothermia*: General cooling of the body is known as systemic hypothermia. This condition is not a common problem unless workers are exposed to cold for prolonged periods of time without any shelter.

Body Temperature	°C	Symptoms
99-96	37-35.5	Intense, uncontrollable shivering
95-91	35.5-32.7	Violent shivering persists. If victim is conscious, he has difficulty speaking.
90-86	32-30	Shivering decreases and is replaced by strong muscular rigidity. Muscle coordination is affected. Erratic or jerkey movements are produced. Thinking is less clear. General comprehension is dulled. There may be total amnesia. The worker is generally still able to maintain the appearance of psychological contact with his surroundings.
85-81	29.4-27.2	Victim becomes irrational, loses contact with his environment, and drifts into a stuporous state. Muscular rigidity continues. Pulse and respirations are slow and the worker may develop cardiac arrhythmias.
80-78	26.6-18.5	Victim becomes unconscious. He does not respond to the spoken word. Most reflexes cease to function. Heartbeat becomes erratic
Below 78	25.5	Cardiac and respiratory centers of the brain fail. Ventricular fibrillation occurs; probably edema and hemorrhage in the lungs; death.

6. *Treatment of hypothermia*: Keep worker dry. Remove any wet clothing and replace with dry clothes, or wrap person in dry blankets. Keep person at rest. Do not allow him/her to move around. Transport the victim to a medical facility as soon as possible.

TABLE 3[1]
COOLING POWER OF WIND ON EXPOSED FLESH EXPRESSED AS AN EQUIVALENT TEMPERATURE (UNDER CALM CONDITIONS)

Estimated wind Speed (in mph)	Actual Temperature Reading (°F)P											
	50	40	30	20	10	0	10	20	30	40	50	60
	Equivalent Chill Temperature (°F)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	15	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-146
(Wind speeds greater than 40 mph have little additional effect.)	LITTLE DANGER in < hr with dry skin. Maximum danger of false sense of security.				INCREASING DANGER Danger from freezing of exposed flesh within one minute			GREAT DANGER may freeze within 30 seconds.				Flesh
	Trench foot and imersion foot may occur at any point on this chart											

Developed by U.S. Army Research Institute of Environmental Medicine, Natick, MA.

(1) Reproduced from American Conference of Governmental Industrial Hygienists, Threshold Limit Values and Biological Exposure Indices for 1985-1986, p.01.

Appendix D
Medical Data Sheet

MEDICAL DATA SHEET

The brief medical data sheet shall be completed by on-site personnel and will be kept in the Support Zone by the HSO as a project record during the conduct of site operations. It accompanies any personnel when medical assistance is needed or if transport to a hospital is required.

Project:
Name: Home Telephone: _____
Address: _____
Age: _____ Height: _____ Weight: _____ Blood Type: _____

Name and Telephone Number of Emergency Contact: _____

Drug or Other Allergies: _____

Particular Sensitivities: _____

Do You Wear Contacts? _____

Provide A Check List Of Previous Illnesses: _____

What Medications Are You Presently Using?_____

Do You Have Any Medical Restrictions? _____

Name, Address, And Phone Number Of Personal Physician:

Appendix E
General Health and Safety Work Practices

GENERAL HEALTH AND SAFETY WORK PRACTICES

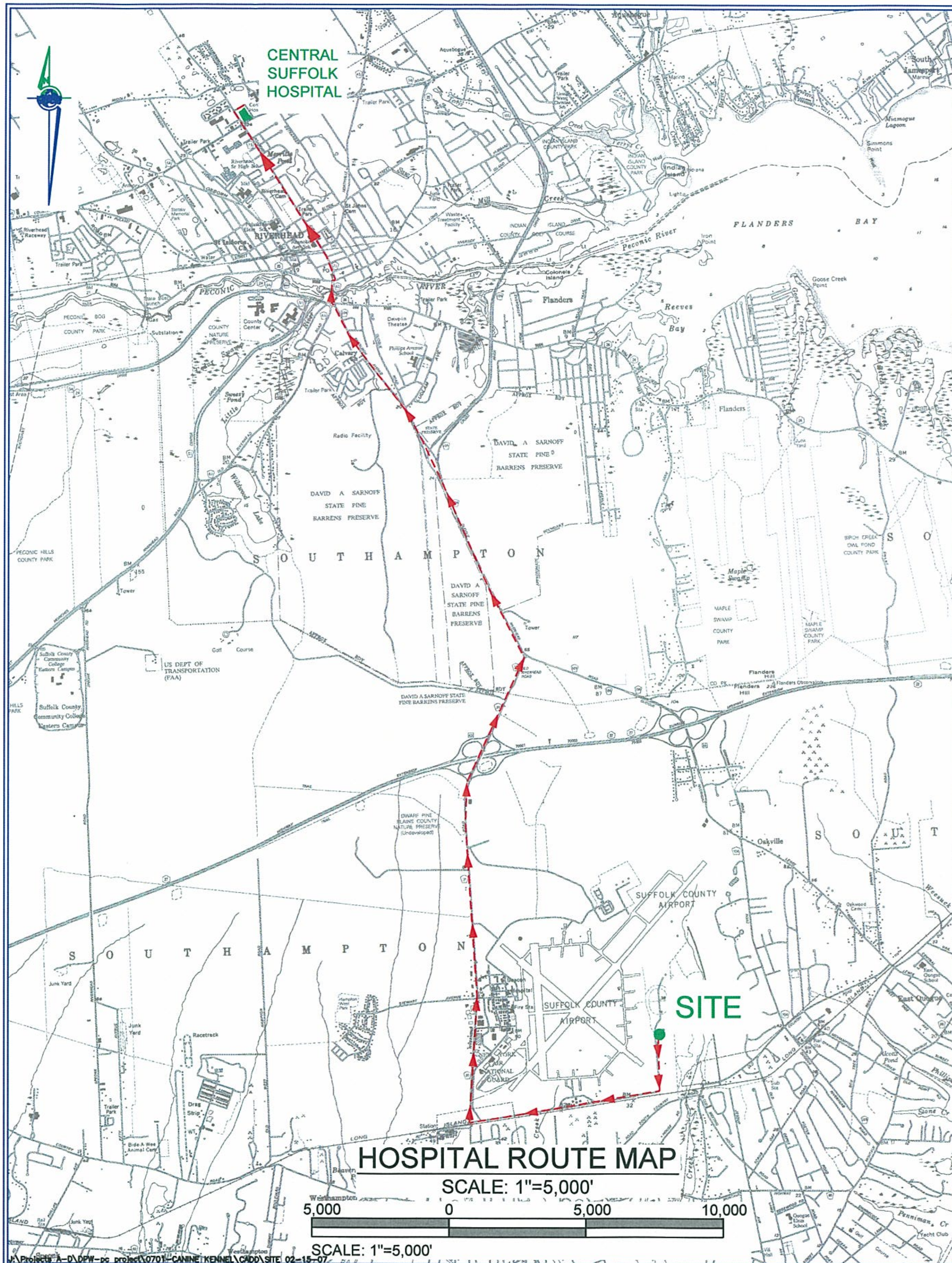
1. Site personnel must attend each day's Daily Briefing and sign the attendance sheet.
2. Any individual taking prescribed drugs shall inform the FTL/HSO of the type of medication. The FTL/HSO will review the matter with the HSM and the Corporate Medical Consultant (CMC), who will decide if the employee can safely work on-site while taking the medication.
3. The personal protective equipment specified by the FTL/HSO and/or associated procedures shall be worn by site personnel. This includes hard hats and safety glasses which must be worn in active work areas.
4. Facial hair (beards, long sideburns or mustaches) which may interfere with a satisfactory fit of a respirator mask is not allowed on any person who may be required to wear a respirator.
5. Personnel must follow proper decontamination procedures and shower as soon as possible upon completion of work shift.
6. Eating, drinking, chewing tobacco or gum, smoking and any other practice that may increase the possibility of hand-to-mouth contact is prohibited in the exclusion zone or the contamination reduction zone. (Exceptions may be permitted by the HSM to allow fluid intake during heat stress conditions).
7. Lighters, matches, cigarettes and other forms of tobacco are prohibited in the Exclusion Zone.
8. Signs and demarcations shall be followed. Such signs and demarcation shall not be removed, except as authorized by the FTL/HSO.
9. No one shall enter a permit-required confined space without a permit and appropriate training. Confined space entry permits shall be implemented as issued.
10. Personnel must follow Hot Work Permits as issued.
11. Personnel must use the Buddy System in the Exclusion Zone.
12. Personnel must follow the work-rest regimens and other practices required by the heat stress program.
13. Personnel must follow lockout/tagout procedures when working on equipment involving moving parts or hazardous energy sources.
14. No person shall operate equipment unless trained and authorized.
15. No one may enter an excavation greater than four feet deep unless authorized by the Competent Person. Excavations must be sloped or shored properly. Safe means of access and egress from excavations must be maintained.
16. Ladders and scaffolds shall be solidly constructed, in good working condition, and inspected prior to use. No one may use defective ladders or scaffolds.
17. Fall protection or fall arrest systems must be in place when working at elevations greater than six feet for

temporary working surfaces and four feet for fixed platforms.

