FINAL WORK PLAN
SITE CHARACTERIZATION
SHAMES DRIVE INDUSTRIAL PARK
(Site No.:1-30-173)
Westbury, New York

Prepared for

New York State Department of Environmental Conservation
Investigation and Design Engineering Services
Standby Contract No. D004437
Work Assignment No. D004437-11

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January 2008

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Section 1
Introduction

This Work Plan for Shames Drive Industrial Park (herein referred to as the "Site") was prepared by Camp Dresser and McKee Inc. (CDM) for the New York State Department of Environmental Conservation (NYSDEC) under the Engineering Services for Investigation and Design, Standby Contract No. D004437. Background and site information used in the development of this Work Plan was furnished by NYSDEC and from the record search conducted by CDM. The work plan was developed in accordance with the "State Superfund Standby Contract Work Assignment D004437-11, Site Characterization, Shames Drive Industrial Park, Site No. 130173."

The Shames Drive Industrial Park is comprised of twenty-six municipal lots (Figure 1-1 and 1-2). The Industrial Park is identified by a looped roadway, Shames Drive, accessible from Brush Hollow Road in Westbury, Nassau County, Long Island, New York. The property is comprised of Nassau County Section 11, Block B, Lots 938, 935, 962, 1073, 1048, 1050, 1052, 918, 954, 955, 956, 1014, 965, 959, 960, 964, 1050, 958, 923, 970, 921, 922, 930, 941, 934, and 933. Each property is improved with an industrial, commercial, or office building. The address and current occupant of each lot is identified on Figure 1-3.

1.1 Purpose and Objectives

The primary objective of this work assignment is to determine if on-site sources of contamination are present within the industrial park which would warrant the site being listed as a New York State Hazardous Waste Site. A secondary objective is to determine if the industrial park properties have been impacted by upgradient sources of contamination, specifically, the Solvent Finishers Site. The Solvent Finishers Site is former industrial dry cleaner located at 601 Cantiague Rock Road and is suspected to be a strong potential source of groundwater contamination. The investigation will focus on determining groundwater flow direction, the level of contamination, and the possible sources of contamination. The results of the investigation will be used to determine if the site should be listed as a New York State Hazardous Waste Site. Field tasks for this investigation are:

- Perform a geophysical survey to identify subsurface utilities and clear the boring locations prior to drilling;

- Perform a soil vapor intrusion evaluation at Orly's Treehouse, a child care facility, located at 1000 Shames Drive (Lot 935), to determine the presence of soil vapors in the unsaturated zone that may impact the indoor air quality in the on-site structure.

- Install monitoring wells at six locations of concern, at which groundwater samples will be collected, to determine the presence of groundwater contamination. The six locations include one location situated upgradient of the industrial park to

determine if groundwater within the industrial park is being impacted by upgradient sources of contamination.

- Survey the locations and elevations of the six monitoring wells to enable determination of groundwater flow direction within the industrial park. Soil vapor points will also be surveyed to enable placement of the locations on a site map.

- Dispose of investigation derived waste

1.2 Site Description and Background

1.2.1 Site Description

The combined acreage of all industrial park properties is 24.2369 acres. Shames Drive is located in Nassau County, Long Island, NY and spans across the towns of Westbury, Jericho and Oyster Bay. See Figures 1-1 and 1-2 for site location maps. According to the USGS *Hicksville, New York* 7.5-Minute topographic map (1979), the site lies approximately 160 feet above mean sea level (msl).

The property is surrounded by commercial and industrial properties. The site is bound to the north by Montrose Road, to the west by Brush Hollow Road, to the south by the North Fork Theatre, and to the east by Cantiague Rock Road and commercial/ industrial buildings. Each property in the industrial park is improved with buildings constructed in the late 1950s early 1960s. Solvent Finishers is located northwest of the industrial park.

1.2.2 Operational and Remedial History

Development of Shames Drive first began in the 1940s with a farm and residential buildings. Based on the 1947 Hicksville 7.5 minute topographic map and a 1953 aerial photo a driveway leading to three structures, likely a house and farm buildings, existed. A cleared area just south of the buildings is visible and was likely utilized as farmland. The size and shape of the clearing, combined with the geographic location of the site, set the outline for the construction of Shames Drive. Nearly all the lots and all the buildings as they exist today were constructed in the late 1950s and 1960's. Historic Sanborn maps and Nassau County property cards show that nearly all of the buildings along Shames Drive were constructed between 1958 and 1961, with improvements such as additions, garages, shops, and paving being completed shortly after.

The majority of the Shames Drive properties were first developed for manufacturing and industrial use. The properties have remained fairly unchanged in construction and design with only interior reconstruction and changes in occupancy over the years. Please refer to the Records Search Report for a detailed description of each property within the Site. Based on information obtained from the records review, 14 properties of concern were identified (Table 1-1) as having the potential to have impacted groundwater at the Site. In addition, a childcare center operates at 1000 Shames Drive (Lot 935). NCDOH records indicate that low levels of volatile organic compounds (VOCs) were identified in cesspool water and soil on the property. As

such, CDM recommended investigation on this property to evaluate the potential exposure to the children at the facility.

Table 1-1
Properties of Potential Concern

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
938	100 Shames Dr	First Investors Corp	Financial services	1958- Intercontinental Electronics 1971- Jasik Laboratories, Inter-County Tabulating Co.,Inc.	Manufacture of Electronics equipment, research/development of high frequency antenna and microwave transmission systems, tabulating services	two 8,000-gal gasoline USTs previously on site
921	400 Shames Dr	General Welding Supply Co.	Sales of welding supplies and industrial/medical gases	1958- General Welding Supply Corp. Welding Supplies, Inc.	Warehouse and sales of welding supplies	2,000-gal and 4,000-gal USTs previously on site – contents unknown
922	500 Shames Dr	Verizon	Telecommunications	1957- Stanant MFG Company, Inc., 1992- NY Telephone Bell Atlantic	Machine shop; Maintenance garage, telecommunications	1990- cesspool soils contained halogenated hydrocarbons & heavy metals; presence of a long grate-like drain w/ unknown discharge point; former waste oil tank, gasoline UST
930	600 Shames Dr	General Welding Supply Co.	Sales of welding supplies and industrial/ medical gases	Westbury Industrial Development Corp., Universal oven Corp	Welding and steel cutting	Welding and steel cutting operations
941	700 Shames Dr	California Closet Co	Sales of storage & closet equipment supplies & materials	1957- SemCo Westbury Industrial Development Corporation & Champion Storm-Sash Co 1990-Wesbury Alloys	Aluminum sash fabrication. Warehouse and masonry shop Refining & smeltering precious metals	Refining and smeltering precious metals using hydrochloric acid, nitric acid and cyanide 2,550-gal spent acid UST previously on site
1073	1200 Shames Dr	Multi Occupant	Multi Use: Jordan Fashions; MTS Power Systems; Delfino Insulation Co., Inc.	1958-HITEMP Wires Co, a Div. of the Simplex Wire and Cable Corp.	Manufacture of wire insulation	Most upgradient property; former on-site manufacturing

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
962	1300 Shames Dr	Miller Envirn. Group Inc.	Environmental consulting services	1958- SemCo Aircraft Turbine Services	Manufacture, testing and repair of aircraft components	Former manufacture and repair of aircraft parts; former oil ASTs and UST.
956	1500 Shames Dr	National Molding and Ornament	Sales of lumber and millwork	1958 - Slantco (aka Slant Fin Corporation), 1965 -Hallmark Lithographers, 1977-Slant Fin	Metal casting foundry, Print shop	complaints regarding noxious odors; former metal casting and print shop operations
1014	1600 Shames Dr	AVAD Metro east Distributors	Sales of audio components; flat panel TVs and home theatre systems	1957- Electronic Equipment Manufacturing 1967 Radiation Dynamics Inc.	Manufacture of electronics	Former radiation on site.
965	1700 Shames Dr	Sprague Goodman Electronics	Manufacture of trimmer capacitors, assembly of electronic parts & electroplating / metallizing of dielectric tubes	1959- Electronics Equipment Manufacturing 1960- Power Designs Inc., P-Electronics Inc.	Office/ factory use; manufacturing of trimmer capacitors, assembly of electrical parts, & electroplating/ metallizing of dielectric tubes	Copper sulfate, stannous sulfate, 1,1,1,-trichloroethane (1,1,1-TCE), and methyl alcohol for degreasing is used during processing. Rinses from copper and tin plating discharged to a pit in the process area at the front of the building
959	1800 Shames Dr	Electro Industries	Manufacture / sales of power and energy meters & power analyzer technology	1959- Radiation Dynamics, Electronics Equipment Manufacturing	Research & development of high voltage particle accelerators & manufacture of X-ray equipment	Former radiation vault on site
964	2300 Shames Dr	Kemp Metal Products, Inc	Pouring and rolling out metal ingots (zinc & nickel) and cutting into karats	1959- Precision boring Co, Kemp Metal Products, Inc, 1966- Polymer Plastics manufacturing Corp 1968- Electronics Equipment Manufacturing, Freedman 1989- accent on Lithography	Metal works, precision products and instruments, manufacture of sealers, adhesives, etc. Print shop	discharge pipe, uncapped/ un-elevated waste drums, un-designated chemical storage areas and un-posted MSDS; metal works; former use of dyes, photo developer and fixer; waste streams poured in sink; borax, hydraulic oil and cooling oil

