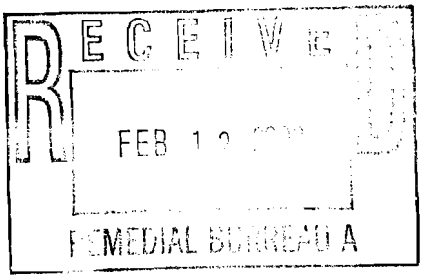
STERLING

Sterling Environmental Engineering, P.C.

February 7, 2008

Mr. Brian Jankauskas, P.E.
Environmental Engineer II
NYS Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway
11th Floor
Albany, New York 12233-7015



Subject: Work Plan for On-Site Vapor Intrusion Investigation
Anchor Lith Kem Ko Site (Site No. 1-30-021
Hicksville, Nassau County, New York
STERLING File #27017

Dear Mr. Jankauskas,

Please find enclosed three (3) copies and one (1) CD of the February 4, 2008 revised Work Plan incorporating your recent comments.

Please contact me should you have any remaining questions or comments concerning the revised Work Plan and attachments.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark P. Millspaugh, P.E.
President
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MPM/bc
Email/First Class Mail
Enclosures

cc: Fred Werfel, Spiegel Associates (1 copy)
David Engel, Esq., Nolan & Heller (1 copy)

27017/Correspondence/Jankauskas_Revised Work Plan Feb2008_ltr.doc

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Sterling Environmental Engineering, P.C.

WORK PLAN FOR ON-SITE VAPOR INTRUSION INVESTIGATION

ANCHOR CHEMICAL SUPERFUND SITE OYSTER BAY, NASSAU COUNTY, NEW YORK (SITE NO. 130021)

Prepared for:

K.B. Co. 2LP
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August 2, 2007
Revised December 7, 2007
Revised February 4, 2008

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WORK PLAN FOR ON-SITE VAPOR INTRUSION INVESTIGATION

ANCHOR CHEMICAL SUPERFUND SITE OYSTER BAY, NASSAU COUNTY, NEW YORK (SITE NO. 130021)

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1.0 INTRODUCTION

This Work Plan provides for the completion of an on-site soil vapor investigation of the Anchor Chemical Superfund Site (Site No. 130021) located at 500 West John Street in the Village of Hicksville, Town of Oyster Bay, Nassau County, New York. Elements of the plan include an evaluation into the potential vapor intrusion into the on-site building. The location of the Site is presented on Figure 1. This work is proposed in response to a request by the New York State Department of Environmental Conservation (NYSDEC) to supplement the findings of the Remedial Investigation / Feasibility Study (RI/FS). The results of the vapor investigation will be used to determine if organic vapors are present in the subsurface soils at levels of concern.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Site Description

The Site is approximately 1.5 acres in size and includes one (1) 28,850 square foot, two-story building. The surrounding area is predominantly industrial but also has recreational areas. The Site is bordered to the west by a commercial property, to the south by West John Street and to the northwest by Cantiague Park, a 125-acre recreational facility. A groundwater recharge basin lies to the east of the site.

2.2 Site History, Previous Investigations and Remedial Investigations

It is reported that from 1964 to 1978, Anchor Chemical leased the Site and engaged in industrial activities which include the manufacturing, blending and storing chemicals for the graphic arts industry. The company reportedly operated two solvent mixing rooms and several container storage areas. Further, it is reported in 1964, seventeen (17) underground storage tanks (USTs), which ranged in size from 500 to 4,000 gallons, were installed under the mixing room for Anchor Chemical. The tanks were reported to be used to store chemicals and solvents, such as acetone, 1,1,1-trichloroethane (1,1,1-TCA), methylene chloride, 2-butoxyethanol and isopropyl alcohol. The chemicals were also stored in seven (7) aboveground storage tanks (ASTs), which ranged in size from 550 to 1,500 gallons. The ASTs were removed from the Site in 1985.

In 1978, Anchor Chemical was purchased by Chessco Industries and became known as Anchor/Lith Kem-Ko. Company operations were terminated in 1985.

Since 1985, the following tenants have occupied the Site:

- 1985 to 1988, Emery Worldwide Freight, a shipping company;
- 1988 to 1992, J.D. Brauner, a furniture manufacturer;
- 1992 to 1994, Distributors of America, a distributor of newspaper inserts; and
- 1994 to 1995, Machinery Values, a machinery resale operation.
- 1995 to present, Nassau Candy.

In 1977, the Nassau County Health Department (NCHD) reported that 1,1,1-TCA, trichloroethene (TCE) and tetrachloroethene (PCE) has been detected in liquid samples obtained near Drywell 1, located north of the building in the parking lot (see Figure 2). In response, Anchor Chemical submitted a spill prevention plan to the NCHD.

In May 1981, the Nassau County Fire Marshall notified Anchor/Lith Kem-Ko that the 17 USTs on the Site had not been registered with the Fire Marshall or tested for leaks. In subsequent testing of 14 of the 17 USTs, 5 tanks failed air over product tank tightness tests. The five tanks were decommissioned in 1983. The three remaining tanks, which were not tested in 1981, were tightness tested in 1982 and 1983, and one of these tanks failed the test. In 1982, the NCHD requested Anchor/Lith Kem-Ko to investigate the possibility of groundwater and soil contamination of the Site.

Three (3) groundwater monitoring wells were installed in September 1982. Groundwater samples obtained from the wells reportedly contained 24,000 parts per billion (ppb) of 1,1,1-TCA, 1,100 ppb of PCE, 350 ppb of dichloroethane, 170 ppb of chlorodibromomethane, 41 ppb of methylene chloride and 55 ppb of TCE. Soil samples, which were obtained during the installation of one well (MW-1), revealed 490 ppb of methylene chloride and 22 ppb of 1,1,1-TCA.

In January 1983, the Site was included on the NYSDEC's Registry of Inactive Hazardous Waste Sites. On June 10, 1986, the Site was added to the National Priorities List (NPL) maintained by the United States Environmental Protection Agency (USEPA).

Subsequent monitoring of the Site through 1991 indicated a decrease in the concentration of contaminants in the groundwater.

On June 2, 1989, the USEPA issued an Administrative Order on Consent to K.B. Company, the owner of the property to undertake a Remedial Investigation/Feasibility Study (RI/FS) to determine the nature and extent of contamination at the Site and to evaluate options for cleanup. On August 3, 1989, the USEPA issued an Administrative Order to Chessco Industries, requiring Chessco Industries to participate and cooperate with K.B. Company. The USEPA issued an Administrative Order to Anchor Lith/Kem-Ko on March 31, 1992, requiring it to participate and cooperate in the performance of the RI/FS. RI field work was completed in February 1995, and the RI report was submitted to the USEPA in March 1995.

The RI included:

- inspection and closure of 12 USTs;
- installation of four (4) shallow and four (4) deep groundwater monitoring wells;
- three (3) rounds of groundwater samples;
- two (2) rounds of soil samples from under the USTs; and
- one (1) round of sediment samples from nine (9) drywells, one (1) drain and two (2) cesspools.

The Risk Assessment (RA) was finalized by the USEPA on June 2, 1995.

On September 15, 1995, K.B. Company, the owner of the property, Anchor Lith/Kem-Ko and Chessco Industries were ordered by the USEPA to remove the contaminated sediment and soil from on Site drywells designated DW-2, DW-3, and DW-8. K.B. Company was issued a unilateral Administrative Order, while Anchor Lith/Kem-Ko and Chessco Industries were issued an Administrative Order on Consent for the removal work. A work plan for the drywell removal action was approved by the USEPA on September 28, 1995. The actual removal of the material from the drywells occurred on September 29, 1995.

In December 2005, K.B. Co. 2LP obtained samples from the on-site groundwater monitoring wells. The samples obtained by both K.B. Co. 2LP and split samples obtained by the NYSDEC showed non-detect values for all chlorinated volatile organic compounds (VOCs).

3.0 PURPOSE AND OBJECTIVES

The New York State Department of Health (NYSDOH) has issued final guidance entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006. This document sets forth the approach to be used to investigate and evaluate the potential for vapor intrusion into buildings. While the Anchor Chemical Site was the subject of extensive site investigations, the potential for vapor releases from contaminated groundwater and previously identified source areas had not been evaluated during the RI/FS

The vapor intrusion investigation will follow the guidelines established in the NYSDOH guidance document and will determine if there are current or potential vapor intrusion impacts in the on-site soils and building. Fieldwork shall include subsurface vapor samples at locations designated by the NYSDEC. This work will occur during the 2007-2008 heating season.

The following sections provide the detailed approach for completing the on-site field investigations and evaluations necessary to attain these goals.

4.0 ON-SITE VAPOR INVESTIGATION

4.1 Site Evaluation

Based upon prior discussions with NYSDEC staff, the on-site vapor sampling locations will be inspected, and available drawings from the RI/FS will be reviewed, to identify suitable sampling locations and to determine if there are ongoing business activities, materials stored and/or used, and other site conditions that could interfere with the vapor intrusion investigation.

The evaluation will take into consideration foundation conditions, access, proximity to heating/ventilation system operation, interior use, utility penetrations, floor slab installation and condition. The focus of the evaluation will be to identify potential vapor intrusion source areas, migration pathways and to select monitoring points accordingly.

4.2 Selection of the Sampling Locations

Subslab sample locations will be field selected based on physical access at a location which will not disrupt normal business activities. The permanent locations will be generally as shown on Figure 2. At each sub-slab sample location, an indoor air sample will be obtained at the same time the sub-slab sample is obtained. Similarly, when the subsurface samples are obtained an ambient outdoor air sample will be obtained upwind and downwind of the Site.

The NYSDOH guidance identifies various measures to reduce interference and dilution of samples. The guidance recommends the following activities be avoided within 24 hours prior to sample collection:

- Opening windows/vents;
- Operating ventilation fans;
- Smoking;
- Painting;
- Use of portable space heaters;
- Fuel storage;

- Cleaning or painting furniture, floors, etc.;
- Use of air fresheners or scented candles;
- Use of glues, solvents, cosmetics, nail polish, nail polish remover, etc.;
- Use of pesticides; and
- Use of repair or maintenance products.

The Inventory Sheet provided as Appendix B of the NYSDOH guidance document will also be completed prior to sampling.

As presented on Figure 2, a total of three (3) indoor air/subslab sample locations are proposed.

Additionally, four (4) soil vapor sample probes are proposed in the vicinity of the on-site building. The approximate locations of these probes are shown on Figure 2. At each vapor probe location separate probes will be installed to allow evaluation of soil vapor concentrations at two depths (approximately eight (8) feet below the ground surface and above the groundwater table).

4.3 Installation of Sample Ports and Sampling Procedures

Based upon the recommended sampling probe detail contained in the NYSDOH Guidance, the installation of the permanent subsurface soil and subslab probes and the procedures for subsurface soil and subslab sample collection will consist of:

1. At each sample location an approximate one (1) inch diameter hole will be installed through the floor slab, and advanced approximately two (2) inches below the bottom of the floor slab. A ½-¾ inch diameter brass or stainless steel pipe will be installed and grouted in place. The installation will be fitted with a threaded cap.

2. Within the brass or stainless steel pipe, a Teflon lined polyethylene sampling tube will be installed and a stopper will be used to seal the gap between the pipe and the tubing. The diameter of the tube will be compatible with the sampling equipment (see Figure 3). Tubing will not extend further than two (2) inches into the sub-slab material.

3. Porous, inert backfill material will be added to cover approximately one (1) inch of the probe tip. The implant will be sealed to the surface with cement.

4. Laboratory provided 1.0 or 6.0 Liter Summa canisters (certified in batches of up to ten (10) to contain less than 0.25 ug/m^3 of VOCs) will be placed adjacent to the sampling port and connected to the sampling tube through a Teflon-lined tube. Canisters will be furnished and certified as clean. The Summa canister pressure will be checked and recorded immediately prior to commencement of sampling and immediately after sampling completion. Connection will be made through a "tee" fitting. The third leg of the tee will be connected to a vacuum pump. Prior to sample collection the purge pump will be used to withdraw air from the sample tube and port. The Geotech brand, Series I Geopump model pump will be operated in vacuum mode to purge 1 to 3 implant volumes (i.e., the volume of the sample probe, tube and valve) into one (1) liter Tedlar bags to confirm the intended volume of air has been removed.

5. Following purging, the subslab sample will be drawn into the Summa canister through a regulator. The samples will be drawn over a 24-hour period. A duplicate sample will also be obtained at a selected location using the same sample collection procedures. Such will be drawn through a "T" fitting during sampling.