18. Safety belts, harnesses and lanyards must be selected by the Supervisor. The user must inspect the equipment prior to use. No defective personal fall protection equipment shall be used. Personal fall protection that has been shock loaded must be discarded.
19. Hand and portable power tools must be inspected prior to use. Defective tools and equipment shall not be used.
20. Ground fault interrupters shall be used for cord and plug equipment used outdoors or in damp locations. Electrical cords shall be kept out walkways and puddles unless protected and rated for the service.
21. Improper use, mishandling, or tampering with health and safety equipment and samples is prohibited.
22. Horseplay of any kind is prohibited.
23. Possession or use of alcoholic beverages, controlled substances, or firearms on any site is forbidden.
24. Incidents, no matter how minor, must be reported immediately to the Supervisor.
25. Personnel shall be familiar with the Site Emergency Action Plan, which is contained in Section 12 of the HASP/EAP.

The above Health and Safety Rules are not all inclusive and it is your responsibility to comply with regulations set forth by OSHA, the client, PWGC Supervisors, and the FTL/HSO.

Appendix F
Hospital Route Map and Directions



PWGC
Strategic Environmental & Engineering Solutions
630 Johnson Ave. Suite 7 Bohemia, N.Y. 11716-2618
Ph: 631 589-6353 Fx: 631 589-8705 E-mail: info@pwgrosser.com

CANINE KENNEL SITE
GABRESKI AIRPORT
WEST HAMPTON. NY

Project: DPW0701	Figure No. 7
Designed by: JR	
Approved by: PWG	
Drawn by: TC	Date: 2/15/07

Appendix G
Incident Report Form / Investigation Form

INCIDENT / NEAR MISS REPORT AND INVESTIGATION - PAGE 1 OF 2
TYPE OF INCIDENT - CHECK ALL THAT APPLY
☐ INJURY/ILLNESS ☐ VEHICLE DAMAGE ☐ PROPERTY DAMAGE ☐ FIRE ☐ SPILL/RELEASE ☐ PERMIT EXCEEDENCE ☐ NEAR MISS ☐ OTHER
GENERAL INFORMATION
PROJECT NAME: DATE OF REPORT: REPORT NO.:
DATE OF INCIDENT: TIME: DAY OF WEEK:
LOCATION OF INCIDENT:
WEATHER CONDITIONS: ADEQUATE LIGHTING AT SCENE? ☐ YES ☐ NO ☐ N/A
DESCRIBE WHAT HAPPENED (STEP BY STEP - USE ADDITIONAL PAGES IF NECESSARY)
AFFECTED EMPLOYEE INFORMATION
NAME: EMPLOYEE: ☐ YES ☐ NO
HOME ADDRESS:
SOCIAL SECURITY NO.: HOME PHONE NO.:
JOB CLASSIFICATION: YEARS IN JOB CLASSIFICATION:
HOURS WORKED ON SHIFT PRIOR TO INCIDENT: AGE:
DID INCIDENT RELATE TO ROUTINE TASK FOR JOB CLASSIFICATION? ☐ YES ☐ NO
INJURY/ILLNESS INFORMATION
NATURE OF INJURY OR ILLNESS:
OBJECT/EQUIPMENT/SUBSTANCE CAUSING HARM:
FIRST AID PROVIDED? ☐ YES ☐ NO
IF YES, WHERE WAS IT GIVEN: ☐ ON-SITE ☐ OFF-SITE
IF YES, WHO PROVIDED FIRST AID:
WILL THE INJURY/ILLNESS RESULT IN: ☐ RESTRICTED DUTY ☐ LOST TIME ☐ UNKNOWN

INCIDENT / NEAR MISS REPORT AND INVESTIGATION - PAGE 2 OF 2 REPORT NO.
MEDICAL TREATMENT INFORMATION
WAS MEDICAL TREATMENT PROVIDED? ☐ YES ☐ NO
IF YES, WAS MEDICAL TREATMENT PROVIDED: ☐ ON-SITE ☐ DR.'S OFFICE ☐ HOSPITAL
NAME OF PERSON(S) PROVIDING TREATMENT:
ADDRESS WHERE TREATMENT WAS PROVIDED:
TYPE OF TREATMENT:
VEHICLE AND PROPERTY DAMAGE INFORMATION
VEHICLE/PROPERTY DAMAGED:
DESCRIPTION OF DAMAGE:
SPILL AND AIR EMISSIONS INFORMATION:
SUBSTANCE SPILLED OR RELEASED: FROM WHERE: TO WHERE:
ESTIMATED QUANTITY/DURATION:
CERCLA HAZARDOUS SUBSTANCE? ☐ YES ☐ NO
REPORTABLE TO AGENCY? ☐ YES ☐ NO SPECIFY:
WRITTEN REPORT: ☐ YES ☐ NO TIME FRAME:
RESPONSE ACTION TAKEN:
PERMIT EXCEEDENCE
TYPE OF PERMIT: PERMIT #:
DATE OF EXCEEDENCE: DATE FIRST KNOWLEDGE OF EXCEEDENCE:
PERMITTED LEVEL OR CRITERIA:
EXCEEDENCE LEVEL OR CRITERIA:
REPORTABLE TO AGENCY? ☐ YES ☐ NO SPECIFY:
WRITTEN REPORT: ☐ YES ☐ NO TIME FRAME:
RESPONSE ACTION TAKEN:
NOTIFICATIONS
NAMES OF PERSONNEL NOTIFIED: DATE/TIME:
CLIENT NOTIFIED: DATE/TIME:
AGENCY NOTIFIED: DATE/TIME:
CONTACT NAME:
PERSONS PREPARING REPORT
EMPLOYEE'S NAME:(PRINT) SIGN:
SUPERVISOR'S NAME:(PRINT) SIGN:

INVESTIGATIVE REPORT			
DATE OF INCIDENT:	DATE OF REPORT:	REPORT NUMBER:	
INCIDENT COST: ESTIMATED: $_____	ACTUAL: $_____		
OSHA RECORDABLE(S): ☐ YES ☐ NO # RESTRICTED DAYS ____ # DAYS AWAY FROM WORK ____			
CAUSE ANALYSIS			
IMMEDIATE CAUSES - WHAT ACTIONS AND CONDITIONS CONTRIBUTED TO THIS EVENT?			
BASIC CAUSES - WHAT SPECIFIC PERSONAL OR JOB FACTORS CONTRIBUTED TO THIS EVENT?			
ACTION PLAN			
REMEDIAL ACTIONS - WHAT HAS AND OR SHOULD BE DONE TO CONTROL EACH OF THE CAUSES LISTED?			
ACTION	PERSON RESPONSIBLE	TARGET DATE	COMPLETION DATE
PERSONS PERFORMING INVESTIGATION			
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
MANAGEMENT REVIEW			
PROJECT MANAGER: (PRINT)	SIGN:	DATE:	
COMMENTS:			
H&S MANAGER: (PRINT)	SIGN:	DATE:	
COMMENTS:			

EXAMPLES OF IMMEDIATE CAUSES

Substandard Actions

1. Operating equipment without authority
2. Failure to warn
3. Failure to secure
4. Operating at improper speed
5. Making safety devices inoperable
6. Removing safety devices
7. Using defective equipment
8. Failure to use PPE properly
9. Improper loading
10. Improper placement
11. Improper lifting
12. Improper position for task
13. Servicing equipment in operation
14. Under influence of alcohol/drugs
15. Horseplay

Substandard Conditions

1. Guards or barriers
2. Protective equipment
3. Tools, equipment, or materials
4. Congestion
5. Warning system
6. Fire and explosion hazards
7. Poor housekeeping
8. Noise exposure
9. Exposure to hazardous materials
10. Extreme temperature exposure
11. Illumination
12. Ventilation
13. Visibility