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
958	2500 Shames Dr	BDC & Custom Install/ CEDIA Distribution	Sales of audio and video equipment and architectural and home automation products	Henry J. Green Instruments Inc., White Hixon Laboratories	Manufacture of meteorological instruments, manufacture, design, test and sales of photographic processing equipment	Manufacturing of meteorological equipment could indicate storage and use of mercury
958	2700 Shames Dr	County Fair Air Conditioning Corp	Full service mechanical contractor	1970-Clairette manufacturing Co., Martha-Theiss Inc	Unknown, office space & technical services, research, development and electronics	Instrument machining conducted on-site

1.3 Environmental Setting

The Shames Drive Industrial Park is relatively flat and lies at an approximate elevation of 160 feet above mean sea level (msl). Local topography slopes from the northeast to the southwest in the vicinity of the Site.

Based on information obtained in *Nassau County Groundwater Monitoring Program, 2002-2003,* the ground water table lies at an approximate elevation between 70 and 80 feet above msl at the Site (~80 feet below ground surface). The water table generally parallels the land surface and is expected to flow to the south-southwest. However, pumping at local public supply wells may complicate the groundwater flow direction.

1.3.1 Geology

Long Island is comprised of Cretaceous and Pleistocene unconsolidated deposits underlain by Early Paleozoic to Precambrian bedrock. The hydrogeology of Long Island has been well documented over the years by the USGS (Doriski and Wilde-Katz, 1983; Smolensky et al, 1989). Three major aquifers are present on Long Island: the upper glacial aquifer, the Magothy aquifer and the Lloyd aquifer.

1.3.1.1 Bedrock

Bedrock in the area of the Site is composed of Precambrian to Early Paleozoic igneous or metamorphic rock. Unconformably overlying the basement is a thick succession of Late Cretaceous deposits: the Raritan and overlying Magothy Formations, both of fluvio-deltaic depositional origin. The Upper Cretaceous deposits are unconformably overlain by a veneer of Pliocene and Pleistocene deposits, chiefly of glacial origin.

1.3.1.2 Cretaceous

Raritan Formation: The Raritan Formation is divided into the basal Lloyd Sand Member and the overlying Raritan Clay Member. The Lloyd Sand rests unconformably on bedrock and is about 150 feet thick in the vicinity of the Site. The top of the Lloyd Sand is found at approximately 200-250 feet below msl. It is composed of white and grey fine to coarse sand and gravel, commonly with a clayey matrix. The contact with the overlying clay member is gradational.

The Raritan Clay Member is composed chiefly of bedded variegated clay and silt, locally containing interbedded sands. Lignite fragments and iron and pyrite nodules are common. The clay member is approximately 100 feet thick in the vicinity of the Site (Smolensky, et al. 1989). The Raritan Clay is the most widespread hydrologic confining layer on Long Island. The Raritan's updip erosional pinchout generally is located subparallel to the northern coast of Nassau County. The clay unit dips gently to the south-southeast.

Matawan Group-Magothy Formation (Magothy): The Magothy unconformably overlies the Raritan; the contact is commonly marked by a change from the solid clays of the Raritan Clay Member to coarse sands and gravels of the basal unit of the Magothy. The dominant Magothy lithology generally is fine to medium quartz sand, interbedded clayey sand with silt, clay, and gravel interbeds or lenses. Interbedded clay is more common towards the top of the formation. The thickness of the Magothy varies between 100 feet in the vicinity of the Site to over 800 feet beneath the barrier islands.

1.3.1.3 Cenozoic-Quaternary

Deep erosion of the land surface took place as a response to fluctuations in sea level during the Cretaceous. Sedimentological evidence indicates that sea level falls exposed the entire Atlantic continental margin during the Miocene epoch, which would have promoted rejuvenation and deep incision of rivers and streams across the Coastal Plain. Later deposition of abundant fluvial and glacial clastic deposits during the Pliocene and Quaternary filled these incised buried valleys. The top of the Cretaceous sequence is marked by a highly irregular erosion surface upon which rests deposits of Pleistocene and, in some places, Pliocene age.

Deposits of Pleistocene age mantle the Cretaceous formations. Within the study area, the Pleistocene deposits include three depositional sequences: the fluvial Jameco Gravel and marine Gardiners Clay; and the much more widespread Late Pleistocene glacial deposits of the Wisconsin glacial stage (upper glacial deposits). Undifferentiated gravels and clays described in buried valleys within southern Long Island have been attributed to the Jameco Gravel and Gardiners Clay units. The Jameco Gravel and Gardiners Clay formations are well-defined, mapable stratigraphic units beneath the southern margin of Long Island where they are of hydrogeological significance. These stratigraphic units are not recognized in the vicinity of the Site. The remainder of the Pleistocene succession belongs to the Wisconsin glacial stage upper glacial deposits.

The thickness of the Pleistocene Upper Glacial Deposits in the study area varies but averages approximately 100 feet. The thickness and distribution of the Pleistocene Upper Glacial Deposits were controlled by the older, now buried paleotopography discussed above. The pattern of stream and river valleys that dissected the surface of Long Island during the Cenozoic likely was later modified by Pleistocene overriding ice sheets and meltwater erosion and deposition.

1.3.2 Hydrogeology

The hydrogeology of Long Island has been well documented over the years by the USGS and others. Three major aquifers are present on Long Island: the Upper Glacial aquifer, the Magothy aquifer and the Lloyd aquifer.

1.3.2.1 Lloyd Aquifer

The Lloyd aquifer overlies the saprolitic bedrock surface and is Long Island's deepest aquifer. The Lloyd sand was deposited as a series of braided streams and deltaic deposits consisting of white and pale yellow sand with interbedded lenses of gravel and white clay (Smolensky et al, 1989). The aquifer does not outcrop on Long Island and is believed to extend to the north beneath Long Island Sound in eastern Nassau County and in Suffolk County, and offshore to the south, beyond the barrier beaches. The Lloyd aquifer is confined in most places, except where the overlying Raritan clay has been eroded away. The thickness of the Lloyd aquifer varies from 0 feet where it is not present along the north shore of Nassau County, to more than 500 feet in the southeastern areas of Nassau County. The average horizontal hydraulic conductivity is reported to be approximately 40 ft/day with a 10:1 vertical anisotropy.

1.3.2.2 Raritan Clay

Overlying the Lloyd aquifer is the Cretaceous Age clay member of the Raritan Formation, referred to as the Raritan clay. The Raritan clay is the major confining unit on Long Island, ranging between 150 and 250 feet in thickness. Like the Lloyd aquifer, the Raritan clay is absent from areas of northern Queens and northern Nassau County where it had been eroded. The Raritan clay outcrops in parts of Queens, and is believed to be present north of the island beneath Long Island Sound, and south of the island, beneath the barrier islands. This confining unit consists of solid, multicolored, compact clay (gray, white, red, or tan) with interbedded lenses of sand. The average vertical hydraulic conductivity is reported to be approximately 0.001 ft/day.