6. Summa canisters will be analyzed for volatile organics using USEPA Method TO-15 with analytical detection limits set forth in the NYSDOH guidance document. All analytical services will be provided by a NYSDOH ELAP-certified laboratory. The following reporting limits will be met for the indicated parameters:

Trichloroethene	0.25 ug/m^3
Vinyl Chloride	0.25 ug/m^3
Carbon Tetrachloride	0.25 ug/m^3
All Other Analytes	1.0 ug/m^3

   All laboratory results will be provided in micrograms per cubic meter.

7. Sample quality assurance/quality control (QA/QC) consists of collecting a duplicate outdoor air sample, which will be collected in the same manner other air samples will be collected.

   Additional QA/QC will be performed by the laboratory in accordance with the published method.

8. At the time of sampling, the weather conditions will be noted (wind speed, direction, barometric pressure, etc.).

9. Additional sampling procedures are presented in Appendix A.

4.4 Indoor Air Sampling

At each subslab sample location, a corresponding indoor air sample from the breathing zone will also be obtained. Sample preparation, collection and handling methodology will be the same as described for the subslab location with the exception of installing a sampling port. The indoor air sample will be collected at the same time the subslab sample is obtained.

Indoor air samples including a duplicate will be obtained using the procedures provided in Appendix A.

4.5 Outdoor Air Sampling

On the date of the sampling, an outdoor ambient air samples from the breathing zone will be obtained upwind and downwind of the other sample locations shown on Figure 2. Sample locations will be determined based on field observations and slightly modified to be biased towards areas that are occupied by the people.

Outdoor air sampling will be conducted in the same manner as the indoor air sampling using the procedures provided in Appendix A. On the sample date, the wind direction will be noted.

4.6 Soil Vapor Sampling

Permanent soil vapor probes will be installed in apparent undisturbed areas in the general locations shown on Figure 2. The actual locations will be determined in the field with the NYSDEC. A total of four (4) locations will be selected for paired sampling probes, installed using the methods and protocols recommended by the final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006, Final Guidance).

Permanent sampling probes will be constructed in accordance with Figure 2.2 of the Final Guidance, and the following:

A. Implants will be installed using an appropriate method based on site conditions (e.g., direct push, manually driven, auger) if necessary to attain a depth of approximately eight (8) feet below grade. The vapor probes are intended to evaluate soil vapor concentrations at (approximately eight (8) feet below the ground surface and above the groundwater table).

B. Following drilling, a porous, inert backfill material consisting of washed #1 crushed stone will be used to create a sampling zone 1 to 2 feet in length.

C. The sampling zone and borehole will be fitted with an inert polyethylene tube of laboratory or food grade quality of ¼ inch diameter. The tubing will extend to the ground surface.

D. The probes will be sealed above the sampling zone with a bentonite slurry for a minimum distance of three (3) feet to prevent outdoor air infiltration. The remainder of the borehole will be backfilled with clean material.

E. The probe will be placed to minimize infiltration of groundwater, surface water, and outdoor air. The probe location will be clearly marked and the sampling tube will be enclosed in a protective steel casing to prevent accidental damage.

F. Additional sampling procedures are provided in Appendix A.

4.7 Sample Analysis and Reporting

Duplicate samples will be collected in accordance with the requirements of the sampling and analytical methods utilized. A minimum of ten (10) percent duplicate samples will be obtained to assess errors. Calibration samples will be appropriate for the analytical method and ELAP requirements. The selected laboratory will provide written and electronic results and the required Category B deliverables QA/QC data with analytical reports.

All samples that will be used to make decisions on appropriate actions to address exposures and environmental contamination will be analyzed by an ELAP-certified laboratory.

4.8 Additional Sampling Procedures

At each sample point, VOC concentrations (PID measurements), documentation of the serial numbers for canisters and regulators, and initial and final vacuum readings will be recorded in field notes. These records will then be properly documented on chain of custodies to track samples from the sampling point to analysis. The recorded initial and final summa canister vacuum must meet the Analytical Services Protocol 2005 requirements.

Brass fittings are used to connect silicon tubing from the soil boring to a peristaltic pump. The Geotech brand, Series I Geopump model pump will be operated in vacuum mode to purge 1 to 3 implant volumes (i.e., the volume of the sample probe, tube and valve) into one (1) liter Tedlar bags to confirm the intended volume of air has been removed. Then the summa canister will be connected to the valve to collect the sample.

5.0 VAPOR INTRUSION REPORT

Before the data are evaluated for conclusions about the presence and concentration of soil vapors throughout the site, the representativeness and reliability of the data will be verified. To assess analytical errors and the usability of the data, a qualified person will review the analytical data package and all associated QA/QC information to make sure that:

- the data package is complete;
- holding times have been met;
- the QC data fall within the protocol limits and specifications;
- the data have been generated using established and agreed upon analytical protocols;
- the raw data confirm the results provided in the data summary sheets and QC verification forms; and
- correct data qualifiers have been used.

A data usability summary report (DUSR) will be prepared in accordance with APPENDIX 2B Guidance for the Development of Data Usability Summary Reports of NYSDEC DRAFT DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION December 2002 (12/25/02) by a party independent from the laboratory performing the analysis to determine whether or not the data, as presented, meets the site or project specific criteria for data quality and data use, and will be submitted for regulatory review and approval.

All collected data and laboratory reports will be evaluated in the context of the objectives stated in Section 3.0.

Specific conclusions and recommendations will be provided with respect to:

- Does data indicate vapors are being emitted from contaminated groundwater?
- Should on-site buildings be monitored for vapor intrusion?
- Does data indicate potential for off-site vapor migration?
- Does data indicate the potential that preferential pathways exist?

A written report along with all related data will be provided to the NYSDEC and NYSDOH.

A Health and Safety Plan (HASP) is provided as Appendix B which makes field workers aware of site conditions and provides necessary information so that field activities are appropriate. The HASP also includes a section pertaining to public safety, which addresses the physical and chemical hazards associated with the proposed activities.

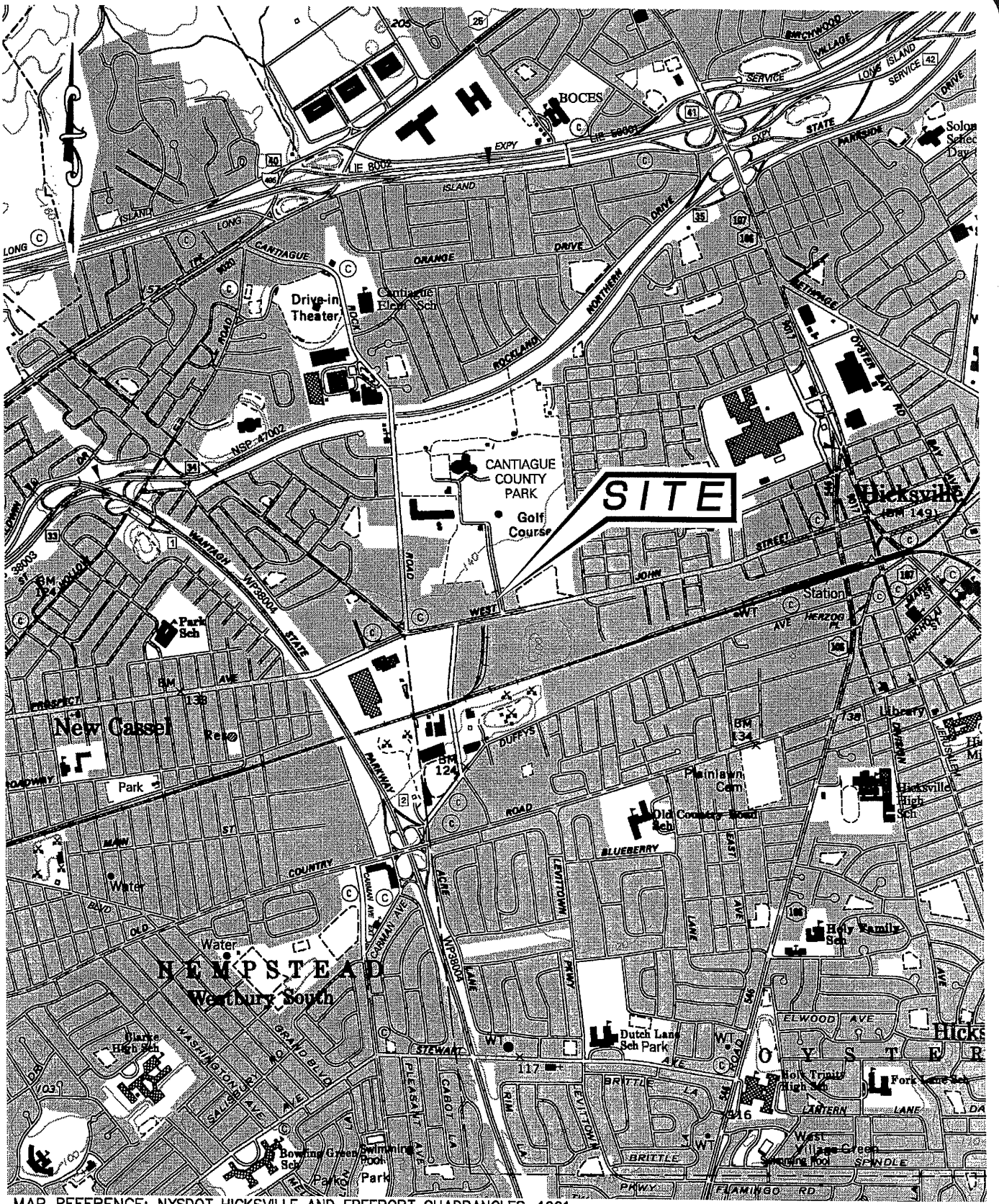
6.0 INVESTIGATION SCHEDULE

The field work described herein must be performed during the heating season. Accordingly, the work is scheduled for completion by March 31, 2008, with the final report submitted to the NYSDEC on or before May 1, 2008.

7.0 REFERENCES

Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, Prepared by: New York State Department of Health, Center for Environmental Health, Bureau of Environmental Exposure Investigation.

FIGURES



MAP REFERENCE: NYSDOT HICKSVILLE AND FREEPORT QUADRANGLES, 1991.

FIGURE 1

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24 Wade Road • Latham, New York 12110

SITE LOCATION MAP

K.B. COMPANY

ANCHOR CHEMICAL SITE

V. OF HICKSVILLE NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	8-2-07	SCALE:	1" = 2000'	DWG. NO.	27017001	FIGURE	1

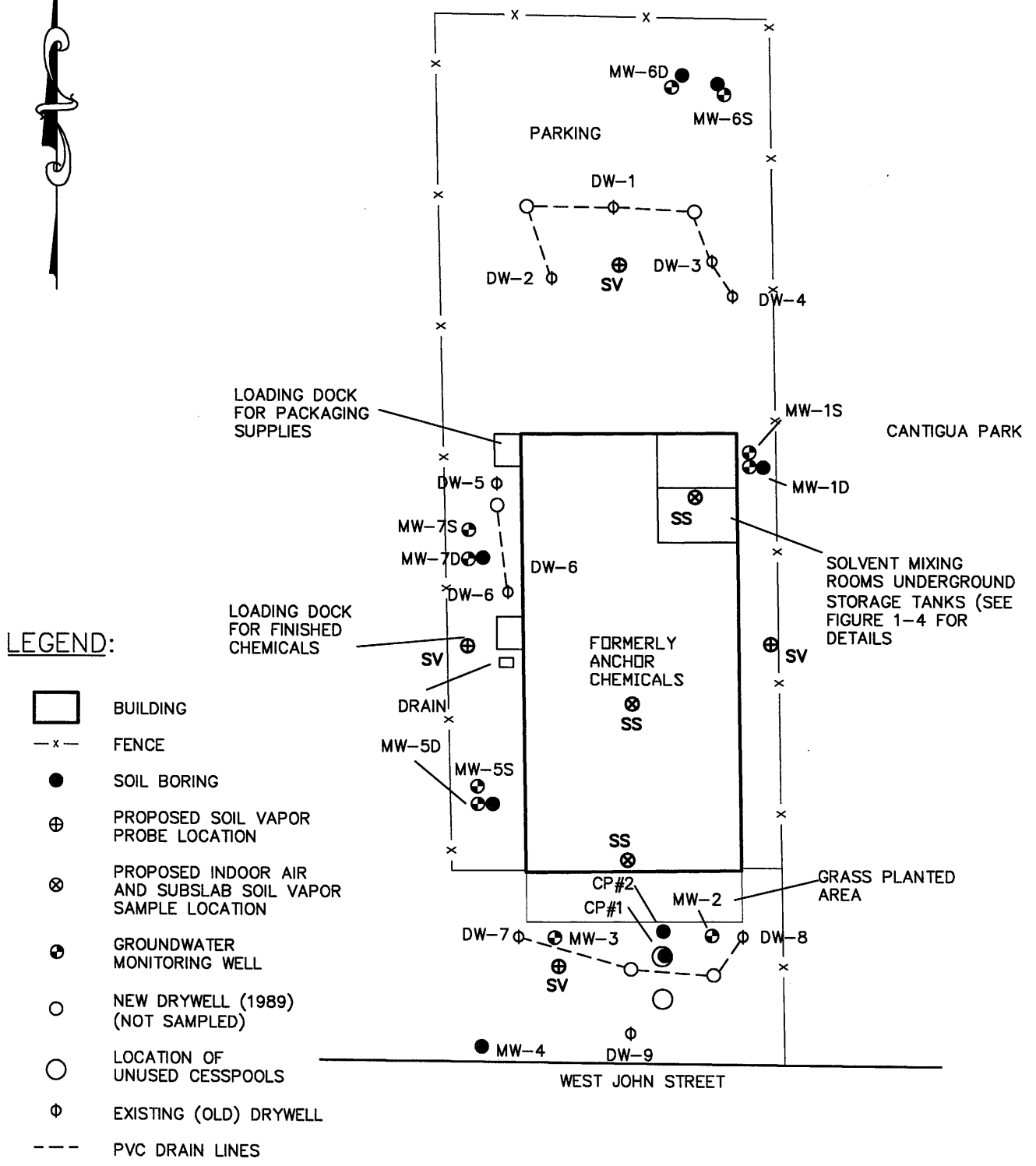

FIGURE 2

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24 Wade Road ♦ Latham, New York 12110