EXAMPLES OF BASIC CAUSES

Personal Factors

1. Capability
2. Knowledge
3. Skill
4. Stress
5. Motivation
6. Work Standards
7. Wear and tear
8. Abuse or misuse

Job Factors

1. Supervision
2. Engineering
3. Purchasing
4. Maintenance
5. Tools/equipment

MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS

1. Leadership and administration
2. Management training
3. Planned inspections
4. Task analysis and procedures
5. Task observation
6. Emergency preparedness
7. Organizational rules
8. Accident/incident analysis
9. Personal protective equipment
10. Health control
11. Program audits
12. Engineering controls
13. Personal communications
14. Group meetings
15. General promotion
16. Hiring and placement
17. Purchasing controls

Appendix H
Daily Briefing Sign-In Sheet

DAILY BRIEFING SIGN-IN SHEET

Date: _____ Project Name/Location: _____

Person Conducting Briefing: _____

1. AWARENESS (topics discussed, special safety concerns, recent incidents, etc.)

_____

_____

_____

2. OTHER ISSUES (HASP/EAP changes, attendee comments, etc.)

_____

_____

_____

3. ATTENDEES (Print Name):

1.	21.
2.	22.
3.	23.
4.	24.
5.	25.
6.	26.
7.	27.
8.	28.
9.	29.
10.	30.
11.	31.
12.	32.
13.	33.
14.	34.
15.	35.
16.	36.
17.	37.
18.	38.
19.	39.
20.	40.

APPENDIX F

COMMUNITY AIR MONITORING PLAN

P.W. GROSSER CONSULTING INC.
PROJECT No. SHD1303

COMMUNITY AIR MONITORING PLAN

FORMER CANINE KENNEL SITE
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK
BCP Site # C152079
IHWDS Site # 152079

Submitted:
September 2014

Prepared for:
The New York State Department of Environmental Conservation
Division of Environmental Remediation

On behalf of:
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738

Prepared By:
P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
631-589-6353

TABLE OF CONTENTS **PAGE**

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) provides measures for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved) from potential airborne contaminant releases resulting from remedial action at the Former Canine Kennel site, Westhampton Beach, New York.

The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the remedial work did not spread contamination off-site through the air.

The primary concerns for this site are PCBs (represented by particulate dust), VOCs and dust particulates.

1.1 Regulatory Requirements

This CAMP was established in accordance with the following requirements:

- 29 CFR 1910.120(h): This regulation specifies that air shall be monitored to identify and quantify levels of airborne hazardous substances and health hazards, and to determine the appropriate level of protection for workers.
- New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan: This guidance specifies that a community air-monitoring program shall be implemented to protect the surrounding community and to confirm that the work does not spread contamination off-site through the air.
- New York State Department of Environmental Conservation (NYSDEC) Technical and Guidance Memorandum (TAGM) #4031 - Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites: This guidance provides a basis for developing and implementing a fugitive dust suppression and particulate monitoring program as an element of a hazardous waste site's health and safety program.

2.0 AIR MONITORING

The following sections contain information describing the types, frequency and location of real-time monitoring.

2.1 Real-Time Monitoring

This section addresses the real-time monitoring that will be conducted within the work area, and along the site perimeter, during intrusive activities such as excavation, product recovery, manipulation of soil piles, extraction of sheet piling, etc.

2.1.1 *Work Area*

The following instruments will be used for work area monitoring:

- PhotoionizationDetector (PID)
- Dust Monitor

Table 1-1 presents a breakdown of each main activity and provides the instrumentation, frequency and location of the real-time monitoring for the site. Table 1-2 lists the Real-Time Air Monitoring Action Levels to be used in all work areas.

2.1.2 *Community Air Monitoring Requirements*

To establish ambient air background concentrations, air will be monitored at several locations around the site perimeter before investigation activities begin. These points will be monitored periodically in series during the site work.

Fugitive respirable dust will be monitored using a Thermo Electron Corporation Model pDR-1000AN/1200 aerosol monitor or equivalent. Air will be monitored for VOCs with a portable Photovac MicroTip photoionization detector (PID), or equivalent. Table 1-1 presents a breakdown of each main activity and provides the instrumentation, frequency and location of the real-time monitoring for the site. Table 1-2 lists the Real-Time Air Monitoring Action Levels to be used in all work areas. All air monitoring data is documented in a site log book by the designated site safety officer. PWGC's site safety officer or delegate must ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. All instruments will be zeroed daily and checked for accuracy. A daily log will be kept. If additional monitoring is required, the protocols will be developed and appended to this plan.

Table 1-1
Frequency and Location of Air Monitoring

ACTIVITY	AIR MONITORING INSTRUMENT	FREQUENCY AND LOCATION
Drilling, Sampling, Excavation	PID, Dust Monitor	Continuous in Breathing Zone (BZ) during intrusive activities or if odors become apparent, screening in the BZ every 30 minutes during non-intrusive activities

Table 1-2
Real-Time Air Monitoring Action Levels

AIR MONITORING INSTRUMENT	MONITORING LOCATION	ACTION LEVEL	SITE ACTION	REASON
PID	Breathing Zone	0-25 ppm, non-transient	None	Exposure below established exposure limits
PID	Breathing Zone	25-100 ppm, non-transient	Don APR	Based on potential exposure to VOCs
PID	Breathing Zone	>100 ppm, non-transient	Don ASR or SCBA, Institute vapor/odor suppression measures, Notify HSM.	Increased exposure to site contaminants, potential for vapor release to public areas.
PID	Work Area Perimeter	< 5 ppm	None	Exposure below established exposure limits.
PID	Work Area Perimeter	> 5 ppm	Stop work and implement vapor release response plan until readings return to acceptable levels, Notify HSM.	Increased exposure to site contaminants, potential for vapor release to public areas
Aerosol Monitor	Work Area Perimeter	>100 but < 150 $\mu g/m^3$ for 15 minutes	Institute dust suppression measures, Notify HSM.	Work to continue if particulate concentrations remain below 150 $\mu g/m^3$
Aerosol Monitor	Work Area Perimeter	>150 $\mu g/m^3$	Don ASR or SCBA, Institute dust suppression measures, Notify HSM.	Stop work and implement dust suppression techniques until readings return to acceptable levels, Notify HSM.

3.0 VAPOR EMISSION RESPONSE PLAN

This section is excerpted from the NYSDOH guidance for Community Air Monitoring Plan - Ground Intrusive Activities.

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. Vapor suppression measures can also be taken at this time. If the organic vapor level decreases below 5 ppm above background, work activities can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down. When work shutdown occurs, downwind air monitoring as directed by the Site Health & Safety Officer (SHSO) will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission Response Plan Section.

4.0 MAJOR VAPOR EMISSION RESPONSE PLAN

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source (see Section 5.0) are unsuccessful and if organic vapor levels are approaching 5 ppm above background for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect.

However, the Major Vapor Emission Response Plan shall be immediately placed in effect if organic vapor levels are greater than 10 ppm above background.

Upon activation, the following activities will be undertaken:

1. All emergency Response Contacts as listed in the Health & Safety Plan will go into effect.
2. The local police authorities will immediately be contacted by the Health & Safety Officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Health & Safety Officer.

5.0 VAPOR SUPPRESSION TECHNIQUES

Vapor suppression techniques must be employed when action levels warrant the use of these techniques.

The techniques to be implemented for control of VOCs from stockpiled soil or from the open excavation will include one or more of the following:

- cover with plastic
- cover with “clean soil”
- application of hydro-mulch material*
- limit working hours to favorable wind and temperature conditions

*This material is a seedless version of the hydro-seed product commonly used by commercial landscaping contractors to provide stabilization and rapid grow-in of grasses or wild flowers along highways, embankments and other large areas. Hydro-mulch can be sprayed over open excavation areas, temporary stockpile areas and loaded trucks, as necessary. This is a highly effective method for controlling odors, because the release of odors is sealed immediately at the source.

6.0 DUST SUPPRESSION TECHNIQUES

Reasonable dust-suppression techniques must be employed during all work that may generate dust, such as excavation, grading, and placement of clean fill. The following techniques were shown to be effective for controlling the generation and migration of dust during remedial activities:

- Wetting equipment and excavation faces;
- Spraying water on buckets during excavation and dumping;
- Hauling materials in properly covered containers; and,
- Restricting vehicle speeds to 10 mph.

Using atomizing sprays will prevent overly wet conditions, conserve water, and offer an effective means of suppressing fugitive dust. It is imperative that utilizing water for suppressing dust will not create surface runoff.