1.3.2.3 Magothy Aquifer

The Magothy aquifer is an upward fining sequence of the Cretaceous Age Matawan Group consisting of fine to medium grained quartz sand, silt, clay, and gravel and is up to 1,100 feet thick. The base of the Magothy is very coarse, having been deposited in a high-energy environment involving stream and deltaic deposition. This high-energy deposition abruptly ended as fine sands, silts and clays form the majority of the unit. The Magothy Aquifer is unconfined in the site area. The Magothy aquifer is the principal water supply aquifer in Nassau and Suffolk Counties, attributing to its thickness. Its average horizontal hydraulic conductivity is reported to be approximately 50 ft/day with a vertical anisotropy of 100:1 (Smolensky et al, 1989).

1.3.2.4 Upper Glacial Aquifer

The upper glacial aquifer is the surficial unit on Long Island and is therefore entirely unconfined. Along the Harbor Hill and Ronkonkoma terminal moraines and parts of the north shore, the unit is composed of till consisting of poorly sorted clay, sand,

gravel, and boulders. The till is generally poorly permeable and may contain perched water. The outwash deposits that are found are mainly between, and south of, the moraines. The outwash deposits are moderately to highly permeable, consisting of gray, brown, and yellow fine to very coarse sand and gravel. The upper glacial aquifer ranges up to 600 feet thick, however the saturated thickness is often much lower. The estimated average horizontal hydraulic conductivity generally exceeds 225 ft/day.

1.4 Groundwater

Based on Nassau County regional groundwater information obtained in the *Nassau County Groundwater Monitoring Program, 2002-2003* (NCDPW, 2005) the water table lies at an elevation of 70 to 80 feet above mean sea level (MSL) (~80 ft bgs). Flow in the water table aquifer (Upper Glacial) is complicated by a groundwater divide located approximately 1,000 feet northeast of Cantiague Rock Road. In general, it is expected that groundwater flow at the site will be to the south/southwest, however because of its proximity to the groundwater divide there is a potential for flow to the north and south from the site as well. In addition, groundwater extraction from local public supply wells can also influence groundwater flow at the site.

Flow in the Magothy Aquifer is more towards the south/southwest near the site. Groundwater flow in the deeper Lloyd Aquifer is expected to be to the southwest.