APPROXIMATE GROUNDWATER, SOIL AND SEDIMENT SAMPLING LOCATIONS

K.B. COMPANY

ANCHOR CHEMICAL SITE

V. OF HICKSVILLE NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	8-2-07	SCALE:	N.T.S.	DWG. NO.	27017002	FIGURE	2

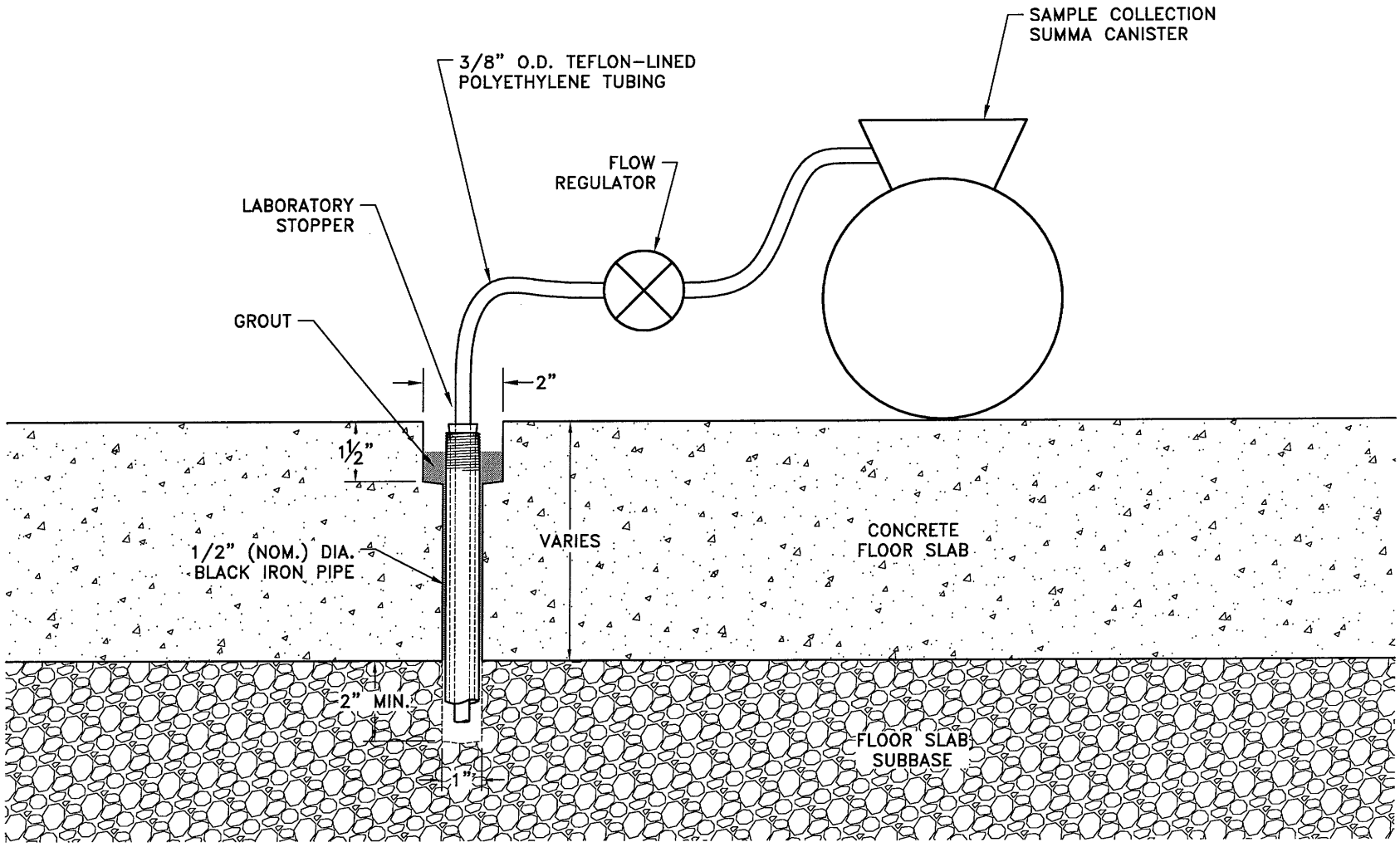

FIGURE 3

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SUBSLAB SAMPLE COLLECTION
DIAGRAM
K.B. COMPANY
ANCHOR CHEMICAL SITE

V. OF HICKSVILLE — NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	8-3-06	SCALE:	AS SHOWN	DWG. NO.	27017003	FIGURE	3

APPENDIX A

VAPOR SAMPLING PROCEDURES

APPENDIX A

VAPOR SAMPLING PROCEDURES

To obtain representative samples and to minimize possible discrepancies, vapor samples will be collected in the following manner at all locations:

A. At least 24 hours after the installation of permanent probes, 1 to 3 implant volumes (i.e., the volume of the sample probe and tube) will be purged prior to collecting the samples. The Geotech brand, Series I Geopump model pump will be operated in vacuum mode to purge 1 to 3 implant volumes into one (1) liter Tedlar bags to confirm the intended volume of air has been removed.

B. Flow rates for both purging and collecting should not exceed 0.2 liter per minute to minimize outdoor air infiltration during sampling.

C. Samples will be collected, using conventional sampling methods, in an appropriate container. Samples will be obtained using a 1.0 or 6.0 liter Summa canister (certified in batches of up to ten (10) to contain less than 0.25 ug/l of VOCs) and will be analyzed by USEPA method TO-15. The Summa canister will be calibrated to obtain a one liter (or six liter) sample over a 24 hour period.

D. An ambient air sample will be obtained at a representative upwind location and will be analyzed using the sample methodology followed for the subsurface sample locations.

E. A tracer gas (e.g., helium, butane, sulfur hexafluoride, etc.) will be used when collecting soil vapor samples to verify that adequate sampling techniques are followed and that infiltration of outdoor air is not occurring. Figure 2.4 of the Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance provides a schematic of generic tracer gas applications when collecting soil vapor samples. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer prior to and following the sampling for the compounds of concern.

F. Weather conditions will be noted for the 24 to 48 hours preceding sampling, and field notes including a site sketch of sampling locations will be recorded specifically noting:

- Sample identification,
- Date and time of sample collection,
- Sampling depth,
- Identity of samplers,
- Sampling methods and devices,
- Purge volumes,
- Volume of soil vapor extracted,
- If canisters used, the vacuum before and after samples were collected,
- Apparent moisture content (dry, moist, saturated, etc.) of the sampling zone, and
- Chain of custody protocols and records used to track samples from sampling point to analysis.

APPENDIX B

HEALTH AND SAFETY PLAN
(HASP)

Sterling Environmental Engineering, P.C.

HEALTH AND SAFETY PLAN
(HASP)

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

Prepared for:

K.B. Co. 2LP
c/o Spiegel Associates
375 North Broadway
Jericho, New York 11753

Prepared by:

Sterling Environmental Engineering, P.C.
24 Wade Road
Latham, New York 12110

December 6, 2007
Revised February 4, 2008

HEALTH AND SAFETY PLAN
(HASP)

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

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1.0 PURPOSE

This site-specific Health and Safety Plan (HASP) is prepared in conformance with Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.120(b) and the Work Plan for On-Site Vapor Intrusion Investigation prepared by Sterling Environmental Engineering, P.C. (STERLING). STERLING was retained by Spiegel Associates to prepare this HASP. Spiegel Associates represents the owner of the Anchor Chemical Superfund Site, K.B. Co. 2LP.

The purpose of this HASP is to assign responsibilities, establish personnel protection standards, establish mandatory safety practices and procedures, and provide for potential operational contingencies.

This HASP applies to work conducted at the Anchor Chemical Superfund Site (Site No. 130021) located at 500 West John Street in the Village of Hicksville, Town of Oyster Bay, Nassau County, New York (see Figure 1, Site Location Map). This property was previously identified as an area where industrial activities took place including the manufacturing, blending and storing of chemicals for the graphic arts industry.

The following emergency information applies to this project.

Emergency Contacts

In the event of an emergency, the following numbers are to be called for the applicable assistance:

Contact	Person or Agency	Telephone
Police	Nassau County Police	911 or (516) 573-7000
Fire	Hicksville Fire Department	911 or (516) 931-0026
Ambulance	Nassau Regional EMS Council	911 or (516) 542-0025
Hospital	Plainview Hospital	(516) 719-3000
Poison Control	Poison Control Center	(800) 282-3171
Project Manager	K.B. Co. 2LP	To Be Provided
Project Superintendent	To Be Provided	To Be Provided
Job Site Safety Officer	To Be Provided	To Be Provided
Health and Safety Officer (HSO)	To Be Provided	To Be Provided
Health and Safety Specialist (HSS)	To Be Provided	To Be Provided
Competent Person	To Be Provided	To Be Provided

Location of Hospital/Clinic

Name: Plainview Hospital

Address: 888 Old Country Road, Plainview, NY 11803

Route: Start out going East on West John Street (7 feet)
Turn Right onto Charlotte Avenue (0.6 mile)
Turn Left onto West Old Country Road (3.8 miles)
End at Plainview Hospital.

See Figure 2 for the route to Plainview Hospital.

More detail regarding emergency information and response procedures is provided in Section 3.5.

1.1 Notification of Emergency Responders

The local EMS and Fire Department will be notified by K.B. Co. 2LP one (1) week in advance of work and upon completion of work.

2.0 GENERAL INFORMATION

2.1 Introduction

This HASP for the Anchor Chemical Superfund Site addresses the investigation and evaluation of potential vapor intrusion into the on-site building as described in the Work Plan for On-Site Vapor Intrusion Investigation prepared by STERLING. This HASP will be implemented by the Health and Safety Officer (HSO) and/or the Health and Safety Specialist (HSS) during site work in areas of the industrial area. The HSS will report to the HSO at all times. This HASP has been prepared in conformance with OSHA 29 Code of Federal Regulations (CFR) 1910.120(b).

All persons performing the vapor investigation must adhere to the HASP. The content of this HASP may change or be revised based upon additional information provided to health and safety (H&S) personnel, monitoring results, or changes in the scope of work. Any proposed changes to the HASP must be reviewed by health and safety personnel and are subject to approval by K.B. Co. 2LP (the Project Manager) and the HSO.

While this HASP may also be used as a guidance document by properly trained and experienced K.B. Co. 2LP subcontractors and while compliance with the HASP is required of all persons conducting the investigation, K.B. Co. 2LP does not guarantee the health or safety of any person conducting the investigation.

Due to the reported presence of potentially hazardous substances at this site and the activities occurring during the investigation, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Strict adherence to these health and safety guidelines will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this HASP are intended specifically for this site and must not be used on any other site without prior research by trained health and safety specialists. K.B. Co. 2LP claims no responsibility for the use of this HASP by unauthorized persons. This HASP is written for the specific site conditions, purpose, dates, and personnel specified and must be amended if these conditions change.

It is reported that from 1964 to 1978, Anchor Chemical leased the site and engaged in industrial activities which include the manufacturing, blending and storing of chemicals for the graphic arts industry. The company reportedly operated two solvent mixing rooms and several container storage areas. Further, it is reported in 1964, seventeen (17) underground storage tanks (USTs), which ranged in size from 500 to 4,000 gallons, were installed under the mixing room for Anchor Chemical. The tanks were reported to be used to store chemicals and solvents, such as acetone, 1,1,1-trichloroethane (1,1,1-TCA), methylene chloride, 2-butoxyethanol and isopropyl alcohol. The chemicals were also stored in seven (7) aboveground storage tanks (ASTs), which ranged in size from 550 to 1,500 gallons. The ASTs were removed from the site in 1985.