7.0 DATA QUALITY ASSURANCE

7.1 Calibration

Instrument calibration shall be documented in the designated field logbook. All instruments shall be calibrated before each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

7.2 Operations

All instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the FOL/HSO for reference.

7.3 Data Review

The Field Team Leader FOL/SHSO will interpret all monitoring data based on Table 1-2 and his/her professional judgment. The FOL/HSO shall review the data with the HSM to evaluate the potential for worker exposure, upgrades/downgrades in level of protection, comparison to direct reading instrumentation and changes in the integrated monitoring strategy.

Monitoring and sampling data, along with all sample documentation will be periodically reviewed by the HSM.

8.0 RECORDS AND REPORTING

All readings must be recorded and available for review by personnel from NYSDEC and NYSDOH. Should any of the action levels be exceeded, the NYSDEC Division of Air Resources must be notified in writing within five (5) working days.

The notification shall include a description of the control measures implemented to prevent further exceedances.

APPENDIX G

QUALITY ASSURANCE PROJECT PLAN

P.W. GROSSER CONSULTING INC.
PROJECT No. SHD1303

QUALITY ASSURANCE PROJECT PLAN

FORMER CANINE KENNEL SITE
FRANCIS S. GABRESKI AIRPORT
WESTHAMPTON BEACH, NEW YORK
BCP Site # C152079
IHWDS Site # 152079

Submitted:
September 2014

Prepared for:
The New York State Department of Environmental Conservation
Division of Environmental Remediation

On behalf of:
Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, New York 11738

Prepared By:
P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
631-589-6353

CONTENTS **Page**

CONTENTS **Page**

TABLES **Page**

1.0 INTRODUCTION

P.W. Grosser Consulting, Inc. (PWGC) has prepared this Quality Assurance Project Plan (QAPP) for Remedial Action (RA) activities to be undertaken at the Former Canine Kennel Site located within the Francis S. Gabreski Airport in Westhampton Beach, New York (BCP ID: C152079/IHWDS ID: 152079). This QAPP has been prepared to define the quality assurance (QA) and quality control (QC) measures to be implemented, to verify the integrity of the work to be performed at the site, and that the data collected will be of the appropriate type and quality needed for the intended use. Specifically, this QAPP addresses the following:

- Description of Project
- Organization and Responsibilities of Project Personnel
- Project Objectives, including Quality Assurance Objectives for Data
- Overview of Field Sampling Program and Procedures
- Sample Packaging and Shipping
- Sample Documentation
- Sample Analytical Program
- Quality Assurance/Quality Control Procedures

RA activities, as specified in the Remedial Action Work Plan (RAWP) for the site, will be performed in accordance with the selected remedy for the site, as determined in the Alternatives Analysis (AA). The selected remedy includes:

- Excavation and offsite disposal of PCB impacted soils.
- Implementation of IC/ECs.

1.1 Site Location and Description

The Site is located in the County of Suffolk, and hamlet of Westhampton Beach, New York and is identified as a portion of District 0900, Section 312.00, Block 01.00 and Lot 004.002 on the Suffolk County Tax Map. The Site is situated on approximately one-acre area wooded parcel within the core preservation area of the central Pine Barrens. The subject site is bounded by wooded land (Pine Barrens) to the north, east and south, and a boat storage yard to the west.

1.2 Site History

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. In 1951, the airport was reclaimed for the Korean War National Emergency. In 1960, the US Air Force leased 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.

Additional information regarding the history of the site, including previous environmental investigations is included in the RAWP.

2.0 PROJECT ORGANIZATION AND PERSONNEL RESPONSIBILITIES

The investigative efforts defined in the RAWP plan will be coordinated by PWGC on behalf of Suffolk County Department of Health Services (SCDHS). The New York State Department of Environmental Conservation (NYSDEC) is the lead regulatory agency overseeing remedial action at the site. An organization structure has been developed to identify the roles and responsibilities of the various parties involved with the project, as discussed below.

The **NYSDEC Project Manager** will be responsible for reviewing and approving this work plan, coordinating approval of requested modifications, and providing guidance on regulatory requirements.

The **PWGC Project Director** will provide technical expertise for review of the project plans, reports and ongoing field activities. The program manager will be responsible for the coordination of the overall Voluntary Cleanup Program with the NYSDEC. The Project Director will act as the project's Quality Assurance Manager.

The **PWGC Project Manager** will be responsible for the day to day project management, task leadership, and project engineering support and for the planning and implementation of RI activities. The Project Manager is responsible for ensuring that the requirements of the RAWP are implemented. The project manager will also act as the site Health and Safety Manager (HSM).

The **PWGC Field Team Leader** will be responsible for sample collection, oversight of subcontractor personnel, and coordination of daily field activities. The Field Team Leader will act as the Site Health and Safety Officer ensuring implementation of the Site Health and Safety Plan.

A NYSDOH Environmental Laboratory Accreditation Program (ELAP) certified laboratory (to be determined) will be contracted to perform required analyses and reporting, including Analytical Services Protocol (ASP) Category B Deliverables, which will allow for data validation.

Subcontractors will perform remedial construction, surveying, drilling, and/or sampling at the direction of the Field Team Leader in accordance with this work plan.

3.0 QUALITY ASSURANCE PROJECT OBJECTIVES

The objective of RA monitoring activities for the site is to obtain sufficient data at a known quality level to assess the effectiveness of the selected remedy in eliminating, reducing, or controlling risks to human health and the environment.

3.1 Data Quality Objective Process

Data quality objectives (DQOs) are qualitative and quantitative statements that specify the quality of the data required to support decisions during remedial activities. DQOs can be defined as what the end user expects to obtain from the analysis results, and are developed through a seven-step process:

- Step 1 State the problem
- Step 2 Identify the decision
- Step 3 Identify inputs to the decision
- Step 4 Define the study boundaries
- Step 5 Develop a decision rule
- Step 6 Specify limits on decision errors
- Step 7 Optimize the decision for obtaining data

For the site, screening data generated by rapid, less precise methods of analysis (PID screening, collection of groundwater field parameters, etc.) will achieve a data use level for site characterization and monitoring. Definitive laboratory analytical data generated during endpoint soil sampling will achieve a data use level to support an assessment of the overall effectiveness of the site remedy. Specifically, these data will be used to:

- Monitor the extent of residual soil impact at the site and confirm that soils with PCB concentrations in excess of the Protection of Groundwater SCO of 3.2 ppm for PCBs have been removed.

Known contaminants present in samples collected from the site include PCBs. The principal contaminants of concern at the site are PCBs. Site contaminants and their respective site cleanup objectives are discussed in greater detail in the RAWP

3.2 Data Quality Categories

DQOs are composed of written expectations for precision, accuracy, representativeness, completeness and comparability of a data set (see Section 3.3). The DQO process provides a logical basis for linking the QA/QC procedures to the intended use of the data, primarily through the decision maker's acceptable limits on decision error. Two descriptive data categories - screening data and definitive data - will be used for the site.

Screening data are generated by rapid, less precise methods of analysis and are deemed non-critical to project objectives. Portable instruments to be used during remedial action to collect screening data include:

- Photoionization detector (PID) or Flame ionization detector (FID)
- Aerosol/dust monitor

Definitive data are generated using specific analytical methods and guidelines and have satisfied known QA/QC requirements. Analytical data provided by an off-site laboratory shall be definitive data, and are deemed critical to project objectives. QA/QC elements of definitive data include determination and documentation of calibrations, detection limits, method blanks, and matrix spike recoveries.

3.3 QA/QC Characteristics

The overall QA/QC objective for RA monitoring activities is to develop and implement procedures that will provide data of known and documented quality. QA/QC characteristics for data include precision, accuracy, representativeness, completeness, and comparability (PARCC). Data quality objectives for each of these parameters are determined based on the level of data required. Descriptions of these characteristics are provided below, and specific QA objectives for both screening and definitive data are presented in Table 3-1. Analytical matrices and methods are provided on the table.

Table 3-1
QA Objectives for Field and Laboratory Data

Parameter	Measurement	Matrix	Method	Units	Precision	Accuracy	CRQL/MDL	Completeness
VOCs	Screening	Air	Field Measurement	ppm	±1%	N/A	N/A	90%
PCBs	Definitive	Soil	EPA Method 8082A	ppm	±25% RPD	172%R	1-5 ppb	90%

Notes:
Abbreviations include:

%R = Percent Recovery
GC = Gas Chromatography
N/A = Not Applicable
NTU = Nephelometric Turbidity Units
TAL = Target Analyte List
TCL = Target Compound List
CRQL = Contract Required Quantitation Limit
MDL = Method Detection Limit
VOCs = Volatile Organic Compounds
RPD = Relative Percent Difference

* Precision dependent on meter and scale.