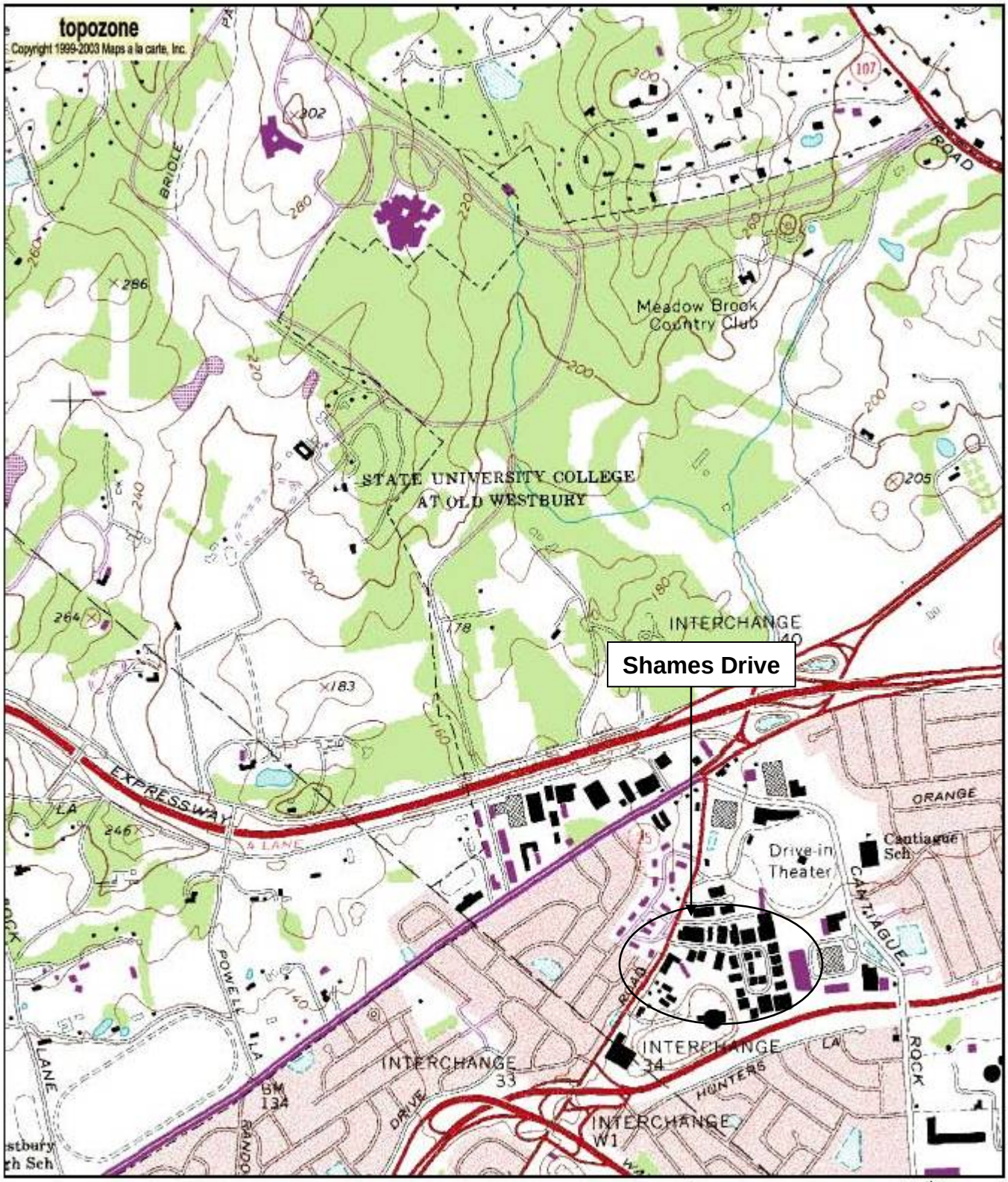


Figure 1-1
Site Location Map

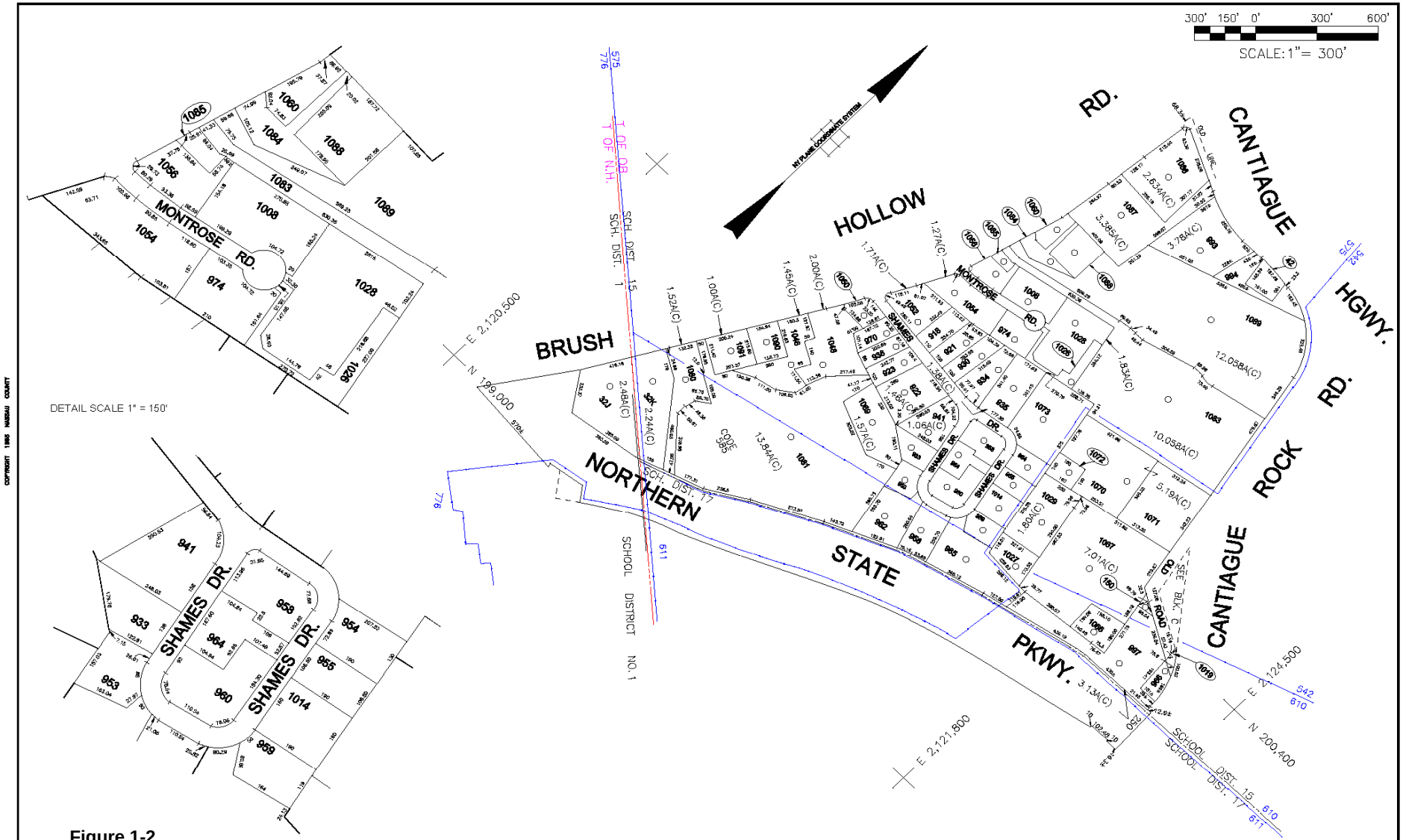


Figure 1-2

LEGEND

COUNTY LINE	
TOWN LINE	
VILLAGE LINE	
SCHOOL DISTRICT LINE	
PROPERTY LINE	
SPECIAL DISTRICT LINE	
BLOCK LINE	
LOCATOR POINT	•
TAX MAP PARCEL NO.	248
CALCULATED ACREAGE	75A(C)
DEED ACREAGE	178A
SCALED DIMENSION	327(S)
DEED DIMENSION	180.66

REFERENCE MAPS
MAP NO.

POLICE	DIST
County Police	3
WATER	
West Bay	15
Hicksville	9
Jericho	10
LIGHTING	
Town of North Hempstead	30
Town of Oyster Bay	23
LIBRARY	
FIRE	
West Bay	45
Hicksville	33
Jericho	34

	DIST
FIRE PROTECTION	
SANITARY	
REFUSE & GARBAGE	
REFUSE DISPOSAL	
SEWAGE COLLECTION	
Sewage Collection District #3-CP-W	52
Sewage Collection District #3-H	18
Town of Oyster Bay	55

SPECIAL DISTRICTS

	DIST
PUBLIC PARKING	
Town of Oyster Bay - Unincorporated Area	A
SEWER	
Nassau County Sewage Disposal District # 3	39
PARK	
Hicksville	57
Jericho	60
IMPROVEMENT	
SIDEWALK Town of North Hempstead	S

	DIST
DRAINAGE	
Unincorporated Area of District#1	D
FIRE HYDRANT RENTAL	
GARBAGE	
New Cassel	66
Garbage District#1	93
ESCALATOR	
WATER POLLUTION CONTROL	
Town, County, College, Police HQ	1
Town Highway	2

MUNICIPALITIES

TOWN OF:
HEMPSTEAD
NORTH HEMPSTEAD
OYSTER BAY
CITY OF:
GLEN COVE
LONG BEACH
VILLAGE OF:

SCHOOL DISTRICT	
West Bay	1
Jericho	15
Hicksville	17

COOL	SPECIAL DISTRICT WITHIN												
542	1	10	18	2	23	3	34	39	55	60	93	A	D
575	1	10	2	23	3	34	39	52	55	60	93	A	D
585	1	10	2	23	3	30	39	52	55	57	93	A	D
610	1	10	18	2	23	3	30	39	55	57	93	A	D
611	1	10	2	23	3	30	39	55	57	9	93	A	D

COOL	SPECIAL DISTRICT WITHIN												
776	1	15	2	3	30	39	45	52	55	S			

COOL	SPECIAL DISTRICT WITHIN												

Nassau County
Department of Assessment
Harvey B. Levinson, Chairman
Land & Tax Map

Map Last Revised: January 4 2005

SEC. 11
BLK. B

SHEET 1 OF 1



Index #	Lot	Address
1	1052	4800-5000 Brush Hollow Rd
2	918	200 Shames Drive
3	1048	3400 Brush Hollow Rd
4	1050	25 Shames & Brush Hollow Rd
5	970	3400 Shames Drive
6	938	100 Shames Drive
7	923	300 Shames Drive
8	921	400 Shames Drive
9	922	500 Shames Drive
10	930	600 Shames Drive
11	941	700 & 750 Shames Drive
12	934	800 & 820 Shames Drive
13	933	900 Shames Drive
14	935	1000 Shames Drive
15	953	1100 Shames Drive
16	1073	1200 Shames Drive
17	954	1250 Shames Drive
18	962	1150 &1300 Shames Drive
19	955	1400 Shames Drive
20	956	1500 Shames Drive
21	1014	1600 Shames Drive
22	965	1700 Shames Drive
23	959	1800 Shames Drive
24	960	2000 & 2200 Shames Drive
25	964	2300Shames Drive
26	958	2500 & 2700 Shames Drive

Figure 1-3
Shames Drive Industrial Park
Property Locations

Source: http://www.nassaucoutnyny.gov. Nassau County Homepage, Property Assessment Look Up, Accessed July 9, 2007.

Section 2
Scope of Work

2.1 Task 1A – Site Visit and Work Plan Development

A site visit was conducted on May 17, 2007. This Work Plan references procedures detailed in the CDM Generic Quality Assurance Project Plan (QAPP) dated March 2007which has been provided to NYSDEC for Contract Number D-00437. The Generic QAPP presents methods that will be used to collect field data including project samples, and focuses on the analytical methods and quality assurance/quality control (QA/QC) procedures that will be used to analyze project samples, ensure the data are of known and acceptable quality, and manage the resultant data.

This Work Plan also includes a site specific Health and Safety Plan (HASP) presented in Appendix A and a Citizen Participation Plan (CPP) presented in Appendix B. The HASP describes the site health and safety for the field activities that will be performed. The CPP provides the primary contacts for the site as well as various public entities and provides ways for citizens to be involved in the project.

2.2 Task 1B – Records Search

A records search was performed to meet the requirements of NYSDEC's *Draft DER-10 Technical Guidance for Site Investigation and Remediation* dated December 2002. Information collected during the records/background search was summarized in a Record Search Report and utilized to develop and design the proposed sampling activities detailed in this Work Plan. The Record Search Report is being provided to NYSDEC as a stand alone document, submitted simultaneously with the Work Plan.

2.3 Task 2 – Site Characterization

Site Characterization will be conducted in order to determine the presence of groundwater contamination at the site that would warrant further investigation. The investigation is ultimately being conducted to determine if the site should be listed as a New York State Hazardous Waste Site.

The investigation activities will include a geophysical survey, the installation of groundwater monitoring wells using the hollow stem augers and soil vapor sampling. Soil vapor sampling will only be conducted at 1000 Shames Drive since a childcare center currently operates at this address. The objective is to provide groundwater analyses for comparison to NYS Class GA Groundwater Quality Standards and the determine the presence of soil vapors in accordance with Draft Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated December 2002 and New York State Department of Health (NYSDOH) *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006. Soil samples collected during the investigation will be compared to Technical Administrative Guidance Memorandum (TAGM).

The following section presents the field activities proposed for the Shames Drive Industrial Park site characterization. Field documentation and sampling procedures are provided in the CDM Generic QAPP referenced above. All applicable procedures contained in the Generic QAPP will be followed.

2.3.1 Geophysical Survey

A geophysical survey utilizing ground penetrating radar (GPR) and electromagnetic conductivity (EC) will be conducted at the site to identify underground utilities, water lines, underground storage tanks and/or any large anomalies such as conduits. The geophysical survey will primarily be performed to clear boring locations prior to drilling, since the One-Call service does not mark out utilities beyond the street. Subsurface utilities will be marked within 15 feet of each proposed location; to allow for the relocation of borings should refusal be encountered during drilling.

2.3.2 Soil Vapor Intrusion Investigation

A soil vapor intrusion investigation will be conducted at Orly's Treehouse located at 1000 Shames Drive (Lot 935) in order to determine if vapor phase contaminants are present which may impact the indoor air quality at the child care facility on the property. Soil vapor samples will be collected at the locations identified on Figure 2-1 and summarized on Table 2-1. Five (5) locations are proposed for the collection of soil vapor samples, with shallow and deep samples anticipated at each location.