Sampling in 1977 detected 1,1,1-TCA, trichloroethene (TCE), and tetrachloroethene (PCE) in liquid samples obtained near Drywell 1, located north of the building in the parking lot (see Figure 3).

On June 2, 1989, the United States Environmental Protection Agency (USEPA) issued an Administrative Order on Consent to K.B. Co. 2LP, the owner of the property, to undertake a Remedial Investigation/Feasibility Study (RI/FS) to determine the nature and extent of contamination at the site and to evaluate options for cleanup. RI field work was completed in February 1995, and the RI report was submitted to the USEPA in March 1995. Five (5) USTs were decommissioned in 1983 and as of 1995, all seventeen (17) USTs have been closed. In 1982 three (3) groundwater monitoring wells were installed. In 1995, four (4) shallow and four (4) deep groundwater monitoring wells were installed. Soils samples from under the USTs and sediment samples from nine (9) drywells, one (1) drain and two (2) cesspools were also obtained in 1995.

In 2005, K.B. Co. 2LP obtained samples from the on-site groundwater monitoring wells. The samples obtained by K.B. Co. 2LP and split samples obtained by the NYSDEC showed non-detect values for all chlorinated volatile organic compounds (VOCs). Therefore, worker exposure is expected to be minimal. However, as site conditions could change if further contamination is discovered, this HASP includes measures and controls that would be suitable in the event increased hazards are discovered.

2.2 Site Personnel

Personnel authorized to enter the site during the contracted operations must be approved by the Project Manager and HSO. The training and medical examinations of every worker must conform with OSHA 29 CFR 1910.120 training and medical examination requirements and/or other applicable regulations. Every worker must review this HASP and sign-off acknowledging their review before being authorized to enter the site. All personnel must utilize the buddy system (see Section 4.3.2).

2.3 Emergency Training

On-site emergency personnel, specifically the Project Manager, HSO and HSS, must be trained in and thoroughly understand emergency response. On-site emergency personnel are trained in the following:

- Communication methods and signals;
- Emergency chain-of-command;
- Emergency equipment and its use;
- How to call for first aid;
- Removing injured personnel from enclosed spaces; and
- Off-site support and how to use it.

These personnel are certified in first aid and CPR, and practice treatment techniques regularly with an emphasis on:

- Recognizing and treating cold and heat stress; and
- Recognizing and treating physical and chemical injuries.

In the event that an ambulance crew or fire fighter aid in the emergency, the HSO and HSS are trained to provide and will provide off-site emergency personnel with information about:

- Site-specific hazards;
- Appropriate response techniques;

- Site emergency procedures; and
- Decontamination procedures.

2.4 Medical Surveillance

K.B. Co. 2LP personnel and subcontractors conducting the investigation must participate in a medical surveillance program that meets the requirements of 29 CFR 1910.120. Section 9.0 provides additional details.

Employees working at potentially contaminated sites are provided with pre-employment, annual and termination medical examinations to ensure they are medically fit to perform work and wear a respirator and personal protective equipment (PPE). The medical exams include a physical examination, audiometric testing, pulmonary function testing, visual testing, blood testing, and urinalysis. The specific results of the examinations are confidential. Employees are provided with medical certificates. Employees and their supervisors are informed of any restrictions or limitations. Section 6.0 provides additional details on PPE.

Employees requesting access to their medical records must contact the K.B. Co. 2LP Corporate Health and Safety Director.

2.5 Signature and Acknowledgement

All K.B. Co. 2LP personnel, and their subcontractors, conducting the investigation must acknowledge by signing a copy of this HASP that the contents of this HASP have been reviewed. All personnel also acknowledge that they participate in a medical surveillance program and have been trained in accordance with 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response Standard). Each person agrees that he/she has read and understands this HASP and agrees to comply with the policies and procedures in this HASP.

The provisions of the plan are mandatory for all on-site K.B. Co. 2LP employees who are engaged in managing potentially hazardous material including, but not limited to, initial site reconnaissance, preliminary field investigations, mobilization, project operations, and demobilization. This plan has been developed based on USEPA guidelines and complies with applicable regulations, including OSHA standards (29 CFR 1910 and 1926).

K.B. Co. 2LP will insist on the following health and safety requirements from its subcontractors:

- K.B. Co. 2LP and subcontractor employees must have appropriate training. This applies to all personnel who may enter hazardous areas.

- Personnel conducting the investigation must have an annual physical (or physician's waiver for biennial physical) and be certified "fit for duty" and "fit for respirator use," if necessary, by a qualified physician. This medical surveillance will become necessary if the conditions set forth in 1926.65(f)(2)(i-iv) are attained.

- K.B. Co. 2LP requires proof of employee training and physical exam before site work in hazardous areas may begin.

- Personnel must have the appropriate personal protective equipment (PPE) for the specific job. At a minimum, personnel will have the following equipment, and this equipment must be inspected by K.B. Co. 2LP:

  - Hard Hat
  - Safety Shoes
  - Gloves
  - Goggles/Safety Glasses
  - Hearing Protection, if appropriate
  - Safety Vest or Shirt
  - Other equipment as specified by the HASP.

- Heavy equipment and field operations must meet applicable safety standards and satisfy K.B. Co. 2LP field inspection. Unsafe equipment or operations will necessitate shutdown of the job at a cost to the subcontractor.

K.B. Co. 2LP will provide every subcontractor conducting the investigation with a copy of this HASP, but this is not a substitute for an independent plan prepared by the subcontractor. Acknowledgement of review of this HASP must be indicated by signature on the appropriate form by each subcontractor.

The subcontractor must agree to comply with at least the minimum requirements of its own site-specific HASP and be responsible for the health and safety of its own employees before beginning site work. The subcontractor also must agree that it will take any additional measures it deems necessary to meet at least minimum applicable health and safety standards if unforeseen circumstances arise.

The subcontractor will utilize at least minimum safety equipment as required by the site-specific HASP. When respirators are necessary, as required by 29 CFR 1910.134, the subcontractor must conduct a respirator fit test on each of its employees and a physician's "fit for respirator use" declaration must be signed by each employee.

3.0 SITE CHARACTERIZATION AND HAZARD ANALYSIS

3.1 General Information

The site is located at 500 West John Street in the Village of Hicksville, Town of Oyster Bay, Nassau County, New York (see Figure 1, Site Location Map).

Waste Types:	Liquid: __	Solid: __	Sludge: __	Gas: X
Proposed Date of Investigation:	The vapor intrusion investigation will occur during the 2007-2008 heating season.			
Characteristics:	Corrosive: __	Ignitable: __	Radioactive: __	
	Volatile: X	Toxic: __	Reactive: __	Unknown: __
Unusual Site Features:	The vapor monitoring will occur at the site where industrial activities took place.			

Status:

Background Review:	Complete: X	Preliminary: __
Documentation/Summary (Overall Hazard):	Serious: __ Low: X	Moderate: __ Unknown: __

3.2 Site Description and Summary of Work

The site is located at 500 West John Street in the Village of Hicksville, Town of Oyster Bay, Nassau County, New York (see Figure 1, Site Location Map). The site is approximately 1.5 acres in size and includes one (1) 28,850 square foot, two-story building. The surrounding area is predominantly industrial however also has a recreational area. The site is bordered to the west by a commercial property, to the south by West John Street and to the northwest by Cantiague Park, a 125-acre recreational facility. A groundwater recharge basin lies to the east of the site.

The New York State Department of Health (NYSDOH) has issued final guidance entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006. This document sets forth the approach to be used to investigate and evaluate the potential for vapor intrusion into buildings. While the Anchor Chemical Site was the subject of extensive site investigations, the potential for vapor releases from contaminated groundwater and previously identified source areas had not been evaluated during the RI/FS.

The vapor intrusion investigation will follow the guidelines established in the NYSDOH guidance document and will determine if there are current or potential vapor intrusion impacts in the on-site soils and building. Fieldwork shall include subsurface vapor samples at locations designated by the NYSDEC. This work will occur during the 2007-2008 heating season.

3.3 Hazard Analysis for Site Tasks

3.3.1 Chemical Hazards

Information provided by K.B. Co. 2LP identifies the following contaminants present in soil and groundwater samples collected at the site from 1982:

Volatile Organic Compounds (VOCs)

- Acetone
- 1,1,1-Trichloroethane (1,1,1-TCA)
- Trichloroethene (TCE)
- Tetrachloroethene (PCE)
- Methylene Chloride
- Dichloroethane
- Chlorodibromomethane

The potential for exposure to the public and workers at the site due to soil and groundwater contaminants is considered low during the vapor intrusion investigation based on current information. For the investigation, a total of three (3) indoor air/subslab sample locations are proposed. Additionally, four (4) soil vapor sample probes are proposed in the vicinity of the on-site building.

Potential exposures that may exist at the site include:

- Skin contact with contaminated soil or water;
- Inhalation of vapors and dusts;
- Ingestion of contaminated soil dusts, especially if poor personal hygiene is practiced.

Contact with skin by contaminated soil or groundwater will be minimized by wearing personal protective clothing when necessary as determined by the HSO. Inhalation of vapors and dusts during construction activities will be minimized by the use of dust controls and the use of respiratory protection when action levels are exceeded. Ingestion of contaminated materials will be minimized by practicing good personal hygiene during decontamination procedures.

If site conditions indicate unacceptable exposure to the public, the work can be rescheduled to occur during times of the day when the public is not present.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of obtaining a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and obtaining a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions:

VOCs must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Level D (Tyvek, coverall boots, gloves) or higher will be required to perform site-intrusive work where the potential exists for contact with contaminated soil or groundwater, or as determined by the HSO. This applies to personnel on the ground, not heavy equipment operators or others that do not have the potential to come in contact with contaminated materials.

Humans can be exposed to contaminated soil vapor when the vapor is drawn into the building due to pressure differences and mixed with the indoor air. Inhalation is the primary route of exposure, or the manner in which the volatile chemicals, once in the indoor air, actually enter the body.

Exposure to a volatile chemical due to vapor intrusion does not necessarily mean that health effects will occur. Whether or not a person experiences health effects depends on several factors, including the length of exposure (short-term or acute versus long-term or chronic), the amount of exposure (i.e., dose), the frequency of exposure, the toxicity of the volatile chemical and the individual's sensitivity to the chemical. Personnel should avoid lingering in the immediate area of the sampling device while samples are being collected.

3.3.2 Underground Utility Hazards

Related Job Activities:

- Underground utility lines.

New York law requires that, at least 48 hours prior to initiation of any subsurface work, a utility clearance be performed at the site. The driller will contact Dig Safely New York (1-800-962-7962) to request a mark-out of underground utilities in the proposed sampling areas. Work will not begin until the required utility clearances have been performed. Public utility clearance organizations typically do not mark-out underground utility lines that are located on private property. As such, the driller must exercise due diligence and try to identify the location of any private utilities on the properties being investigated. This requirement can be fulfilled in several ways, including:

- obtaining as-built drawings for the areas being investigated from the property owner;
- visually reviewing each proposed excavation location with the property owner or knowledgeable site representative;
- performing a geophysical survey to locate utilities or hiring a private line locating firm to determine the location of utility lines that are present at the property;
- identifying a no-drilling/digging zone; or
- hand digging in the proposed drilling/excavation locations if insufficient data is available to accurately determine the location of the utility lines.

3.3.3 Electrical Hazards

Related Job Activities:

- Overhead power lines or underground electrical lines with industrial trucks, cranes, and excavating equipment;
- Use of electrical hand-held tools; and
- Contact with overhead power lines by personnel hoist(s), excavators, and cranes.

Electrical hazards can exist because of downed power lines or improper use of electrical equipment. The presence of underground electric lines must be checked for and marked before any digging or excavating. When using cranes or material handlers, care must be taken that the machinery does not come in contact with any elevated energized lines. There should be a 10-foot clearance between a crane and electric power lines (up to 34 kilovolts (KV)) unless the lines have been de-energized. Higher kilovolt lines require greater separation distances. Shock is the primary hazard from electrical tools. When using electrically powered tools on the construction site, ground fault circuit interrupters (GFCI) are required.

3.3.4 Noise Hazards

Related Job Activities:

- Operation of heavy equipment; and
- Operation of power tools.

Hearing protection is required for the following personnel when conducting the indicated activities:

- Operator of heavy equipment;
- Workers in "close proximity" of heavy equipment; and
- Workers utilizing power tools.

A good rule of thumb is, if one needs to raise his or her voice when trying to carry on a conversation with someone at three (3) feet away or cannot hear snapping fingers while working around the heavy equipment, one is in "close proximity," and hearing protection is required. OSHA 29 CFR 1910.95 states that the permissible noise level is 90 dBA for an eight (8) hour work day and requires that the employer reduce exposure below this level by use of feasible engineering and administrative controls.