Precision is the measurement of agreement in repeated tests of the same or identical samples, under prescribed conditions. Analytical precision can be expressed in terms of Standard Deviation (SD), Relative Standard Deviation (RSD) and/or Relative Percent Difference (RPD). The precision of analytical environmental samples has two components - laboratory precision and sampling precision. Laboratory precision is determined by replicate measurements of laboratory duplicates and by analysis of reference materials. The objectives for laboratory precision are specified in the analytical methodologies and are presented on Table 3-1. The precision of the field sampling effort is determined by the analysis of field duplicate samples. Field duplicate analysis will be performed at a rate of five percent (i.e., one duplicate collected for every 20 samples). Acceptance criteria for duplicates analyzed by an off-site laboratory shall be an RPD of 25 percent. The precision limits provided in Table 3-1 for the screening measurements are acceptance criteria for duplicate and calibration analyses of field measurement parameters.

Accuracy is the degree of agreement of a measured sample result or average of results with an accepted reference or true value. It is the quantitative measurement of the bias of a system, and is expressed in terms of percent recovery (%R). Measurements of accuracy for the laboratory include surrogate spike, laboratory control spike, matrix spike and matrix spike duplicate samples. The laboratory must meet or exceed control limit objectives, as stated in Table 3-1 and the applicable methodologies.

Representativeness is the degree to which the results of the analyses accurately and precisely represent a characteristic of a population, a process condition, or an environmental condition. In this case, representativeness is the degree to which the data reflect the contaminants present and their concentration magnitudes in the sampled site areas. Representativeness of data will be ensured through the selection of sampling locations and implementation of approved sampling procedures. Results from environmental field duplicate sample analyses can be used to assess representativeness, in addition to precision.

Completeness is defined as the percentage of samples that meet or exceed all the criteria objective levels for accuracy, precision and detection limits within a defined time period or event. It is the measure of the number of data "points" which are judged to be valid, usable results. The objective for completeness for this project is 90 percent, and will be calculated by dividing the number of usable data results (i.e., all results not considered to be "rejected" and all samples able to be analyzed) by the number of possible data results (i.e., the total number of field samples collected), and then multiplying by 100 percent.

Comparability is the degree of confidence with which results from two or more data sets, or two or more laboratories, may be compared. To achieve comparability, standard environmental methodologies will be employed in the field and in the laboratory. See Table 3-1 and Section 6.0 for analysis methods and detection limits for this field investigation.

3.4 Impact of Failure to Meet Data Quality Objectives

The QA objectives presented in Table 3-1 represent the data quality necessary to meet the project's technical goals. The QA/QC efforts discussed in this QAPP focus on controlling measurement error, and ultimately providing a database for estimating the uncertainty in the measurement data for the project. QA objectives will be evaluated throughout the RA monitoring effort to see if the results for the project meet the stated objectives. If these objectives are not being met, the precision and/or accuracy of the sampling data will be decreased, and corrective actions shall be taken, as documented in Section 13.0.

4.0 REMEDIAL ACTION MONITORING ACTIVITIES

This section provides an overview of the planned RA monitoring operations by matrix and type of procedures. It also includes activities that may be necessary in the future to supplement the existing groundwater monitoring well network (i.e., site survey; monitoring well installation, etc.). Field monitoring and sampling activities include the following:

- Mobilization and demobilization
- Soil excavation and removal
- Confirmatory endpoint sampling

4.1 Remedial Action Monitoring Procedures

RA monitoring activities to be performed at the site will be conducted in accordance with established technical guidelines, methods, policies and Standard Operating Procedures (SOPs). The subsections below present an overview of the sampling program procedures; a more detailed discussion of the monitoring activities is presented in the RAWP.

4.1.1 Mobilization and Demobilization

The mobilization effort will consist of logistical planning, identification of sampling locations, equipment mobilization to the site, and field personnel orientation. The orientation meeting will familiarize the sampling team with a brief history of the site, health and safety requirements, and RA monitoring procedures. Mobilization and demobilization will take place before and after completion of routine periodic RA monitoring events. Demobilization will consist of site area clean-up, staging and inventory of monitoring-derived wastes, decontamination and demobilization of field equipment, and organization of monitoring records.

4.1.2 Soil Excavation and Removal

Soils will be excavated from the proposed excavation area utilizing an excavator. Soils will be screened during excavation and stockpiled on the eastern portion of the site. Soils will be screened utilizing a photoionization detector (PID) capable of detecting the presence of VOCs. Soils exhibiting significantly elevated PID responses or odors may be segregated and stockpiled from other soils being excavated. Trees, shrubs and underbrush within the excavation area will be cleared and disposed of as necessary.

4.1.3 Confirmatory Endpoint Sampling

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 sampling frequency will be as specified in the RAWP.

5.0 SAMPLE CUSTODY AND DOCUMENTATION

Each day that samples are collected, a chain-of-custody/request for analysis form will be completed and submitted to the laboratory with samples to be analyzed. A copy of the chain-of-custody will be retained by the Project Manager. The chain-of-custody will include the project name, sampler's signature, sample IDs, date and time of sample collection, and analysis requested.

Samples will be packaged and shipped in a manner that maintains sample preservation requirements during transport (i.e., ice to keep samples cool until receipt at the laboratory), ensures that sample holding times can be achieved by the laboratory, and prevents samples from being tampered with.

If a commercial carrier ships samples, a bill of lading (waybill) will be used as documentation of sample custody. Receipts for bills of lading and other documentation of shipment shall be maintained as part of the permanent custody documentation. Commercial carriers are not required to sign the chain-of-custody as long as it is enclosed in the shipping container and evidence tape (custody seal) remains in place on the shipping container.

Identification and documentation of samples are important in maintaining data quality. Strict custody procedures are necessary to ensure the integrity of the environmental samples. Sections below address sample identification, packaging, shipping, and documentation.

5.1 Sample Identification System

The method of identification of a sample depends on the type of measurement or analysis performed. When field screening measurements (e.g., pH, conductivity) are made, data are recorded directly in logbooks. Identifying information such as project name, sample location and depth, date and time, name of sampler, field observations, remarks, etc. shall be recorded.

Each sample collected for off-site laboratory analysis during the field investigation will be specifically designated by PWGC for unique identification. Samples will be identified using a letter code to indicate sample collection methodology. A letter code (see below) will follow, along with the name and/or number that identifies the specific location where the sample was collected. Field equipment blanks will be denoted by the letter code "FB" and trip blanks with "TB". Sample collection date and time will be recorded in the field logbook, chain of custody as well as the sample label.

Letter code prefixes for RA monitoring activities are as follows:

- EP Endpoint Soil Sample
- FB Field Blank Sample
- TB Trip Blank Sample

At a minimum, all location and identification information for the samples shall be recorded in the field sampling logbook, and on the appropriate chain of custody record form for shipment.

5.2 Sample Custody, Packaging and Shipping

Sample custody shall be strictly maintained and carefully documented each time sample material is collected, transported, received, prepared, and analyzed. Custody procedures are necessary to ensure the integrity of the samples, and samples collected during RA monitoring activities must be traceable from the time the samples are collected until they are disposed of and/or stored, and their derived data are used in the subsequent monitoring report. Sample custody is defined as (1) being in the sampler's possession; (2) being in the sampler's view, after being in the sampler's possession; (3) being locked in a secured container, after being in the sampler's possession; and (4) being placed in a designated secure area.

5.2.1 Field Custody, Packaging and Shipping Procedures

Field custody procedures shall be implemented for each sample collected. The field sampler shall be responsible for the care and custody of the samples until they are properly transferred or dispatched. To maintain the integrity of the samples, the samples are to be stored in a designated, secure area and/or be custody sealed in the appropriate containers prior to shipment.

Each environmental sample will be properly identified and individually labeled. Labels will be filled out in indelible ink with at least the following information: sample identification (see Section 5.1), type and matrix of sample, date and time of sample acquisition, name of sampler, analysis required, and preservation (as necessary). The sample label will be securely attached to the sample container.

Environmental samples being analyzed by off-site laboratories will be properly packaged and shipped for analysis. Samples are to be packed with sufficient wet ice to cool the samples to 4^{o}C. Additionally, each cooler will be packed with a cooler temperature blank. Lastly, the cooler should be filled with adequate cushioning material to minimize the possibility of container breakage.