The investigation will include:

- Collecting shallow soil vapor samples at a depth equivalent to that of a typical building foundation (~8 feet below ground surface (bgs)) for VOCs.
- Collecting deep soil vapor samples from about 2 feet above the ground water table (~78 feet bgs) for VOCs

These samples will be collected in accordance with the *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 and the *Draft Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation*, dated December 2002.

Soil vapor and air samples will be analyzed by a NYSDOH-approved Environmental Laboratory Approval Program (ELAP) certified lab for volatiles using EPA Method TO-15. A minimum reporting limit of 1 microgram per cubic meter ($\mu g/m^3$) must be achieved for all analytes and all results must be reported in $\mu g/m^3$. A NYSDEC Analytical Services Protocol (ASP) Category B data deliverable will be provided for these analyses. All data shall also be submitted electronically in a standardized format consistent with EPA Region 2's Multimedia Electronic Data Deliverable (MEDD). Table 2-1 presents a summary of the analytical program for the site. Details of sample collection are provided below.

2.3.2.1 Soil Vapor Sample Collection

Soil vapor samples will be collected at the five boring locations selected by CDM to ensure full coverage of the property (Figure 2-1). Five (5) Soil vapor points will be installed using direct-push drilling methods. The boreholes will be drilled to a depth approximately 8 feet bgs and 2 feet above the water table surface; estimated to be approximately 78 feet bgs at each sampling location.

Once the desired depth is reached, 3/8-inch Teflon®-lined tubing will be connected to a 6-inch double woven stainless steel sampling screen and placed in the borehole. The borehole will then backfilled with sand to a minimum depth of 6 inches above the screen interval followed by 6-inches of dry bentonite. A bentonite slurry will then placed to the ground surface. The bentonite will be allowed to hydrate for a minimum of 24 hours prior to sample collection.

Prior to collection of soil vapor samples, the temporary soil vapor probes will be purged in accordance with the NYSDOH SVI Guidance. One to three implant volumes (i.e. volume of the sample probe and tube) will be purged at a flow rate that does not exceed 200 milliliters (ml) per minute. A tedlar™ bag will be filled toward the end of the purge volume to be screened using a photoionization detector (PID) meter. The PID readings will be observed and recorded on the appropriate field form. The samples will be collected using laboratory-certified clean summa canisters with flow regulators and a vacuum of 28 inches Hg ± 2 inches. A vacuum of 5 inches Hg ± 1 inch must be present when sample collection is terminated. The soil vapor purging procedures are detailed further in the Generic QAPP.

Tracer gas will be used to evaluate short-circuiting of the sampling zone with ambient air. The soil vapor sampling locations will be evaluated with tracer gas in accordance with the NYSDOH SVI guidance. The tracer gas sampling procedure is provided in the Generic QAPP.

Samples will be collected using laboratory certified clean SUMMA canisters with regulators that will allow sample collection at two hours or less. Dedicated Teflon®-lined tubing with an inside diameter of ¼ inch will be used at each sample location. The flow rate during sampling shall not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling. During soil vapor sampling collection, an out door ambient air sample will be collected.

Upon completion of sampling, the sample tubing will be removed and the temporary soil vapor probe location backfilled with bentonite. Each location will then be marked with a stake/flag labeled with the proper sample identification and illustrated on the site map so that it can be surveyed at a later date. Borings performed in paved or concrete areas will be backfilled and refinished at the ground surface with concrete or cold patch.

2.3.3 Groundwater Investigation

A ground water investigation will be conducted at the site to determine whether groundwater has been impacted by current and historic uses of the site as well as determine if upgradient groundwater contamination is impacting the site. The locations were selected based on information obtained during the record search which indicated the potential for contamination at 14 of the properties located in the Shames Drive Industrial Park. Historic operations in the industrial park have included the manufacture of electronic equipment, welding supplies, machine shops, aluminum fabrication, metal smeltering, manufacture and repair of aircraft components, a metal casting foundry, a print shop, electroplating, and the manufacturing of meteorological instruments. Most of the properties at the Site were not connected to the municipal sewer until the 1990's. Prior to that time, the businesses used cesspools and drywells for wastewater disposal. At the few properties where investigations were conducted by Nassau County DOH some level of contamination was usually identified, particularly at the locations of former cesspools and drywells.

The investigation will include the installation of six groundwater monitoring wells (CDM-MW-1 through CDM-MW-6) at the locations identified on Figure 2-1. The well locations were selected so as to characterize groundwater entering the Site and groundwater leaving the site to determine if contamination is migrating onto the Site from an upgradient source as well as identify contamination originating within the Site. The wells were placed along the perimeter of the Site as follows:

- CDM-MW-1: Upgradient well located at 1000 Shames Drive (childcare center) to identify whether groundwater contamination from an upgradient source is impacting the site, and also serves to collect groundwater data at the childcare facility to correlate with soil vapor data

- CDM-MW-2: Upgradient well located at 1200 Shames Drive to identify whether groundwater contamination from an upgradient source is impacting the site

- CDM-MW-3: Downgradient well positioned southwest of 500 and 700 Shames Drive. Cesspools at 500 Shames drive contained halogenated hydrocarbons & heavy metals; a long grate-like drain with an unknown discharge point was also identified on this property. Operations at 700 Shames Drive included refining and smeltering precious metals using hydrochloric acid, nitric acid and cyanide; Underground storage tanks were present on both properties.

- CDM-MW-4: Downgradient well positioned southwest of 2300 Shames Drive. Former operations at 2300 Shames Drive included metal works and former use of dyes, photo developer and fixer; borax, hydraulic oil and cooling oil. Records indicate that waste streams were poured into the sink to discharge to an onsite septic system. An uncapped discharge pipe was also identified at this facility.

- CDM-MW-5: Downgradient well positioned southwest of 1500 Shames Drive. Former operations at 1500 Shames Drive included metal casing and print shop operations.

- CDM-MW-6: Dowgradient well positioned southwest of 1700 Shames Drive. Operations at 1700 Shames Drive involve the use of copper sulfate, stannous sulfate, 1,1,1,-trichloroethane (1,1,1-TCE), and methyl alcohol for degreasing. Rinses from copper and tin plating discharged to a pit in the process area at the front of the building.

2.3.3.1 Drilling

In order to better enable reaching groundwater, which is anticipated to be at 80 feet bgs, drilling will be conducted using a hollow-stem auger rig. Split spoon samples will be collected continuously during drilling from the ground surface to 30 feet bgs (10 feet below the depth of a deep drywell) and at 5-foot intervals the remainder of the boring. Soils will be screened with a PID for indications of volatile organics, characterized and logged. Drilling procedures are detailed in the Generic QAPP.

If contamination is identified based on field observations during drilling, soil samples will be collected to confirm contamination. For budgeting purposes, it was assumed that 6 soil samples would be collected during the investigation. Soil samples will be submitted to a NYSDOH-certified laboratory for analysis for volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by EPA Method 8270C and metals by EPA Method 6010B.

2.3.3.2 Groundwater Monitoring Well Construction

The six wells will be constructed of 4-inch diameter PVC screen and casing for groundwater sampling and monitoring purposes. The wells will be installed to between 90 and 100 feet bgs, depending on where groundwater is encountered, and will be screened across the water table such that 5 feet of screen will be above the water table and 10 feet will be below. A New York-licensed well driller will install the monitoring wells. The wells will be developed after installation and will be allowed to stabilize for at least two weeks prior to sampling.

2.3.3.3 Groundwater Sampling

Prior to sampling, three well volumes will be purged from each well. Groundwater sampling procedures are detailed in the Generic QAPP. Groundwater samples will be submitted to a NYSDOH-certified laboratory for analysis for low level VOCs and SVOCs by EPA SOW OLC03.2 and metals by EPA SOW ILM04.2 in order characterize potential groundwater contamination at the site.

2.3.4 Site Survey

The locations of all sample points will be surveyed including the ground surface and casing elevations and the coordinates of six monitoring wells and coordinates of 5 soil vapor points. The horizontal and vertical positions will be tied into the North American Datum 1983 (NAD83) coordinate system. The vertical positions will be tied to the North American Vertical Datum 1988 (NAVD88). The measuring point associated with the monitoring wells will be recorded to an accuracy level of 0.01 feet vertically. The coordinates will be used to map the locations on aerial photography.