Engineering controls for noise are muffling of the source, proper maintenance, and barriers, if required. Administrative controls include logical decision making in response to the use of equipment that create elevated noise levels, and proper scheduling of personnel within the area of elevated noise levels to minimize the number of employees exposed. Personal noise protection equipment in the form of ear muffs or disposable earplugs will be provided for all site personnel.

3.3.5 Moving Machinery Hazards

Related Job Activities:

- Use of drill rig, other vehicles.

All on-site personnel must be aware of the hazards associated with the use of heavy equipment such as drill rigs. A hand signal system must be utilized by personnel working around such heavy equipment. All equipment must have functioning backup alarms.

3.3.6 Visibility Hazards

Related Job Activities:

- Heavy equipment and/or high winds creating high levels of dust in air.

In addition to providing required or recommended illumination intensities of at least five (5) foot candles, consideration must be given to the selection and placement of lighting equipment for specific tasks. Proper lighting must provide minimum glare, eliminate harsh shadows, and provide adequate illumination to perform work efficiently and safely. In a situation where visibility is such that it causes a risk to health and safety of the employee, work shall be stopped. Only until the visibility improves to where it does not threaten a worker's health and safety, will work resume.

3.4 Field Personnel

Project Manager	To Be Provided
Health and Safety Officer (HSO):	To Be Provided
Health & Safety Specialist (HSS):	To Be Provided

3.5 Emergency Information

3.5.1 Emergency Contacts

In the event of an emergency, the following numbers are to be called for the applicable assistance:

Contact	Person or Agency	Telephone
Police	Nassau County Police	911 or (516) 573-7000
Fire	Hicksville Fire Department	911 or (516) 931-0026
Ambulance	Nassau Regional EMS Council	911 or (516) 542-0025
Hospital	Plainview Hospital	(516) 719-3000
Poison Control	Poison Control Center	(800) 282-3171
Project Manager	K.B. Co. 2LP	To Be Provided
Project Superintendent	To Be Provided	To Be Provided
Job Site Safety Officer	To Be Provided	To Be Provided
Health and Safety Officer (HSO)	To Be Provided	To Be Provided

Health and Safety Specialist (HSS)	To Be Provided	To Be Provided
Competent Person	To Be Provided	To Be Provided

3.5.2 Location of Site Resources

Water Supply: A potable water supply is located on-site.
Telephone: K.B. Co. 2LP Field Trailer/Cell phones with supervisory staff.

3.5.3 Location of Hospital/Clinic

Location of Hospital/Clinic

Name: Plainview Hospital

Address: 888 Old Country Road, Plainview, NY 11803

Route: Start out going East on West John Street (7 feet)
Turn Right onto Charlotte Avenue (0.6 mile)
Turn Left onto West Old Country Road (3.8 miles)
End at Plainview Hospital.

See Figure 2 for the route to Plainview Hospital.

3.5.4 Emergency Response Plan

This section describes contingencies and emergency planning procedures to be implemented at the site. This Emergency Response Plan is compatible with local, State, and Federal disaster and emergency management plans, as appropriate. The list of appropriate emergency contacts is provided in Section 3.5 above.

3.5.4.1 Pre-Emergency Planning

An emergency evacuation route(s) will be chosen immediately upon arrival at the site. During the periodic site briefings, all workers will be trained in provisions of the Emergency Response Plan, communication systems, and evacuation routes. The plan will be reviewed and revised, if necessary, on a regular basis by the Health and Safety Officer (HSO) to ensure that the plan is adequate and consistent with prevailing site conditions.

3.5.4.2 Personnel Roles and Lines of Authority

The Project Manager has primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measures to ensure the safety of site personnel and the public, such as evacuation of personnel and adjacent residents. The Project Manager must also ensure that corrective measures have been implemented, appropriate authorities have been notified, and follow-up reports have been completed. The HSO may be called upon to act on behalf of the Project Manager and will direct responses to any medical emergency.

The individual contractor organizations are responsible for assisting the Project Manager's mission within the parameters of the scope of work set forth in the subcontract.

3.5.4.3 Emergency Recognition

Personnel should be familiar with techniques of hazard recognition from pre-assignment training and site-specific briefings. The HSO must ensure that the proper prevention devices or equipment are available to personnel.

In an emergency, personnel should proceed to the closest exit and go to the safe distance area associated with the evacuation route. Personnel should remain at that area until the entry alarm is sounded or further instructions are provided by an authorized individual.

3.5.4.4 Emergency Medical Treatment Procedures

Any person who becomes ill or injured in a contaminated work zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be attempted. First aid should be administered while awaiting an ambulance or paramedics. First aid kits will have gloves and artificial airways to protect against bloodborne pathogens, and personnel who have come into contact with bodily fluids such as blood or saliva will immediately confer with the K.B. Co. 2LP HSO to determine whether inoculation or other action is necessary. All injuries and illnesses must be reported immediately to the Project Manager.

Personnel who accompany individuals transported to a clinic or hospital for treatment should take with them information on the chemical(s) they have been exposed to at the site. This information is included in Table 1.

Any vehicle used to transport contaminated personnel will be decontaminated, as necessary.

3.5.4.5 Fire or Explosion

In the event of a fire or explosion, the local fire department should be notified immediately. The HSO or a designated alternate will advise the Fire Commander of the location, nature, and identification of the hazardous materials on-site.

If it is safe to do so, site personnel may:

- Use fire fighting equipment available on-site to control or extinguish the fire.
- Remove or isolate flammable or other hazardous materials that may contribute to the fire.

3.5.4.6 Spills or Leaks

Containers shall be inspected and their integrity assured prior to being moved. Operations on-site will be organized so as to minimize the amount of container movement. Where spills, leaks or ruptures may occur, adequate quantities of spill containment equipment (absorbent pillows, etc.) will be stationed in the immediate area. The spill containment program must be sufficient to contain and isolate the entire volume of hazardous substances being transferred. Drums or containers that cannot be moved without failure shall be over-packed. Fire extinguishing equipment shall be on hand and ready to use if needed to control incipient fires.

In the event of a spill or a leak, site personnel will:

- Inform their supervisor immediately.
- Locate the source of the spillage and stop the flow if it can be done safely.
- Begin containment and recovery of the spilled materials.

3.5.5 Reporting of Accidents and Unsafe Conditions

If an accident occurs, the HSO is to complete an Accident/Exposure Form for submittal to K.B. Co. 2LP's Project Manager within 24 hours of the event. The Project Manager, acting on recommendations from the HSO, must ensure that follow-up action is taken to correct the situation that caused the accident. Immediate actions must be taken within one (1) hour and may be interim measures. Permanent measures may follow interim measures.

3.6 Chemical and Physical Properties of Hazardous Substances

The exposure limits, recognition qualities, acute and chronic effects, and first aid treatments for hazardous chemicals expected to be found at the site are presented in Table 1 (Exposure Limits and Recognition Qualities) and Table 2 (Air Monitoring Methods, Action Levels and Protective Measures). These tables were compiled from the following sources:

- OSHA 29 CFR Part 1910.1000 et seq., "Air Contaminants," U.S. Department of Labor, Washington, D.C., July 1, 1994 (1979 Permissible Exposure Limits).

- National Institute of Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, Department of Health and Human Services (DHHS) Publication No. 94-116, June 1994.

- Threshold Limit Values and Biological Exposure Indices for 2003, American Conference of Governmental Industrial Hygienists (ACGIH).

- Amoore, John E., and Earl Hautala, 1983. "Odor as an Aid to Chemical Safety," Journal of Applied Toxicology, Vol. 3, No. 6.

4.0 SITE CONTROL

4.1 General

Site control is meant to minimize potential contamination of workers and to protect the public from potentially hazardous conditions. Site control is especially important during emergency situations. Several site control procedures will be implemented to reduce public exposure, as well as worker exposure, to chemical, physical, biological, and safety hazards.

4.2 Site Work Zones

To prevent the accidental spread of hazardous substances from a contaminated area to a clean area, zones will be delineated where various operations will occur on the site. The site will be divided into a minimum of three zones, as follows:

- The Exclusion Zone

  The area immediately adjacent to where drilling is occurring. Entry into the Exclusion Zone requires the use of PPE, therefore these work areas will initially be considered Exclusion Zones.

- The Contamination Reduction Zone

  The area where personnel and equipment are decontaminated. It is essentially a buffer zone between contaminated areas and clean areas. Activities to be conducted in this zone will require personal protection as defined in Section 6.0. An opening in the barricade at the support zone will serve as the personnel and equipment entry and exit point.

- The Support Zone

  The area situated in clean areas where the likelihood of encountering hazardous materials or conditions is expected to be minimal; therefore, PPE is not required.

No unauthorized individuals are permitted in the Exclusion Zone, and the HSO has the authority to deny any person access into the Exclusion Zone if, in his/her judgment, the person does not meet entry requirements.

In addition, all three zones described above must remain flexible based upon the results of the air monitoring. The delineation of these zones may change during the work day as required based on these results. The identification of the Exclusion Zone will determine the location of the Contamination Reduction Zone and the Support Zone. Therefore, an exact location of each of the three zones is not possible at this time, but will be field determined.

4.3 Standard Safe Work Practices

4.3.1 General

The following general safe work practices apply:

- Eating, drinking, chewing gum and/or smoking are prohibited in contaminated or potentially contaminated areas, or where there is a possibility for the transfer of contamination.

- Contact with potentially contaminated substances should be avoided. Puddles, pools, mud, etc. should be avoided. Kneeling, leaning, or sitting on equipment or the ground should be avoided, whenever possible. Monitoring equipment should not be placed on a potentially contaminated surface, such as the ground.

- Spillage should be prevented, to the extent possible. In the event that a spillage occurs, the liquid should be contained, if possible.

- Splashing of contaminated materials should be prevented.

- Field crew members should use all their senses to alert themselves to potentially dangerous situations (i.e., presence of strong, irritating, or nauseating odors).

- Field crew members should be familiar with the physical characteristics of on-site operations, including:

  - Wind direction in relation to the Exclusion and Contamination Reduction Zones;
  - Accessibility to associates, equipment, and vehicles;
  - Communications;
  - Exclusion zones (areas of known or suspected contamination);
  - Site access;
  - Nearest water sources; and
  - Routes and procedures to be used during emergencies.

- A minimum number of personnel and equipment should be in the contaminated area, but only to the extent consistent with work-force requirements of safe site operations.

- All waste generated during K.B. Co. 2LP or subcontractor activities at the site must be disposed of as directed by the Project Manager.

- No one wearing contact lenses or having a beard will be permitted in the work area when Level C or higher protection is required.

4.3.2 Buddy System

Workers will conduct all site activities with a buddy who is able to:

- Provide his or her partner with assistance.
- Observe his or her partner for signs of chemical or heat exposure.
- Periodically check the integrity of his or her partner's protective clothing.
- Notify the Project Manager if emergency help is needed.
- Use prearranged hand signals or other emergency communication signals such as:
  - Hand gripping throat: out of air, can't breathe.
  - Gripping partner's wrist or placing both hands around waist: leave area immediately, no debate.
  - Hands on top of head: need assistance.
  - Thumbs up: okay, I'm alright, I understand.
  - Thumbs down: no, negative.
  - Arms waving upright: send backup support.

5.0 MONITORING

5.1 General

Air monitoring for the hazards presented in Table 1 will be conducted to ensure proper selection of engineering controls, work practices, and PPE so that employees are not exposed to levels that exceed permissible exposure limits or published exposure levels for hazardous substances. Air monitoring will

be performed to identify Immediately Dangerous to Life and Health (IDLH) conditions, exposure over permissible exposure limits or published exposure levels, or other dangerous conditions such as the presence of flammable atmospheres or oxygen-deficient environments. Before entry to any hazardous area occurs, monitoring of the atmosphere will be conducted to ensure that a safe working atmosphere exists. Continuous air monitoring will be conducted in the following areas:

- Monitoring will be conducted at all intrusive activities.
- When work begins on a different portion of the site.
- When contaminants other than those previously identified are being handled.

5.2 Monitoring Requirements

Equipment necessary for site monitoring consists of a gas meter (O_2, LEL, CO, H_2S), a photoionization detector (PID), and a particulate monitor. The types of monitoring instruments specified by the hazard, as well as the action levels to upgrade personal protection, are shown on Table 2. All ambient measurements taken to evaluate employee exposures must be taken in the individual's breathing zone except combustible gas readings, which must be taken at the point where the explosion hazard is thought to exist and must be fairly constant for at least 30 seconds.

5.2.1 Instrument Calibration

All the utilized instruments will be calibrated prior to use. Readings will be recorded on the Daily Instrument Calibration Record Sheet provided in Appendix A.