A laboratory supplied completed chain of custody form will be included with all sample shipments.

When the samples are being shipped by an overnight delivery service to the laboratory, the chain of custody form and any other paperwork shall be checked against the sample labels and field documentation, and then placed in a waterproof sealable plastic bag and taped securely to the inside lid of the cooler. The cooler must then be secured, with custody seals affixed over the lid opening in at least two locations, and the cooler wrapped with strapping tape (without obscuring the custody seals). Orientation "this end up" arrows shall be drawn or attached on two sides of the cooler, and a completed overnight delivery service shipping label shall be attached to the top of the cooler.

Samples to be shipped by an overnight delivery service shall be shipped within 24 hours of sample collection and arrive at the laboratory within 24 hours of sample shipment. A member of the field team will notify the laboratory of a sample shipment.

5.2.2 Laboratory Custody Procedures

The following generally summarizes laboratory custody procedures; more detailed operations are presented in the laboratory's SOPs.

- A designated sample custodian will accept custody of the shipped samples and will verify that the information on the sample labels matches that on the chain of custody record(s),
- The laboratory custodian will use the sample label number or assign a unique laboratory number to each sample label and will assure that all samples are transferred to the proper analyst or stored in the appropriate secure area; and,
- Laboratory personnel are responsible for the care and custody of samples from the time they are received until the sample is exhausted or returned to the custodian or sample storage area. Internal chain of custody records shall be maintained by the laboratory.

The laboratory shall communicate with PWGC personnel by telephone, email or facsimile, as necessary, throughout the process of sample scheduling, shipment, analysis and data reporting, to ensure that samples are properly processed. If a problem occurs during sample shipment or receipt (e.g., a sample container arrives broken or with insufficient sample volume, a sample was not preserved correctly, a sample was not listed on the chain of custody, etc.), the laboratory shall immediately notify the appropriate person for resolution.

Samples received by the laboratory will be retained until analyses and QA checks are completed. When sample analyses and necessary QA checks have been completed, the unused portion of the sample and the sample

container must be disposed of properly by the laboratory. All identifying tags, data sheets, and laboratory records shall be retained as part of the permanent documentation.

6.0 ANALYTICAL REQUIREMENTS

Analytical services will be provided by a NYSDOH ELAP approved laboratory. The laboratory will follow NYSDEC Analytical Sampling Protocol (ASP) and provide data in results only format, with the exception of the final round of sampling in which data will be reported with Category B deliverables (ASP-B). Analyses not available using ASP-B will be provided in results only format.

Samples will be analyzes as follows:

6.1.1 Endpoint Soil Samples

Endpoint soil samples will be collected as described in the RAWP. Each endpoint soil sample will be analyzed for PCBs by USEPA Method 8082. Soil samples will be collected in one 4 ounce amber glass jar. Glassware will be supplied pre-cleaned by the analytical laboratory. Sample preservation will consist of: storage in a cooler on ice to a temperature of 4ºC. The hold time for PCB analysis is 14 days.

7.0 DECONTAMINATION PROCEDURES

In order to minimize the potential for cross-contamination, non-dedicated drilling and sampling equipment shall be properly decontaminated prior to and between sampling/drilling locations.

7.1.1 General Procedures

Drilling equipment will be decontaminated in a designated area. Sampling equipment and probes will be decontaminated in an area covered with plastic sheeting near the sampling location. Waste material generated during decontamination activities will be containerized, stored and disposed of in accordance with the procedures detailed in Section 5.9. Decontamination of sampling equipment shall be kept to a minimum, and wherever possible, dedicated sampling equipment shall be used. Personnel directly involved in equipment decontamination shall wear appropriate protective equipment.

7.1.2 Drilling Equipment

Drilling equipment shall be decontaminated by steam cleaning prior to performance of the first boring/excavation and between all subsequent borings/excavations. This shall include hand tools, casing, augers, drill rods, temporary well material and other related tools and equipment. Water used during drilling and/or steam cleaning operations shall be from a potable source.

7.1.3 Sampling Equipment

Sampling equipment (i.e., trowels, knives, split-spoons, bowls, hand augers, etc...) will be decontaminated prior to each use as follows:

- Laboratory-grade glassware detergent and tap water scrub to remove visual contamination
- Generous tap water rinse
- Distilled water rinse

7.1.4 Meters and Probes

All meters and probes that are used in the field (other than those used solely for air monitoring purposes, e.g., PID meters) will be decontaminated between uses as follows:

- Laboratory-grade detergent and tap water solution wash
- Tap water rinse
- Distilled water rinse (triple rinse)

Decontamination of sampling equipment will be kept to a minimum in the field, and wherever possible, dedicated disposable sampling equipment will be used. Decontamination fluids will be stored in US Department of Transportation (DOT)-approved 55-gallon drums or in an on-site storage tank (liquids only) until proper

disposal. Personnel directly involved in equipment decontamination will wear protective clothing in accordance with the project Health and Safety Plan (HASP).

8.0 QUALITY ASSURANCE/QUALITY CONTROL SAMPLE REQUIREMENTS

This section will discuss the type and quantities of QA/QC samples to be utilized during implementation of the field program.

8.1 Field Quality Control Samples

The subsections below present general information and guidance on field QC samples, including definition and frequency of QC blanks. Field QC samples will be labeled and shipped according to the procedures outlined in Section 5.0.

8.1.1 Field Blanks

A field blank will be collected to evaluate the potential for contamination of environmental samples from inadequate decontamination of field equipment. Field blanks shall be collected by pouring laboratory supplied distilled/deionized (DI) water over and/or through decontaminated non-disposable equipment or disposable equipment, and collecting the rinsate. Field blanks will be collected at a frequency of one per decontamination event per type of sampling equipment, not to exceed one per day per sample matrix. Preservation and analysis of field blanks will be identical to that of the associated environmental samples.

8.1.2 Trip Blanks

A trip blank serves to detect possible cross-contamination of samples resulting from handling, storage and shipment procedures. In the event that VOC analysis is necessary, trip blanks will accompany VOC glassware in transit through sample collection and shipment to the laboratory. In addition, trip blanks are stored by the laboratory under the same conditions as the environmental samples. A trip blank will accompany each cooler containing samples submitted for VOC analysis (if any), and will be preserved as per the groundwater samples and analyzed identically to the associated environmental samples. VOC samples will be consolidated in one cooler for daily shipment, if possible, to minimize the number of trip blanks required in the field program. Due to the lack of VOC impact identified at the site, it is not anticipated that trip blanks will be necessary during remedial action.

8.1.3 Temperature Blanks

A temperature blank will be sent with each cooler of samples to verify that the cooler temperature has been maintained at 4ºC. One non-preserved VOA vial shall be filled with either potable or DI water, and labeled with "USEPA cooler temperature indicator" and the date. If supplied, the laboratory's temperature blank will be used in place of the VOA vial. The laboratory shall record the temperature of the blank water on the chain of custody immediately upon cooler arrival.

8.1.4 Field Environmental Duplicate Samples

Duplicate environmental samples will be analyzed by the off-site laboratories to evaluate the reproducibility of the sampling procedures. Duplicate samples will be collected at a rate of five percent of the total samples for each specific matrix for each type of analysis (i.e., one duplicate for up to every 20 samples). The duplicate samples will be collected from the same location and at the same time as the original environmental sample; however, the duplicated samples will be "coded" in such a manner that the laboratory will not be able to determine of which original field sample they are duplicated (i.e., "blind" duplicates). For example, the duplicate sample of location EP001 may be "coded" as location EP051, as long as there are not more than fifty endpoint samples being collected (i.e., the coded sample name should not be assigned a legitimate sample location identification). An explanation of the duplicate "coding" must be written in the field logbook. Preservation and analysis of duplicate samples will be identical to those for the environmental samples. Precision of field data will be evaluated based on the calculation of Relative Percent Difference (RPD), with acceptance criteria of 25 percent for the off-site laboratory samples. Blind duplicate samples will be collected in the same manner as the environmental samples.

8.2 Laboratory Quality Control Samples

General information and guidance on laboratory QC samples are presented in the subsections below. A summary of QC procedures, frequencies, criteria, and corrective actions for the samples, as determined by the applicable method guidelines.

8.2.1 Method Blanks/Preparation Blanks

A method blank (for organics) or a preparation blank (for inorganics) will be analyzed with every batch of samples to ensure that contamination has not occurred during the analytical process. Method blanks consist of a portion of analyte-free water or solid that is processed through the entire sample procedure the same as an environmental sample.