The well elevations will be used to determine the groundwater flow direction within the industrial park.

2.3.5 Investigative Derived Waste

Soil cuttings and purge water from each sampling location will be containerized in drums or other appropriate vessel and disposed off-site. It is assumed that 12 cubic yards of non-hazardous soil will require off-site disposal. Well development and purge water is estimated at 1,200 gallons. Investigation-derived waste containers will be stored on-site at a location determined by NYSDEC until it is characterized and can be removed by a licensed waste hauler.

2.3.6 Decontamination Procedures

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample interval using an Alconox rinse and potable water rinse prior to reuse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

2.4 Task 3 - Field Documentation and Reporting

2.4.1 Field Documentation Procedures

Bound field notebooks will be used during all on-site work. A dedicated field notebook will be maintained by the field technician overseeing the site activities. In addition to the notebook, any and all original sampling forms (e.g lithologic logs, well construction diagrams), and purge forms used during the field activities, will be submitted to the NYSDEC as part of the final report. Field and sampling procedures, including installation of the sample boreholes, existing monitoring wells, etc., will be photo-documented.

2.4.2 Sample Identification

Each sample collected will be designated by an alphanumeric code that will identify the type of sampling location, matrix sampled, and the specific sample designation (identifier). Each sample shall begin with the NYSDEC Site Number for the Shames Drive site (130173). The following terminology shall be used for the samples collected during this investigation:

Soil Vapor: 130173-SV- Location-Interval ("S" for shallow, "D" for deep)
e.g. sample collected from the shallow soil vapor point SV-1 would be 130173-SV-1S

Water: 130173-Monitoring Well ID-GW
e.g. sample collected from monitoring well CDM-MW-1 would be 130173-MW-1-GW

Soil: 130173-Monitoring Well ID – S – Depth
e.g sample collected at 5 feet bgs from well CDM-MW-1 would be 130173-MW-1-S-5

Field Blanks: 130173-FB-DATE

Trip Blanks: 130173-TB-DATE

2.4.3 Sample Location

The field conditions at each sample location will be documented in the bound field log book.

2.4.4 Reporting

A total of four copies of a draft letter report will be submitted to NYSDEC for review and comment. The report will document the work conducted and will present the results of the sample analysis and provide recommendations for further investigation should it be warranted. Upon receipt of the comments, CDM will revise the draft letter report and print the four final copies and submit to NYSDEC. One copy of the final letter report; text, tables, maps, photos, etc., will be submitted as a single pdf file. All electronic files will be submitted to NYSDEC on a compact disc. The site investigation data will be submitted in the most recent version of the NYSDEC Electronic Data Deliverable (EDD) with the final report submission. Currently this is the USEPA Region 2 EDD dated December 2003.

2.4.5 Laboratory Analysis and Validation

All samples will be analyzed by a NYSDOH approved ELAP certified laboratory. Groundwater samples will be analyzed for low level VOCs and SVOCs by EPA SOW OLC03.2, and metals by EPA SOW ILM04.2. Soil vapor samples will be analyzed for VOCs by EPA methods TO-15. If soil contamination is identified during drilling, soil samples may be collected. Soil samples will be analyzed for VOCs by EPA method 8260, SVOCs by EPA method 8270, and metals by EPA method 6010B. A NYSDEC ASP Category B data deliverable will be provided for these analyses (Table 2-1).

All samples collected will be validated in accordance with NYSDEC Data Usability Summary Report (DUSR) guidance by a party that is independent of the laboratory which performed the analyses and CDM. A usability analysis will be conducted by a qualified data validator and a DUSR will be submitted to the NYSDEC.

Shames Drive Industrial Park
Westbury, Long Island, Nassau County, New York



Key
⊗ Monitoring well
△ Soil Vapor Point

Figure 2-1
Proposed Monitoring Well and Soil Vapor Sample Locations

Table 2-1
Analytical Program Summary
Shames Drive Industrial Park
Wesbury, New York

Analytical Parameter	Sample Matrix	Number of Samples	Analytical Method	Field Duplicates (b)	MS/MSDs	Field Blank/Ambient Air Blank (b)	Trip Blanks (c)	Container	Sample Preservation	Holding Time
GROUNDWATER SAMPLES										
Volatile Organic Compounds (VOCs)	Groundwater	6	OLC03.2	1	1	2	1	3 - 40ml clear glass vial with Teflon septum	HCl to pH <2; Cool to 4^oC	14 days
Semi-Volatile Organic Compounds (VOCs)	Groundwater	6	OLC03.2	1	1	2	0	1000 ml amber glass bottle with teflon lined cap	Cool to 4^oC	7/40 days
Metals	Groundwater	6	ILM04.2	1	1	2	0	1-500 ml plastic with plastic cap	$HNO_3 < 2$	180 days
SOIL SAMPLES										
Volatile Organic Compounds (VOCs)	Soil	6	EPA 8260	1	1	6	3	3 - 40 ml glass VOC with plastic cap with Teflon septum with 25 ml methanol (prepared by lab)	Cool to 4^oC	14 days
Semi-Volatile Organic Compounds (VOCs)	Soil	6	EPA 8270	1	1	6	0	1 - 8 ounce glass jar with plastic cap	Cool to 4^oC	14 days
Metals	Soil	6	EPA 6010B	1	1	6	0	1 - 2 ounce glass jar with plastic cap	Cool to 4^oC	180 days
SOIL VAPOR SAMPLES										
Volatile Organic Compounds (VOCs)	Air	10	EPA TO-15	1		1	0	1.4L SUMMA canisters with flow regulators		30 days

Notes:
(a) A minimum of 5% of all samples will be collected in duplicate.
(b) Field blanks are collected at a frequency of 1 per day.
(c) Trip blanks are collected at a frequency of 1 per sample cooler or 1 per every five days.

Section 3
Project Schedule

The following tabulation provides the proposed project schedule and key milestones for this work assignment. As currently planned, field work will be initiated within two weeks of written receipt of final work plan approval. Field activity duration for the Site Characterization activities is estimated to be one day for the geophysical survey, two weeks for well installation and development and soil vapor point installation and sampling and two days for groundwater sampling assuming no delays are experienced due to inclement weather, site access problems, or for other unforeseen reason.

The scheduled submittal dates for deliverables are based on standard laboratory turnaround times of four weeks, and turnaround for data validation of three weeks.

Project Milestone	Date
Issue Work Assignment (WA)	May 1, 2007
Work Assignment Acceptance	May 7, 2007
Submit Task 1B Draft Records Search Report	July 11, 2007
Submit Task 1A Draft Work Plan	July 13, 2007
Submit Task 1A Draft Work Plan	November 8, 2007
DEC/DOH Comment on Draft Work Plan and Records Search Report	December 7, 2007
Submit Task 1A Draft Work Plan	December 18, 2007
DEC/DOH Comment on Draft Work Plan	December 31, 2008
Submit Task 1A FINAL Work Plan	February 1, 2008
Notice to Proceed (NTP)	February 15, 2008
Commence Task 2 Field Work	March 3, 2008
Task 2 Field Work Completed	March 21, 2008
Task 3 Submit Draft Site Characterization Report	May 5, 2008
Approve Draft Report	35 Days after Draft Report Submitted
Task 3 Submit Final Site Characterization Report	45 Days after Approval of Draft Report

Section 4
Budget Estimates

Estimated Budget and Level of Effort (LOE) Summary
Shames Drive
Westbury, New York
Site No. 1-30-173

Task Items	Description/Cost	Dollars
1	Work Plan Development and Record Search	$37,074
2	Site Characterization	$132,807
3	Field Documentation & Reporting	$12,984
	Total Estimate Budget (Tasks 1 - 3)	**$182,865**

Appendix C presents the detailed costs by task and subtask on the NYSDEC schedule 2.11.

General Assumptions:

- Work will be performed in March 2008.
- All costs are based upon the scope and schedule provided in this Work Plan. Costs associated with project delays or expedited schedules beyond CDM's control are not assumed.
- CDM will provide four hard copies by mail and one electronic file (pdf) by e-mail for each report submitted to the NYSDEC.