5.2.2 Background Readings

Before any field activities commence, background levels at the site must be read and noted. Daily background readings must be conducted away from and upwind of areas of potential contamination. Monitoring personnel must avoid potential interference such as engine exhaust.

5.2.3 Air Monitoring Frequency

All site readings must be noted on the Daily Air Monitoring Data Sheet provided in Appendix A, along with the date, time, background level, weather conditions, wind direction and speed, and the location where the background level was recorded. Continuous monitoring will be conducted in hazardous areas as required, with results logged on an hourly basis at a minimum.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

6.1 General

PPE will be used that will protect employees from the hazards and potential hazards likely to be encountered during site activities. PPE selection is based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site. The level of protection provided will be increased when site conditions dictate that a change is necessary to reduce employee exposures to below permissible exposure limits and published levels for hazardous substances.

6.2 Levels of Protection

All field activities will be initiated at Level D, or as directed by the HSO. Intrusive activities will utilize Level D. If the action levels specified in Table 2 are exceeded, an upgrade will be made to Level C, as described in Table 3.

6.3 Respiratory Protection

If air purifying respirators are required, full face-piece respirators, with combination organic vapor and high efficiency dust and mist cartridges, will be used. Respirators belong to, and are only used and maintained by, the individual to whom they have been issued. Each K.B. Co. 2LP and subcontractor employee is required to wear respiratory equipment, must be trained, fit-tested and declared medically fit.

7.0 DECONTAMINATION

Levels of decontamination needed for the three (3) indoor subslab samples and the four (4) outdoor soil vapor samples will vary as described below.

7.1 Standard Procedures (for outdoor soil vapor samples)

1. A decontamination area will be located between the upwind boundary of the Exclusion Zone (termed the Hot Line) and the Support Zone boundary.

2. A personnel decontamination station (PDS) will be established.

3. All personnel will proceed through the appropriate contamination reduction sequence upon leaving the contamination area.

4. All protective gear will be left on-site during any lunch break following decontamination procedures.

5. Material Safety Data Sheets (MSDSs) for chemicals used during decontamination procedures will be made available to those who are potentially exposed to these chemicals (see also Section 10.0, Hazard Communication (below)).

7.2 Decontamination of Equipment

To the extent possible, measures should be taken to prevent contamination of sampling and monitoring equipment. Sampling devices may become contaminated; however, monitoring instruments, unless they are splashed, usually do not become contaminated. Once contaminated, it is difficult to clean instruments without damaging them. Any delicate instrument that cannot be decontaminated easily should have a bag taped and secured around it. Openings should be made in the bag for sample intake.

7.2.1 Sampling Devices

Sampling devices require special cleaning. Decontamination of all sampling equipment should be performed in accordance with approved quality assurance plans.

7.2.2 Tools

Hand-powered tools used indoors for the indoor subslab samples will be rinsed in between each location.

7.2.3 Respirators

Certain parts of contaminated respirators, such as the harness assembly and cloth components, require careful decontamination. If grossly contaminated, they may need to be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush. Persons responsible for decontaminating respirators will be thoroughly trained in respirator maintenance.

7.2.4 Heavy Equipment

Heavy equipment such as drill rigs, used outdoors will be cleaned within the Contamination Reduction Zone utilizing a power washer and hand tools (shovels and scrapers) to remove soil accumulated on the vehicle within the Exclusion Zone. Since contaminated water, if any, should not exceed current contamination levels as previously described in the site characterization, water generated during the decontamination process will be directed back into the Exclusion Zone. Potentially contaminated soil removed from heavy equipment during the decontamination process will be collected and placed back into the Exclusion Zone. In some cases, shovels, scoops, and lifts must be sandblasted or steamed. Particular care must be given to those components in direct contact with contaminants, such as tires and scoops.

7.2.5 Sanitizing of Personal Protective Equipment

Respirators, reusable protective clothing, and other personal articles must be both decontaminated and sanitized before reuse. The inside of masks and clothing becomes soiled because of exhalation, body oils, and perspiration. The manufacturer's instructions should be followed to sanitize the respirator mask. If practical, protective clothing should be machine washed after a thorough decontamination; otherwise, it must be cleaned by hand.

7.2.6 Persistent Contamination

In some instances, clothing and equipment will become contaminated with substances that cannot be removed by normal decontamination procedures. A strong detergent (industrial grade) may be used to remove such contamination from equipment if it does not destroy or degrade the protective material. If persistent contamination is expected, disposable garments or over-garments should be used. Testing for persistent contamination of protective clothing and appropriate decontamination must be performed by qualified laboratory personnel.

7.2.7 Disposal of Contaminated Materials

All materials and equipment used for decontamination must be disposed of properly, or properly decontaminated prior to leaving the Contamination Reduction Zone. Clothing, tools, buckets, brushes, and all other equipment that is contaminated must be secured in drums or other containers and labeled. Clothing not completely decontaminated on-site should be secured in plastic bags before being removed from the site.

Contaminated wash and rinse solutions should be contained by using step-in containers (e.g., child's wading pool) to hold spent solutions.

7.3 Minimal Decontamination

Less extensive procedures for decontamination can be established under the following conditions: when disposable clothing and equipment are used, the type and degree of contamination become known, or the potential for transfer of contaminated soil is judged to be minimal by the HSO in consultation with the Project Manager. This would include the use of Level D+ modified PPE (Tyvek suit, gloves, boots with no respirator). The decontamination procedure D+ would be the following:

Maximum Measures for Level D+ Decontamination

Station 1 - Segregated Equipment Drop

Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in plastic-lined containers. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be setup within this area.

Station 2 - Boot and Glove Wash

Scrub boots and gloves with decon solution or detergent and water.

Station 3 – Boot Wash and Glove Rinse

Rinse off decon solution from Station 2 using as much water as necessary.

Station 4 - Tape Removal

Remove tape from around boots and gloves and deposit it in the plastic-lined container.

Station 5 - Boot Cover Removal

Remove disposable boots and deposit them in the plastic-lined container. If non-disposable boots are utilized, store for later use.

Station 6 - Outer Glove Removal

Remove outer gloves and deposit them in the plastic-lined container.

Station 7 - Remove Tyvek Suit

Deposit used Tyvek suit in plastic-lined container.

Station 8 - Inner Glove Wash

Wash inner gloves with decon solution, if necessary.

Station 9 - Remove Inner Gloves

Remove inner gloves and deposit them in the plastic-lined container.

7.4 Closure of the Personnel Decontamination Station

All disposable clothing and plastic sheeting used during the operation should be double bagged, labeled, and either contained on-site or removed to a client-approved disposal facility. Cloth items should be bagged and removed from the site for final cleaning. All wash tubs, pails, containers, etc. should be thoroughly washed, rinsed, and dried prior to removal from the site.

7.5 Level C Decontamination

The maximum decontamination layout for Level C is shown in Figure 3. A description is given below.

Maximum Measures for Level C Decontamination

Station 1 - Segregated Equipment Drop

Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in plastic-lined containers. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be setup within this area.

Station 2 - Boot Cover and Glove Wash

Scrub outer boot covers and gloves with decon solution or detergent and water.

Station 3 - Boot Cover and Glove Rinse

Rinse off decon solution from Station 2 using as much water as necessary.

Station 4 - Tape Removal

Remove tape from around boots and gloves and deposit it in the plastic-lined container.

Station 5 - Boot Cover Removal

Remove boot covers and deposit them in the plastic-lined container.

Station 6 - Outer Glove Removal

Remove outer gloves and deposit them in the plastic-lined container.

Station 7 - Suit and Boot Wash

Wash splash suit, gloves, and safety boots. Scrub with long-handled scrub brush and decon solution.

Station 8 - Suit, Boot, and Glove Rinse

Rinse off decontamination solution using water. Repeat as many times as necessary.

Station 9 - Cartridge or Mask Change

If worker leaves the Exclusion Zone to change cartridges (or mask), this will be the last step in the decon procedure. After worker's cartridges are exchanged, new outer gloves and boot covers donned, and joints taped, worker returns to duty.

Station 10 - Safety Boot Removal

Remove safety boots and deposit them in the plastic-lined container.

Station 11 - Splash Suit Removal

With assistance from a helper, remove splash suit. Deposit it in the plastic-lined container.

Station 12 - Inner Glove Wash

Wash inner gloves with decon solution.

Station 13 - Inner Glove Rinse

Rinse inner gloves with water.

Station 14 - Face-Piece Removal

Remove face-piece and deposit it in the plastic-lined container. Avoid touching face with fingers.

Station 15 - Inner Glove Removal

Remove inner gloves and deposit them in the plastic-lined container.

Station 16 - Inner Clothing Removal

Remove clothing soaked with perspiration and place it in the plastic-lined container. Do not wear inner clothing off-site because there is a possibility that small amounts of contaminants might have been transferred in removing the fully encapsulating suit.

Section 17 - Field Wash

Shower if highly toxic, skin-corrosive, or skin-absorbable materials are known or suspected to be present. Wash hands and face if shower is not available.

Station 18 - Re-Dress

Put on clean clothes.

8.0 EMPLOYEE TRAINING ASSIGNMENTS

8.1 General

All employees working on-site who are exposed to hazardous substances, health hazards, or safety hazards; their supervisors; and the management responsible for the site must receive training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances or safety or health hazards. Employees will not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility.

8.2 Initial Training

Workers regularly on-site will receive a pre-entry orientation to site health hazards, a review of the established Hazard Communication Program, and a copy of this HASP. Site workers who enter the Exclusion Zone or Contamination Reduction Zone must possess 40-hour Hazardous Waste Operations training in accordance with OSHA's Hazardous Waste Operations and Emergency Response Rule, 29 CFR 1910.120. In addition, site personnel who enter these areas must also have a valid 8-hour refresher class.

8.3 Management and Supervisor Training

On-site management and supervisors directly responsible for, or who supervise employees engaged in, activities that may expose workers to health hazards will receive 24 hours of initial training, 3 days of supervised field experience, and at least eight (8) additional hours of specialized supervisory training.

8.4 Refresher Training

Managers and supervisors will receive eight (8) hours of refresher training annually.

8.5 Health and Safety Orientation Meeting

Prior to commencing work at the site, the HSO shall conduct an orientation meeting to familiarize all site workers with the site-specific HASP. All subcontractors scheduled to be on-site must attend.

9.0 STANDARD OPERATING PROCEDURES

9.1 Organizational Structure and Responsibilities

Health and safety is a project management responsibility. The K.B. Co. 2LP Project Manager is fully accountable for carrying out assigned work for each project in compliance with the firm-wide Health and Safety Program and this document.

9.1.1 Health and Safety Officer (HSO)

The HSO:

1. Assures that K.B. Co. 2LP on-site personnel have read and clearly understand the provisions of this plan prior to on-site activities, including the procedures for handling emergencies and the location and use of first aid equipment.

2. Assures that K.B. Co. 2LP personnel are aware of the potential hazards associated with site operations.

3. Assures that the personnel protective equipment (PPE) designated in this plan is available and used properly by all K.B. Co. 2LP on-site personnel.

4. Supervises the safety performance of all personnel to ensure that the required work practices are employed.

5. Prepares accident/incident reports and other forms.

6. Oversees implementation of the project HASP and informs the K.B. Co. 2LP Project Manager of any additions or modifications that may be appropriate.

7. Checks with the K.B. Co. 2LP Project Manager or his designee to see that assigned personnel have correct Fit for Duty medical authorization.

8. Determines that monitoring equipment is used properly and is calibrated in accordance with manufacturer's instructions or other standards, and that results are properly recorded and filed.

9. Provides on-going review of the protection level needs as project work is performed, and informs the K.B. Co. 2LP Project Manager of the need to upgrade or downgrade protection levels.

10. Requires correction of unsafe or potentially unsafe working conditions, or stops work in emergencies until such conditions are corrected.

11. Obtains a copy of contractor and subcontractor HASP.

12. Directs/assists the Health and Safety Specialist (HSS).

9.1.2 Health and Safety Specialist (HSS)

1. Immediately reports any accidents or unsafe conditions to the HSO.

2. Implements the procedures detailed in the HASP.

3. Conducts air monitoring as noted in the HASP.

9.1.3 K.B. Co. 2LP Site Personnel

Project personnel involved in on-site operations are responsible for:

1. Taking reasonable precautions to prevent injury to themselves and to their fellow employees.

2. Performing only those tasks that they believe they can do safely, and immediately reporting any accidents or unsafe conditions to the HSO.

3. Implementing the procedures set forth in the HASP, and reporting and deviations from the procedures described in the plan to the HSO.

4. Notifying the HSO of any special medical problems (i.e. allergies) and insuring that on-site personnel are aware of any such problems.