8.2.2 Matrix Spikes/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate samples (also known as spike/duplicate samples) will be used to assess precision and accuracy of the analytical methods. In this procedure, three aliquots of an actual field sample are collected at a specific location, and two aliquots are “spiked” by the addition of known amounts of an analyte or analytes and these samples are then analyzed identically to the field samples. A comparison of the resulting concentration to the original sample concentration and among the two “spiked” sample concentrations provides information on the ability of the analytical procedure to generate a correct result from the sample. Matrix spike/matrix spike duplicate samples will be collected in the field at a rate of five percent, and will be analyzed on a per batch basis, with up to 20 samples per week constituting a batch. The validity of matrix spike/matrix

spike duplicate recovery and relative percent difference values will be determined using the acceptance criteria

8.2.3 Laboratory Control Samples

A laboratory control sample (LCS) consists of an analyte-free water or solid phase sample that is spiked with target analytes at a known concentration. The LCS shall be analyzed for every batch of samples (i.e., 1 per 20) to assess the ability of the analytical procedure to generate a correct result without matrix effects/interferences affecting the analysis. The percent recoveries for the LCS compounds will be compared to QC limits stated in the appropriate methods.

8.2.4 Surrogate Compounds

Surrogates (also known as System Monitoring Compounds) are compounds of known concentrations added to every organic analysis sample for analytical chromatography methods at the beginning of the sample preparation to monitor their recovery. Surrogate recoveries will be used to assess potential matrix interferences and to monitor any potential effects of sample preparation and analysis on final analyte concentrations. The recovery values will be compared to values established in the applicable methodologies to determine the validity of the data.

8.2.5 Internal Standards

Internal standards are used to provide instrument correction for variation in instrument performance and injection volumes. Internal standards also establish relative response factors for the analytes.

8.2.6 Interference Check Samples

An interference check sample (ICS), which contains target analytes at known concentrations, verifies the laboratory's interelement and background correction factors. Analysis of ICS samples is unique to metals analysis using the inductively coupled plasma (ICP) method.

9.0 INSTRUMENT CALIBRATION AND PREVENTIVE MAINTENANCE

9.1 Calibration

Equipment will be inspected and approved by the Field Team Leader before being used. Equipment will be calibrated to factory specifications, if required. Monitoring equipment will be calibrated following manufacturers recommended schedules. Daily field response checks and calibrations will be performed as necessary (i.e. PID calibrations) following manufacturers standard operating procedures. Equipment calibrations will be documented in a designated field logbook.

The Field Team Leader or his designee will be responsible for ensuring that instrumentation are of the proper range, type and accuracy for the measurement/test being performed, and that all of the equipment are calibrated at their required frequencies, according to their specific calibration protocols/procedures.

All field measurement instruments must be calibrated according to the manufacturer's instructions prior to the commencement of the day's activities. Exceptions to this requirement shall be permitted only for instruments that have fixed calibrations pre-set by the equipment manufacturer. Calibration information shall be documented on in a designated field logbook. Information to be recorded includes the date, the operator, and the calibration standards (concentration, manufacturer, lot number, expiration date, etc.). All project personnel using measuring equipment or instruments in the field shall be trained in the calibration and usage of the equipment and are personally responsible for ensuring that the equipment has been properly calibrated prior to its use.

In addition, all field instruments must undergo response verification checks at the end of the day's activities and at any other time that the user suspects or detects anomalies in the data being generated. The checks consist of exposing the instrument to a known source of analyte (e.g., the calibration solution), and verifying a response. If an unacceptable instrument response is obtained during the check the data shall be labeled suspect, the problem documented in the site logbook, and appropriate corrective action taken.

Any equipment found to be out of calibration shall be recalibrated. When instrumentation is found to be out of calibration or damaged, an evaluation shall be made to ascertain the validity of previous test results since the last calibration check. If it is necessary to ensure the acceptability of suspect items, the originally required tests shall be repeated (if possible), using properly calibrated equipment. Any instrument consistently found to be out of calibration shall be repaired or replaced.

9.2 Preventive Maintenance

Field equipment shall be maintained at its proper functional status in accordance to manufacturer manual specifications. A check of the equipment shall be performed before field activities begin, and any potential spare parts (e.g., batteries, connectors, etc.) and maintenance tools will be brought on site, to minimize equipment downtime during the field activities. Visual checks of the equipment will be conducted on a daily basis. Routine preventive maintenance shall be performed to assure proper operation of the equipment. Any maintenance performed on field equipment will be documented in the designated field logbook, and shall be undertaken by personnel who have the appropriate skills and/or training in the type of maintenance required.

10.0 QUALITY ASSURANCE/QUALITY CONTROL SAMPLE REQUIREMENTS

Quality Control (QC) procedures will be followed in the field and at the laboratory to ensure that reliable data are obtained. When performing field sampling, care shall be taken to prevent the cross-contamination of sampling equipment, sample bottles, and other equipment that could compromise sample integrity. QC samples, including blind duplicates, equipment blanks, trip blanks, method blanks, matrix spike and matrix spike duplicates, and their frequency to be collected in the field are detailed below. Field QC samples will be labeled and shipped according to the procedures outlined in Section 8.0.

10.1 Field Blanks

A field blank will be collected to evaluate the potential for contamination of environmental samples from inadequate decontamination of field equipment. Field blanks shall be collected by pouring laboratory supplied distilled/deionized (DI) water over and/or through decontaminated non-disposable equipment or disposable equipment, and collecting the rinsate. Field blanks will be collected at a frequency of one per day per sample matrix. Preservation and analysis of field blanks will be identical to that of the associated environmental samples.

10.2 Trip Blanks

A trip blank serves to detect possible cross-contamination of samples resulting from handling, storage and shipment procedures. Trip blanks will accompany VOC glassware in transit through sample collection and shipment to the laboratory. In addition, trip blanks are stored by the laboratory under the same conditions as the environmental samples. A trip blank will accompany each cooler containing samples submitted for VOC analysis, and will be preserved as per the groundwater samples and analyzed identically to the associated environmental samples. VOC samples will be consolidated in one cooler for daily shipment, if possible, to minimize the number of trip blanks required in the field program. Due to the lack of VOC impact identified at the site, it is not anticipated that trip blanks will be necessary during remedial action.

10.3 Temperature Blanks

A temperature blank will be sent with each cooler of samples to verify that the cooler temperature has been maintained at 4ºC. One non-preserved VOA vial shall be filled with either potable or DI water, and labeled with "cooler temperature indicator" and the date. If supplied, the laboratory's temperature blank will be used in place of the VOA vial. The laboratory shall record the temperature of the blank water on the chain of custody immediately upon cooler arrival.

10.4 Field Environmental Blind Duplicate Samples

Blind duplicate environmental samples will be analyzed by the off-site laboratories to evaluate the

reproducibility of the sampling procedures. Duplicate samples will be collected at a rate of five percent of the total samples for each specific matrix for each type of analysis (i.e., one duplicate for up to every 20 samples). The duplicate samples will be collected from the same location and at the same time as the original environmental sample; however, the duplicated samples will be "coded" in such a manner that the laboratory will not be able to determine of which original field sample they are duplicated. For example, the duplicate sample of location MW01 may be "coded" as location MW21, as long as there are not more than twenty groundwater monitoring wells being sampled (i.e., the coded sample name should not be assigned a legitimate sample location identification). An explanation of the duplicate "coding" must be written in the field logbook. Preservation and analysis of duplicate samples will be identical to those for the environmental samples. Blind duplicate samples will be collected in the same manner as the environmental samples.

11.0 DATA REDUCTION, VALIDATION AND REPORTING

Standard methods and references will be used as guidelines for data handling, reduction, validation, and reporting. All data for the project will be compiled and summarized with an independent verification at each step in the process to prevent transcription/typographical errors. Any computerized entry of data will also undergo verification review.

11.1 Data Reduction

11.1.1 Field Data Reduction

Field instrumentation data will be reported by site personnel in field logbooks associated with the monitoring event. At the end of each monitoring event, the field screening data results shall be summarized in tabulated form, as warranted.

11.1.2 Laboratory Data Reduction

All data generated by the off-site laboratory will be reported in a specified format containing all required elements to perform data validation. Analytical results shall be presented on standard NYSDEC ASP-B forms (when necessary) or equivalents, and include the dates the samples were received and analyzed, and the actual methodology used. Laboratory QA/QC information required by the method protocols will be compiled, including the application of data QA/QC qualifiers as appropriate. In addition, laboratory worksheets, laboratory notebooks, chains-of-custody, instrument logs, standards records, calibration records, and maintenance records, as applicable, will be provided in the laboratory data packages to determine the validity of data.