Task 1A and 1B - Records Search and Work Plan Development:

- Only one site visit is assumed for this phase.
- Only one round of comments received concurrently is anticipated on draft deliverables. The review comments will be consolidated by NYSDEC. It is assumed that comments are minimal in nature and no re-evaluation is required. It is assumed that all comments can be addressed in 8 hours.
- Project management, subcontractor procurement, scheduling, budgeting, administrative activities are included in this task.
- A comprehensive Work Plan will be delivered to the Department submitted as a separate document in conjunction with the Records Search Report.

- The Work Plan should include the description of the major tasks and sub-tasks to be performed including pertinent information to conduct field activities, potential areas of concern, analytical methods and sampling methods, a staffing plan identifying key and technical staff, identification of areas of subcontracting, work assignment budget, generic Health and Safety Plan, and Citizen participation Plan

- CDM's Generic QAPP has been previously submitted to NYSDEC; a copy of this document will not be submitted with the Work Plan.

- The Records Search report will be submitted as a separate document in conjunction with the Site Specific Work Plan.

- The Records Search report will identify potential sources of contamination and identify sample locations for follow up site characterization investigations.

Task 2 – Site Characterization Investigations:

- A notice to proceed must be received at least one week prior to mobilization.

- NYSDEC will provide access to all sampling and drilling locations.

- Drilling, geophysical surveying, analytical, surveying and validation services will be subcontracted.

- CDM will provide oversight during field activities, collect samples and maintain sample chain-of-custody.

- No schedule delays are assumed due to inclement weather or equipment failure.

- Delays due to the site owner or public are not assumed.

- Project management, subcontractor procurement, scheduling, budgeting, administrative activities are included in this task.

- One mobilization /demobilization is expected.

- For costing purposes, CDM assumes that soil vapor samples will be collected from 5 locations and groundwater samples will be collected from 6 locations.

- CDM assumes that monitoring well installation will take two weeks.

- CDM assumes that the soil vapor sampling will take 2 days and groundwater sampling will take 2days.

- CDM assumes that all material and equipment staged in access areas will be removed to allow easy access to all sampling locations by the drilling equipment.

- One PID unit and a dust monitor will be utilized for air monitoring.

- It is assumed that soil IDW will be containerized in up to 48 drums (~8 soil drums per location) and groundwater IDW will be containerized in a poly tank.

- It is assumed that NYSDEC will provide access to locations to stage IDW until characterization and disposal can be done.

Task 4 - Field Documentation and Reporting:

- Only conference calls are anticipated to be necessary for this phase. Meetings are not assumed to be required for this task.

- Only one round of comments received concurrently is anticipated on draft deliverables. The review comments will be consolidated by NYSDEC. It is assumed that comments are minimal in nature and no re-evaluation is required. It is assumed that all comments can be addressed within 12 hours.

- During site work, digital photographs and field notes will be kept.

- A report will be developed including a description of work conducted with field notes, photos, validated analytical data, figures, field measurements, and summary tables.

- It is assumed that three data tables (identifying groundwater data, soil data, and soil vapor data) and four figures (one showing sample locations, one showing groundwater data, one showing soil vapor data, and one showing soil data) will be necessary for the report.

Section 5
Staffing Plan

This project management organization for this project is to provide a clear delineation of functional responsibility and authority.

5.1 Program Manager – Michael A. Memoli, P.E., DEE

The primary responsibilities for program management activities rest with the Program Manager (PRM). The Program Manager, Mr. Memoli, will have ultimate contract responsibility for the project, including responsibility for the technical content of all engineering work. Mr. Memoli will direct, review and approve all project deliverables, schedule staff and resources, resolve scheduling conflicts and identify and solve potential program problems. He will be directly accountable to NYSDEC's Division of Hazardous Waste Remediation for program execution. He has authority to assign staff, negotiate and execute contracts and amendments, as well as execute subcontracts. The PRM will communicate directly with CDM's Project Manager.

5.2 Project Manager – Jessica R. Beattie, P.G.

The Project Manager, Ms. Jessica Beattie, will have the overall responsibility for the technical and financial aspects of this project. She will assign technical staff, maintain control of the project budget and schedule, prepare monthly progress reports, review and approve project invoices, evaluate the technical quality of the project deliverables as well as the adherence to QA/QC procedures and manage subcontractors. She will serve as CDM's point of contact for this project.

5.3 Program Quality Assurance Manager – Jeniffer M. Oxford

The Program Quality Assurance Officer, Ms. Jeniffer Oxford, will monitor QC activities of program management and technical staff, as well as identify and report needs of corrective action to the Program Manager. He will also conduct an internal review of all project deliverables prepared by CDM staff and sign off on the final investigation reports.

5.4 Health and Safety Officer – Christopher S. Marlowe, C.I.H., Q.E.P

The Program Health and Safety Officer, Mr. Chris Marlow, will review and make recommendations to the Subcontractors on health and safety plans for compliance with OSHA requirements. He will develop a Health and Safety plan for CDM and NYSDEC employees, handle over-sight activities, evaluate the performance of health and safety officers and maintain required health and safety records. He will report to the Program Manager

5.5 Field Manager/Health and Safety Site Supervisor/Coordinator – Melissa Koberle

The Field Manager, Ms. Melissa Koberle, will be responsible for overseeing and coordinating field activities. This will include, but is not limited to: overseeing the sampling activities, coordinating drill work, coordinating work with other subcontractors and monitoring health and safety conditions in accordance with the approved Health and Safety Plan. She is directly accountable to the Project Manager.

As the Health and Safety Site Supervisor/Coordinator, she will be responsible for ensuring that the Health and Safety Plan is implemented during field activities and that a copy of the site-specific Health and Safety Plan are maintained at the site at all times. He/she is also responsible for upgrading or downgrading personnel protection based on actual conditions at the time of the investigation. The Coordinator must also present an overview of the Health and Safety Plan to field personnel prior to initiating any field activities and is responsible for insuring that field personnel sign off on this plan. She will contact the Program Health and Safety Officer if any questions or issues arise during the field activities that she cannot answer.

Section 6
Subcontracting

Appendix E presents a comparison of quotes from various subcontractors. CDM proposes to engage subcontractors to provide the following services for this work assignment:

6.1 Geophysical Survey (Utility Markout) – Advanced Geological Services

At this time, CDM is proposing to use AGS to perform the geophysical survey work. They are located at Mystic Lane, Malverne, PA 19355.

6.2 Soil Vapor Probe Installation – Zebra Environmental Corp.

CDM will be using Zebra Environmental Corp (Zebra) as the direct push subcontractor. They are located at 30 N. Prospect Avenue, Lynbrook, New York 11563.

6.3 Well Drilling – Delta Well & Pump Co. (WBE)

CDM will be using Delta Well & Pump Co as the well drilling subcontractor. They are located at 97 Union Ave, Ronkonkoma, NY 11779-0760

6.4 Analytical Laboratory – Mitkem Corporation

At this time, CDM is proposing to use Mitkem (MBE) as the analytical laboratory subcontractor. They are located at 175 Metro Center Blvd Warwick, Rhode Island 02886.

6.5 Data Validation – Nancy Potak (WBE)

At this time, CDM is proposing to use Nancy Potak (WBE) as the data validation subcontractor. She is located at 1796 Craftsbury Road, Greensboro, Vermont 05841.

6.6 M/WBE Reporting – Kenneth Shider (MBE)

At this time, CDM is proposing to utilize Ken Shider (M/WBE consultant) to prepare the quarterly M/WBE reports that are required by NYSDEC.

6.7 Surveying/Field Support – YEC, Inc (MBE)

At this time, CDM is proposing to utilize YEC, Inc as the surveying subcontractor as well as for field support. They are located at 612 Corporate Way, Valley Cottage, New York 10989.