9.2 Cold Stress

Site work is to be conducted during the heating season and therefore cold stress is a concern to the health and safety of personnel who will be conducting the soil vapor investigation outdoors. Because disposal clothing such as Tyvek does not "breathe", perspiration does not evaporate and the suits can become wet. Wet clothes combined with cold temperatures can lead to hypothermia. If the air temperature is less than 40 degrees Fahrenheit (°F) and employee perspires, the employee must change to dry clothes.

Wearing PPE also puts a worker at a considerable risk for developing heat stress. This can result in health effects ranging from heat fatigue to serious illness or death. Consequently, regular monitoring and other precautions are vital.

Signs and Symptoms of Cold Stress

- Incipient frostbite is a mild form of clod stress characterized by sudden blanching or whitening of the skin.

- Chilblain is an inflammation of the hands and feet caused by exposure to cold moisture. It is characterized by a recurrent localized itching, swelling, and painful inflammation of the fingers, toes, or ears. Such a sequence produces severe spasms, accompanied by pain.

- Second-degree frostbite is manifested by skin which has a white, waxy appearance and is firm to the touch. Individuals with this condition are generally not aware of its seriousness, because the underlying nerves are frozen and unable to transmit signals to warm the body. Immediate first aid and medical treatment are required.

- Third-degree frostbite will appear as blue, blotchy skin. This tissue is cold, pale and solid. Immediate medical attention is required.

- Hypothermia develops when body temperature falls below a critical level. In extreme cases, cardiac failure and death may occur. Immediate medical attention is warranted when the following symptoms are observed:

    - Involuntary shivering;
    - Irrational behavior;
    - Slurred speech; and/or
    - Sluggishness.

9.3 Use of Hand Tools and Portable Power Tools

Hand tools should be kept in good repair and used only for their designated purposes. Proper protective eye wear should be worn when using hand tools and portable power tools. Unguarded sharp-edged or pointed tools will not be carried in employees' pockets.

The use of tools with mushroomed heads, split or defective handles, worn parts, or other defects will not be permitted. Tools that have become unsafe will be reconditioned before reissue or discarded.

Throwing or dropping of tools from one level to another will not be permitted; rather, containers and hand lines should be used for transporting tools from one level to another.

Non-sparking tools will be used in atmospheres where sources of ignition may cause fire or explosion.

Electric-powered shop and hand tools will be of the double-insulated, shock-proof type or be effectively grounded. Power tools should be operated only by designated employees who are familiar with their use.

9.4 Drilling

9.4.1 General Requirements

- The Project Superintendent will be the competent person as identified in Section 1.0 and Section 3.5.1. This person will also be responsible for proper mark-out of underground utilities.

- Inspection of the site by a competent person is required daily, or following a natural or man-made event that may alter conditions. If there is evidence of possible cave-ins, protective system failure, hazardous atmospheres, or other hazardous conditions, employees at risk must be removed until corrective steps have been taken.

- Warning systems for mobile equipment are required, such as barricades, hand or mechanical signals, or stop logs.

- When drilling in rock or other dust-producing material, the dust should be controlled within the OSHA Permissible Exposure Limits (PELs).

Protection of the Public

Necessary barricades, walkways, lighting, and posting should be provided for the protection of the public prior to the start of excavation. Drilling operations on or near State, county, or city streets, access ways, or other locations where there is extensive interface with the public and/or motorized equipment will not start until all of the following actions have been taken:

- The contractor has contacted the authority having jurisdiction and obtained written permission to proceed with protective measures required.
- The contractor, using the authority's instructions and these standards, has developed an extensive and detailed Standard Operating Plan.
- The plan has been discussed with affected employees, and applicable protective measures are in place and functioning.

Personal Protective Equipment

PPE will be provided and used in accordance with the specific requirements set forth in the plan. Site personnel must wear approved safety goggles or safety glasses with side shields, hearing protection, hard hats, and safety shoes.

Removal of Trees and Brush

Prior to excavation, trees, brush, boulders, and other surface obstacles that present a hazard to employees should be removed.

10.0 HAZARD COMMUNICATION

10.1 General

K.B. Co. 2LP and its subcontractors will comply with the OSHA Hazard Communication Standard (HCS) found in 29 CFR 1910.1200 and 29 CFR 1926.59, which applies to any chemical present in the workplace in such a manner that employees may be exposed under normal conditions of use of in a foreseeable emergency. Although waste materials are excluded from the OSHA requirement, decontamination chemicals for sampling apparatus or protective clothing (such as acetone or trisodium phosphate) and calibration standards (such as isobutylene gas) require Material Safety Data Sheets (MSDSs).

The principle of communicating the hazards of materials used in the workplace to employees applies broadly to firm-wide activities, from informational programs on the conduct of hazardous waste activities to the firm's insistence upon adequate safety and health training. It is also important for personnel to have an awareness of client concern for Hazard Communication due to Federal, State, and local regulations directly affecting certain client activities.

10.2 Compliance Requirements

In order to comply with Hazard Communication Standard (29 CFR 1910.1200), K.B. Co. 2LP has determined that:

- All containers of hazardous chemicals must be appropriately labeled or tagged to identify the hazard and provide information on effects and appropriate protective measures.
- Labels, tags or signs must be properly affixed and visible at all times while a hazard is present and removed promptly when the hazard no longer exists.
- Written information (MSDS) on hazardous chemicals in the workplace must be available to employees working with the substance.
- Appropriate MSDS will be available to any contractor or subcontractor employees working at the site.

11.0 POSTING OF NOTICE

Under provisions of Title 29, CFR Part 1903.2(a)(1), employers must post a notice, furnished by OSHA, informing employees of the protection and obligations provided for in the OSHA Act of 1970.

Where a site office is established, this notice will be posted in a conspicuous place or places where notices to employees are customarily placed.

12.0 FORMS

The following forms will be provided to the HSO for use at the job site:

- Authorized Site Personnel
- Accident/Exposure Form
- Daily Air Monitoring Data Sheet
- Daily Instrument Calibration Record Sheet
- Exclusion Zone Daily Log
- Project Exposure History Form
- Signature and Acknowledgement of Review of HASP

Refer to Appendix A for the field forms noted above.

13.0 MATERIAL SAFETY DATA SHEETS (MSDS)

MSDS will be available on-site. MSDS will be available for TCE and PCE at a minimum.

27017/Reports/HASP/Revised_January 2008/Revised_HASP_txt_revFeb2008.doc

TABLES

TABLE 1

K.B. CO. 2LP
ANCHOR CHEMICAL SUPERFUND SITE
SITE #130021
VILLAGE OF HICKSVILLE, TOWN OF OYSTER BAY, NASSAU COUNTY, NY

EXPOSURE LIMITS AND RECOGNITION QUALITIES

Compound	PEL	STEL	IDLH	SKIN DESIGNATION	ODOR THRESHOLD
Acetone	250		2,500	Yes	Yes
1,1,1 – Trichloroethane (1,1,1 – TCA)	--	--	--	--	--
Trichloroethene (TCE)	--	--	--	--	--
Tetrachloroethene (PCE)	--	--	--	--	--
Methylene Chloride	25	--	2300CA	--	--
Dichloroethane	--	--	--	--	--
Chlorodibromomethane	--	--	--	--	--

Notes: 1) All concentrations in parts-per-million (ppm)
2) CA means Carcinogen

TABLE 2

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

AIR MONITORING METHODS, ACTION LEVELS, AND PROTECTIVE MEASURES

Hazard	Monitoring Method	Action Level	Monitoring Schedule	Protective Measures
Organic Vapors	PID	Up to 5 ppm above background in the breathing zone	Periodically (every 30 minutes) during invasive field activities.	Level D
		5-25 ppm above background in the breathing zone	Continuous (every 30 minutes) during invasive field activities.	Level C
		>25 ppm above background in the breathing zone	Periodically (every 30 minutes) during invasive field activities.	Level B or EVACUATE AREA
Oxygen-Deficient Atmosphere	Crowcon or Equivalent	20.9%	Continue operations.	
		<20.9%	Continuous monitoring.	
		<19.5%	Do not enter. Ventilate and determine if supplied air is required. Consider that any low O^2 readings are suspect or false.	STOP WORK EVACUATE AREA
		>23.5%	Fire explosion hazard; withdraw from area immediately.	Allow to vent or eliminate source.
Explosion (LEL)	Crowcon or Equivalent	<10% LEL	Continue working.	
		10-20% LEL	Continue monitoring with caution as high levels are encountered.	Issue Warning
		>20% LEL	Explosion hazard	EVACUATE AREA Return when <10% LEL
Dust	Particulate Monitor Miniram or Equivalent	Up to 5 mg/m^3 above background in the breathing zone.	Periodically (every 30 minutes) during invasive field activities.	Level D
		5-10 mg/m^3	Periodically (every 30 minutes) during invasive field activities.	Level C
		>10 mg/m^3	Periodically (every 30 minutes) during invasive field activities.	Level B or EVACUATE AREA
Hydrogen Sulfide (H_2S)	Crowcon or Equivalent	<10 ppm	Continuous in hazardous areas; continue working	Level D

TABLE 2 (continued)

Hazard	Monitoring Method	Action Level	Monitoring Schedule	Protective Measures
Hydrogen Sulfide (H_2S)		10-20 ppm	WARNING. Evaluate and implement engineering controls to lower concentration <10 ppm.	Level C (if cannot decrease concentrations)
		>20 ppm	EVACUATE; STOP WORK	Return to work <10 ppm
Carbon Monoxide (CO)	Crowcon or Equivalent	<35 ppm	Continuous in hazardous areas.	Level D
		>35 ppm	EVACUATE; STOP WORK	Evaluate and implement mitigative measures

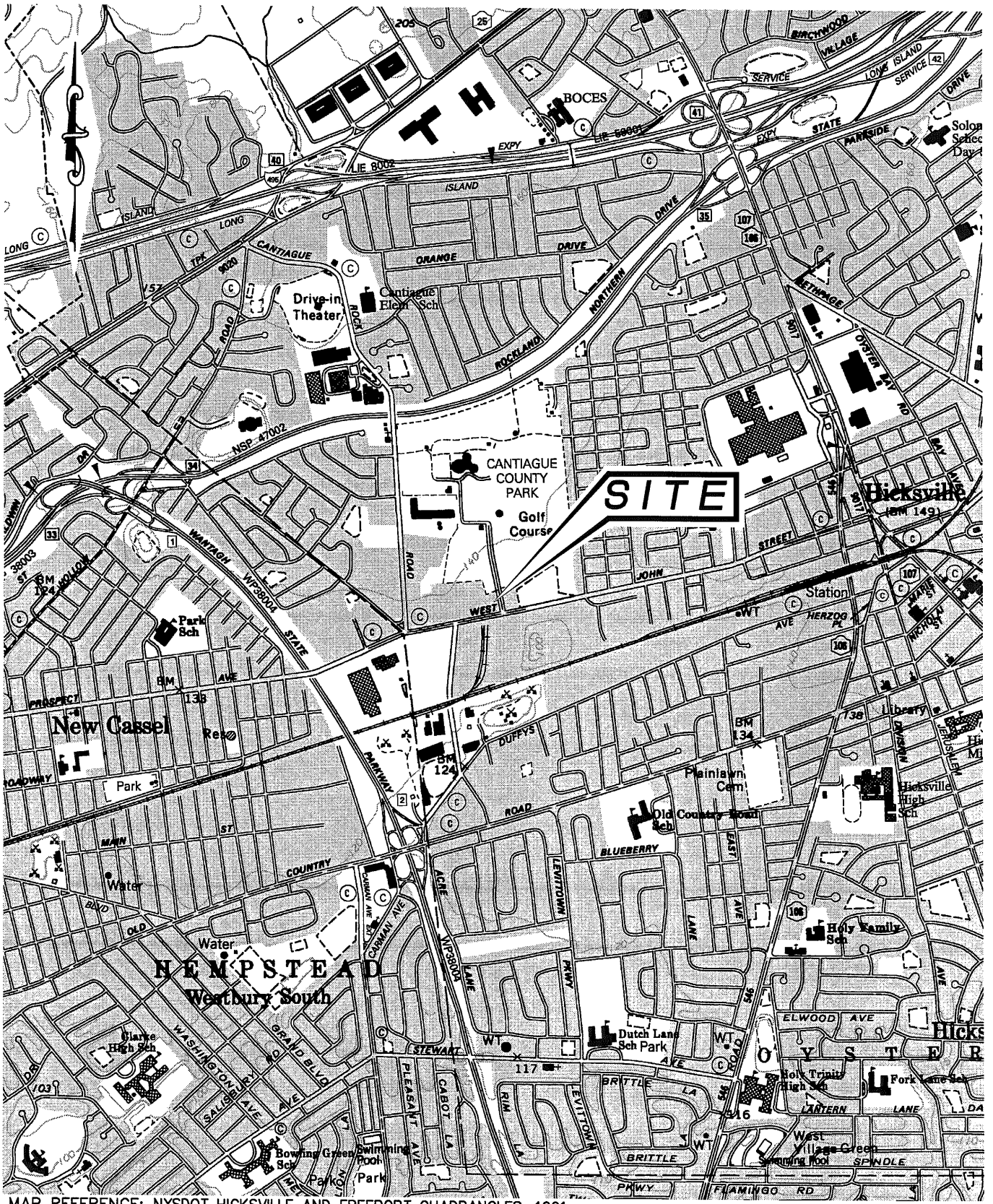
TABLE 3

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

PROTECTIVE EQUIPMENT FOR ON-SITE ACTIVITIES

ACTIVITY	LEVEL	PROTECTIVE EQUIPMENT
Working in areas where action levels are exceeded	C	• Full face piece air purifying respirator • Chemical resistant clothing • Inner and outer chemical resistant gloves • Safety boots (steel toe/shank) • Hard hat • Hearing protection (optional, if warranted)
Working in areas having potential contact with contaminated soil or groundwater. Air monitoring indicates atmosphere is below action level.	D+	• Hard Hat • Safety goggles • Tyvek coveralls • Outer chemical resistant gloves and inner latex gloves • Safety boots (steel toe/shank) • Joints between gloves, boots and suit must be taped • Hearing protection (optional, if warranted)
Working in areas where contact with potentially contaminated soil and groundwater has been removed. Air monitoring indicates atmosphere is below action level.	D	• Work clothes or overalls • Safety boots (steel toe/shank) • Safety glasses or goggles • Hard Hat • Hearing Protection (optional, if warranted)

FIGURES



MAP REFERENCE: NYSDOT HICKSVILLE AND FREEPORT QUADRANGLES, 1991.