11.1.3 Project Data Reduction

Following receipt of the laboratory analytical results by PWGC, the data results will be compiled and presented in an appropriate tabular form. Where appropriate, the impacts of QA/QC qualifiers resulting from laboratory or external validation reviews will be assessed in terms of data usability.

11.1.4 Non-Direct Measurements

If information necessary for the project has not been measured directly in the field, non-direct measurement data may be obtained from literature files, texts, computer databases, etc. References utilized will be acknowledged sources within the specific discipline. An explanation of the rationale behind using the reference and a description of any concern regarding the use of the referenced data (e.g., uncertainty, conflicting literature, etc.) shall be made within the report. Non-direct measurement data, after usage, will be filed within the project files for the length of the project.

11.2 Data Usability and Validation

The main purpose of the data is for use in defining the extent of contamination at the site, to aid in evaluation of potential human health and ecological exposure assessments, and to support remedial action decisions. Based upon this, data use usability and validation will be performed as described below. Complete data packages will be archived in the project files, and if deemed necessary additional validation can be performed using procedures in the following sections. It is anticipated that data validation will be performed on data collected during the final round of sampling, only.

11.2.1 Data Usability and Validation Requirements

Data usability and validation are performed on analytical data sets, primarily to confirm that sampling and chain-of-custody documentation are complete, sample IDs can be tied to specific sampling locations, samples were analyzed within the required holding times, and analyses are reported in conformance to NYSDEC ASP, Category 2 data deliverable requirements as applicable to the method utilized.

11.2.2 Data Usability and Validation Methods

If deemed necessary by NYSDEC, a data usability evaluation for the data collected during the RA and a data usability summary report (DUSR) will be prepared. The DUSR will be prepared in accordance with NYSDEC DER-10, Appendix 2B.

Independent third party data validation will be performed on 5% of the sample data, or on one sample from each sample delivery group (SDG), whichever is greater. Data validation will be performed by a qualified subcontractor independent of the project.

12.0 CORRECTIVE ACTION

Review and implementation of systems and procedures may result in recommendations for corrective action. Any deviations from the specified procedures within approved project plans due to unexpected site-specific conditions shall warrant corrective action. All errors, deficiencies, or other problems shall be brought to the immediate attention of the PWGC PM, who in turn shall contact the Quality Assurance/Data Quality Manager or his designee (if applicable).

Procedures have been established to ensure that conditions adverse to data quality are promptly investigated, evaluated and corrected. These procedures for review and implementation of a change are as follows:

- Define the problem.
- Investigate the cause of the problem.
- Develop a corrective action to eliminate the problem, in consultation with the personnel who defined the problem and who will implement the change.
- Complete the required form describing the change and its rationale (see below for form requirements).
- Obtain all required written approvals.
- Implement the corrective action.
- Verify that the change has eliminated the problem.

During the project, all changes to the RA monitoring program or GWET system operation will be documented in field logs/sheets and the PWGC PM will be advised.

If any problems occur with the laboratory or analyses, the laboratory must immediately notify PWGC PM, who will consult with other PWGC project staff. All approved corrective actions shall be controlled and documented.

All corrective action documentation shall include an explanation of the problem and a proposed solution which will be maintained in the project file or associated logs. Each report must be approved by the necessary personnel (e.g., the PM) before implementation of the change occurs. The PWGC PM shall be responsible for controlling, tracking, implementing and distributing identified changes.

APPENDIX H

SITE MANAGEMENT FORMS

Former Canine Kennel Site – Sitewide Inspection Form

Date: _____ Time:_____
Weather: _____

Reason for Inspection: []Routine []other_____

Inspection Observations
Current site use:_____
_____

Is there evidence of any of the following site activities / conditions at the site:

- [] Residential or higher use
- [] Vegetable gardens or farming
- [] Groundwater use
- [] Soil disturbance/excavation within the institutional control area
- [] Damage to the perimeter fence
- [] Environmental issue which has potential to impact human health.

General Observations / Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Performed by: _____
Printed Name

_____
Signature

_____
Title

_____
Company

P.W. GROSSER CONSULTING, Inc

Well Sampling Log

Well Designation: | **Sampled By:**
Site Address: | **Project Manager:**
Project Name: | **Project Number:**

Reference Elevation (ft):	**Well Use:**
Depth to Product (ft):	**Product Elevation (ft):**
Depth to Water (ft):	**Groundwater Elevation (ft):**
Depth to Bottom (ft):	**Bottom Elevation (ft):**
Height of Water Column (ft):	**Well Diameter (in):**
Standing Water Volume (gal):	**Calculated Purge Volume (gal):**
Sample Date:	**Begin Purge Time:**
Sample Time:	**Complete Purge Time:**
Purge Method:	**Sample Method:**
Purge Rate (gpm):	**Purge Time (min):**
Actual Purge Volume (gal):	**Casing Volumes Removed:**
Sample Appearance:	**Odors Observed:**
Analytical Laboratory:	**Notes:**
Date Shipped:	
PID (ppm):	
Analyses Requested:	
PCB (8082)	

Field Indicator Parameters

Reading	Time	Temp. (°C)	pH	Cond. (µS/cm)	ORP	DO	Turb. NTU		

APPENDIX I

GROUNDWATER SAMPLING PROCEDURE

APPENDIX I – GROUNDWATER SAMPLING PROCEDURE

SAMPLE COLLECTION

Following completion of remedial activities, groundwater samples will be collected from the existing monitoring well network at the site periodically in accordance with the Site Management Plan (SMP). Well locations are illustrated in **Figure 3** of the SMP. Groundwater sampling will be performed using low-flow sampling methodology consisting of the following:

- Depth to water and depth to bottom of each well will be measured and recorded.
- A peristaltic pump fitted with dedicated polyethylene tubing will be set approximately two feet above the bottom of the well.
- Wells will be purged at a rate of 0.2 to 0.5 liters per minute. During purging the water level will be monitored and flow rate adjusted to keep drawdown to a minimum (0.3 feet or less). If necessary, pumping rates will be reduced to the minimum capabilities of the pump to avoid purging the well dry. However, if the recharge rate of the well is very low and the well is purged dry, once the well has recharged to a sufficient level to collect the appropriate volume, a sample will be collected.
- A multi-parameter water quality meter with a flow cell (Horiba U-22, or equivalent) will be used to monitor field parameters including temperature, pH, conductivity, dissolved oxygen and turbidity. Parameters will be recorded at three to five minute intervals.
- Wells will be considered stabilized when field parameters are measured within the following tolerances for three consecutive intervals:
    - ±3% for temperature
    - ±0.1 for pH
    - ±3% for conductivity
    - ±10% for dissolved oxygen
    - ±10% for turbidity
- Once field parameters have stabilized, samples will be collected directly from pump tubing into laboratory supplied glassware.
- Groundwater samples collected for perfluoroakyl and polyfluoroakyl substances (PFAS) and 1,4-dioxane will be collected and analyzed in accordance with the following NYSDEC guidance documents:

- Groundwater Sampling for Emerging Contaminants (February 2018)
- Collection of Surface Water Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) Protocol
- Labs Certified for PFOA and PFOS in Drinking Water

Groundwater sampling and equipment decontamination will be performed in accordance with the project QAPP included as **Appendix G** in the SMP.

SAMPLE ANALYSIS

Collected soil and groundwater samples will be placed in pre-cleaned laboratory supplied glassware and placed in a cooler packed with ice for transport to the laboratory. Sample analysis will be provided by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified environmental laboratory (specific laboratory to be determined) and consist of the following:

- PCBs by USEPA Method 8082
- PFAS by USEPA Method 537 (Modified)
- 1,4-Dioxane by USEPA Method 8260D-SIM

Analytical results will be reported in accordance with Analytical Services Protocol (ASP) Category B Deliverables, which will allow for data validation. The QA/QC program will include the preparation and analysis of field and laboratory QA/QC samples such as, trip blanks and matrix spike duplicates in accordance with the QAPP included as **Appendix G** in the SMP.

Samples will be submitted to the laboratory for a standard turnaround time, which is estimated to be one to two weeks.

REPORTING

Following receipt of laboratory data, a Groundwater Sampling Report will be prepared to document field activities, and sample results. The Report will be submitted to NYSDEC with appropriate conclusions and recommendations. Supporting tables and figures will be included as necessary.