FIGURE 1

STERLING

Sterling Environmental Engineering, P.C.

24 Wade Road ♦ Latham, New York 12110

SITE LOCATION MAP

K.B. CO. 2LP

ANCHOR CHEMICAL SUPERFUND SITE

VILLAGE OF HICKSVILLE NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	8-2-07	SCALE:	1" = 2000'	DWG. NO.	27017001	FIGURE	1

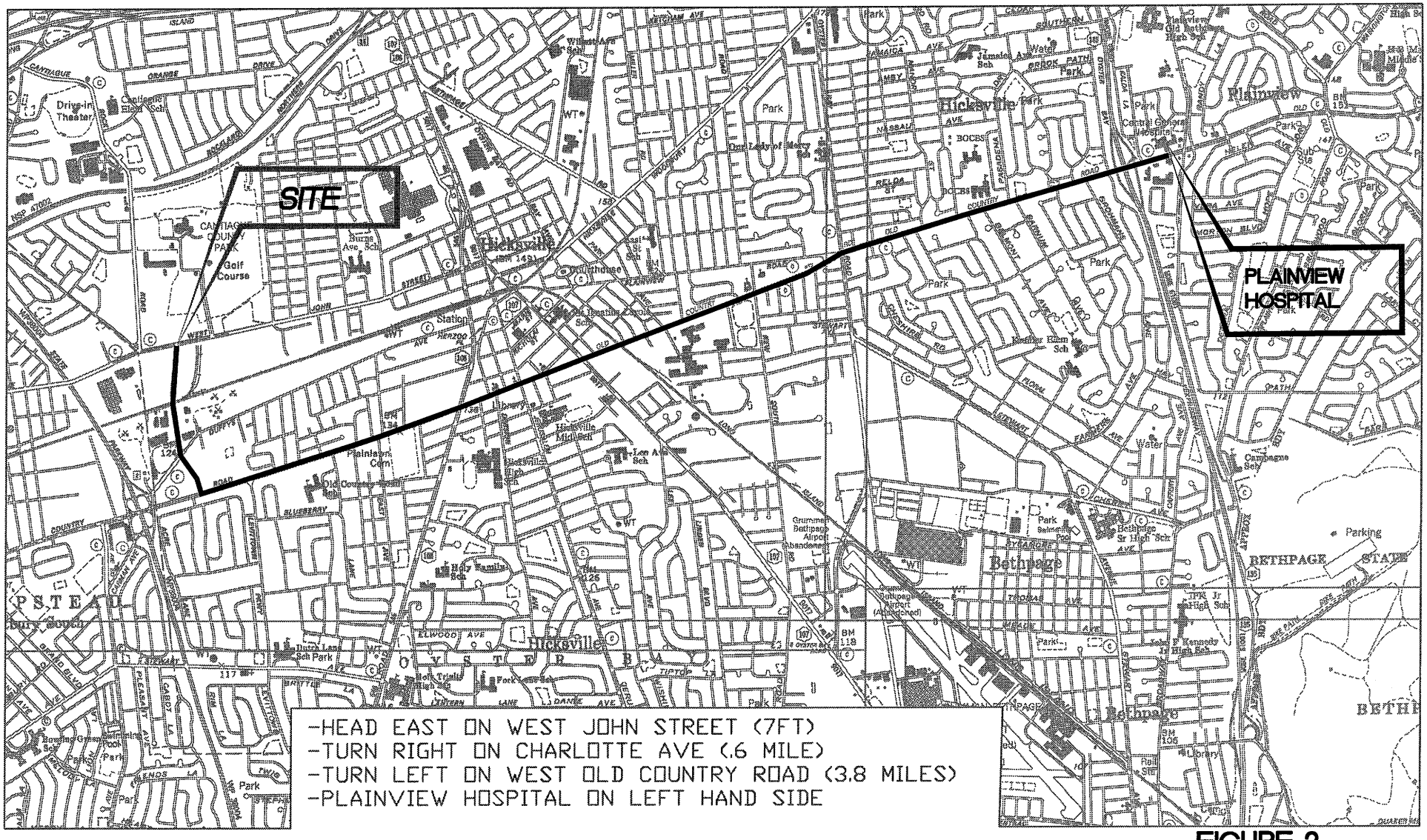


FIGURE 2

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

HOSPITAL ROUTE
K.B. CO. 2LP
ANCHOR CHEMICAL SUPERFUND SITE
VILLAGE OF HICKSVILLE NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	10-22-07	SCALE:	NOT TO SCALE	DWG. NO.	27017002	FIGURE	2

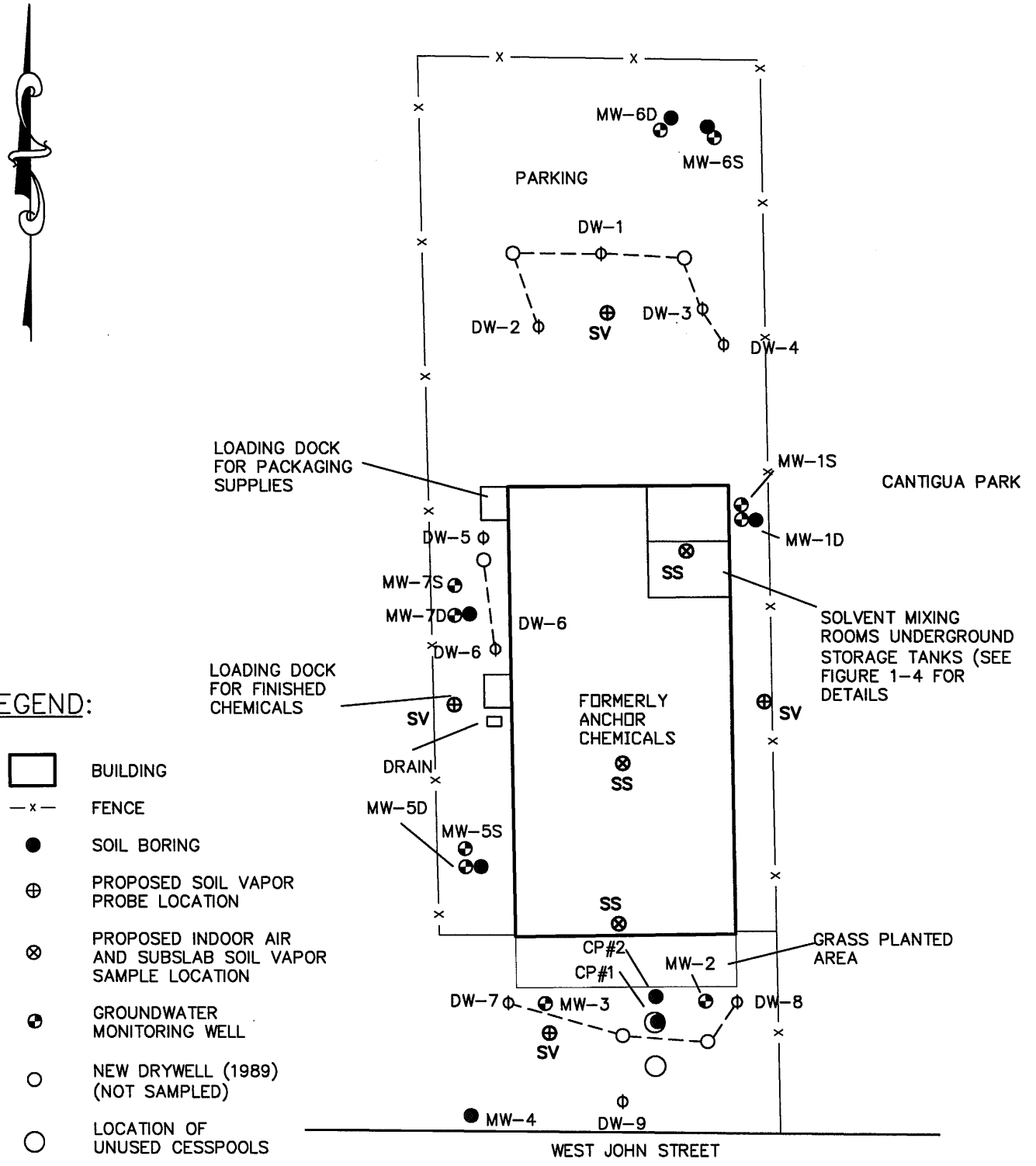


FIGURE 3

STERLING

Sterling Environmental Engineering, P.C.

24 Wade Road ♦ Latham, New York 12110

APPROXIMATE GROUNDWATER, SOIL AND SEDIMENT SAMPLING LOCATIONS

K.B. CO. 2LP

ANCHOR CHEMICAL SUPERFUND SITE

VILLAGE OF HICKSVILLE NASSAU CO., N.Y.

PROJ. No.:	27017	DATE:	8-2-07	SCALE:	N.T.S.	DWG. NO.	27017005	FIGURE	3

APPENDIX A

FIELD FORMS

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

AUTHORIZED SITE PERSONNEL

Name	Medical Exam	Initial (40 hr.) Training	Site Supervisor Training	Refresher Training	Respirator Fit Test and Training

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

ACCIDENT/EXPOSURE FORM

Employee Name_____
Date of Birth_____
Home Address_____
Tel. No._____
Sex: Male_____Female_____Job Ttile_____
Social Security No._____
Where did accident or exposure occur_____
_____
_____
What was employee doing when injured (be specific)_____
_____
_____
_____
How did accident or exposure occur?_____
_____
_____
_____
What steps should be taken to prevent such an occurrence_____
_____
_____
_____
_____
Object or substance that directly injured employee_____
_____
_____
Describe injury_____
_____
Name and address of physcian_____
_____
Name and address hsopital_____
_____
Date of injury_____Time of injury_____

Completed by (print)_____

Signaure/Title_____
Date_____

This form must be completed by the HSO or Project Manager immediately upon learning of the incident. This form must be kept on file at the office trailer, and a copy must be transmitted to the main office.

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

DAILY AIR MONITORING DATA SHEET

Estimated Wind Direction/Speed/Weather Conditions _____

_____

Date _____

Field Activities _____

_____

_____

Sample Location	Start Time	Stop Time	H2S ppm	CO ppm	LEL %	O2 %	VOCs ppm	Comments

Additional Notes: _____

_____

_____

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

DAILY INSTRUMENT CALIBRATION RECORD SHEET

Note: One sheet per instrument per day.

Instrument: _____

Serial Number: _____

DATE	Calibration Gas Type/Concentration	Response	Calibrated (Y/N)

COMMENTS:

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

EXCLUSION ZONE DAILY LOG

Date_____

Name of Person Entering Exclusion Zone	Signature	Date

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

PROJECT EXPOSURE HISTORY FORM

Form to be completed by HSO, HSS or Project Manager

Date from/to:_____

B. Anthony Construction Corp. Personnel On-site

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

SUSPECTED CONTAMINANTS (list) **VERIFIED CONTAMINANTS/MEDIA**

ANCHOR CHEMICAL SUPERFUND SITE
OYSTER BAY, NASSAU COUNTY, NEW YORK
(SITE NO. 130021)

SIGNATURE AND ACKNOWLEDGEMENT OF REVIEW OF HASP

NAME	SIGNATURE	COMPANY	DATE