6.8 IDW Disposal – Innovative Recycling Technologies

At this time, CDM is proposing to utilize Innovative Recycling Technologies as the IDW disposal subcontractor. They are located at 690 North Queens Avenue, Lindenhurst, New York 11757

Section 7
MBE/WBE Utilization Plan

To meet the requirements of the MBE/WBE program, CDM has prepared the following utilization plan:

Total Dollar Value of the work assignment	**$182,865**
MBE Percentage Goal	15%
MBE Dollar Value Goal	$27,430
WBE Percentage Goal	5%
WBE Dollar Value Goal	$9,143
Combined MBE/WBE Percentage Goal	20%
Combined MBE/WBE Dollar Value Goal	$36,573

Minority and woman-owned firms are expected to participate as follows:

Services to be Provided	Description of Services	Subcontractor Name and Contact Information	Proposed Subcontract Price
WBE Drilling	Well Installation	Delta Well Chris Okon 631-981-2255	$59,113
M/WBE Quarterly Reports	M/WBE Quarterly Reports	Kenneth Shider (518) 269-2207	$600
MBE - Survey	Site Survey	YEC, Inc Ed Chen (845) 268-3203	$5,580
MBE Field Services	Groundwater Sampling	YEC, Inc Ed Chen (845) 268-3203	$5,269
WBE - Data Validation	DUSR	Nancy Potak (802) 533-9206	$1,906
		TOTAL	$71,481

Acronyms

ASP	Analytical Services Protocol
CPP	Citizen Participation Plan
CDM	Camp Dresser and McKee
EDD	Electronic Data Deliverable
EPA	United States Environmental Protection Agency
DCE	dichloroethene
DNAPL	dense non-aqueous phase liquid
ft/day	feet per day
HASP	health and safety plan
mg/L	micrograms per liter
mL/g	milliliter per gram
NYSDEC	New York State Department of Environmental Conservation
PCE	tetrachloroethylene
PID	photoionization detector
ppb	parts per billion
QA/QC	quality control/quality assurance
QAPP	quality assurance project plan
TCE	trichloroethylene
SPDES	State Pollutant Discharge Elimination System
SVOCs	semi-volatile organic compounds
µ/L	micrograms per liter
UV	ultraviolet
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
WA	Work Assignment

Appendix A

HEALTH AND SAFETY PLAN (HASP)

HEALTH AND SAFETY PLAN FORM	*This document is for the exclusive*	**CAMP DRESSER & McKEE INC.**
CDM Health and Safety Program	*use of CDM and its subcontractors*	**PROJECT DOCUMENT #:**

PROJECT NAME	Shames Drive Industrial Park Site No. 130173	**PROJECT#**	0897-59317	**REGION**	PSG NER
JOBSITE ADDRESS	Shames Drive Jericho/Westbury, Nassau County, New York	**CLIENT**			NYSDEC
		CLIENT CONTACT			Vivian James
		CLIENT CONTACT PHONE #			(518) 402-9621

( ) AMENDMENT TO EXISTING APPROVED H&SP
( ) H&SP AMENDMENT NUMBER? _____ **( ) DATE EXISTING APPROVED H&SP** _____

OBJECTIVES OF FIELD WORK:
(e.g. collect surface soil samples):

1) Site survey including all sampling locations
2) Soil vapor sampling (5 vapor points) on one property within the industrial park.
3) Installation (oversight) and sampling of groundwater monitoring wells

Type *Check as many as applicable*

Active	(X)	Landfill	( )	Unknown	( )
Inactive	( )	Uncontrolled	(X)	Military	( )
Secure	( )	Industrial	(X)	Other (specify)	(X) Commercial
Unsecure	(X)	Recovery	( )		
Enclosed space	( )	Well Field	( )		

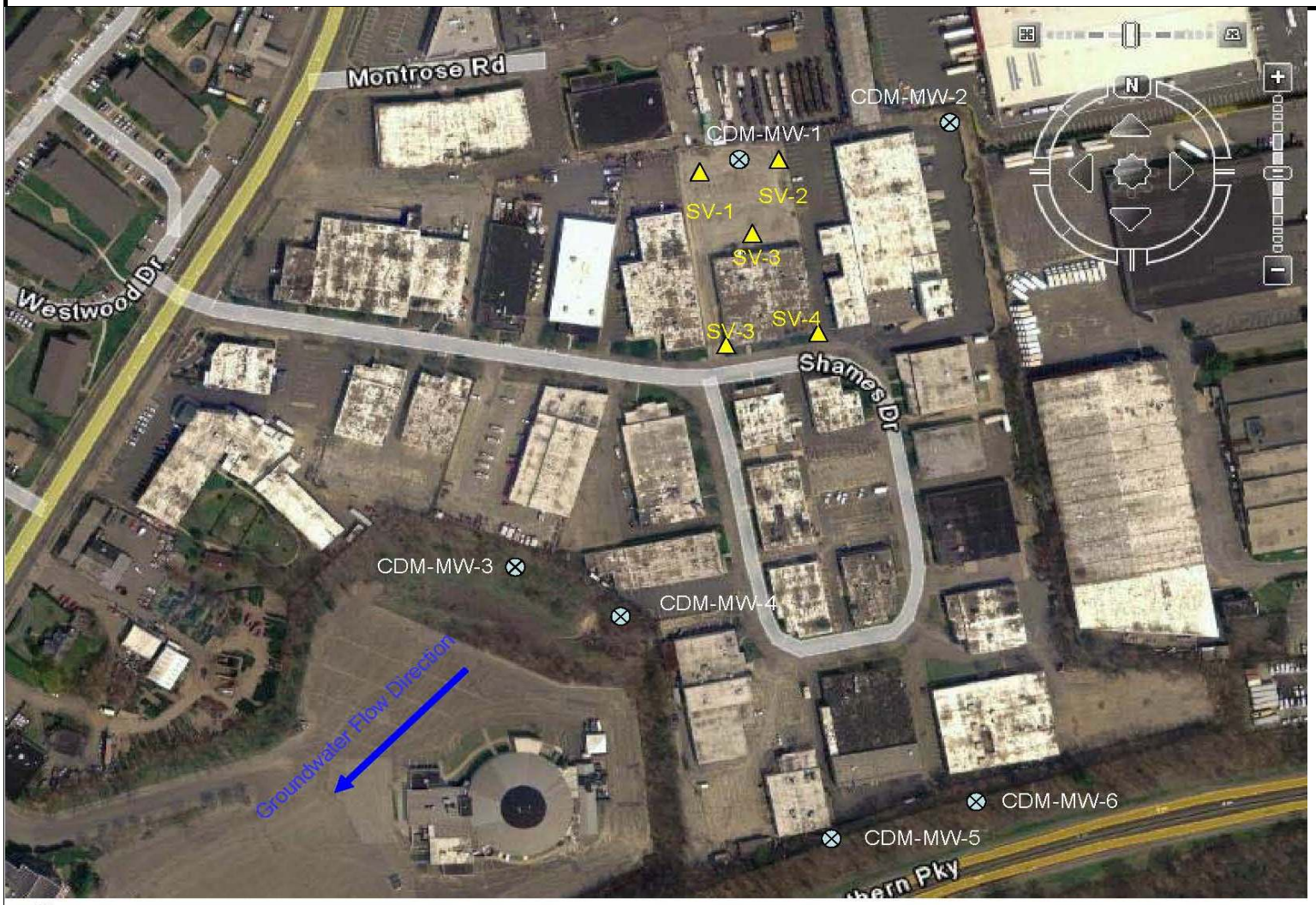
All requirements described in the CDM Health and Safety Assurance Manual for Hazardous Waste Operations are incorporated in this health and safety plan by reference.

DESCRIPTION AND FEATURES:

The Shames Drive Industrial Park is comprised of twenty-six municipal lots. The Industrial Park is identified by a looped roadway, Shames Drive, accessible from Brush Hollow Road in Westbury, Nassau County, Long Island, New York. The property is comprised of Nassau County Section 11, Block B, Lots 938, 935, 962, 1073, 1048, 1050, 1052, 918, 954, 955, 956, 1014, 965, 959, 960, 964, 1050, 958, 923, 970, 921, 922, 930, 941, 934, and 933. Each property is improved with an industrial, commercial, or office building. The property is surrounded by commercial and industrial properties. The site is bound to the north by Montrose Road, to the west by Brush Hollow Road, to the south by the NorthFork Theatre, and to the east by Cantiague Rock Road and commercial/ industrial buildings. Each property in the industrial park is improved with buildings constructed in the late 1950s early 1960s. Heavy traffic and noise is a concern. The topography is mainly flat and covered by asphalt. Groundwater contours prepared for Nassau County's Groundwater Monitoring Program based on water levels collected in public wells in 2001, 2002, and 2003 indicates that the groundwater in the Upper Glacial aquifer (water table) in the Site area

SURROUNDING POPULATION: (X) Residential (X) Industrial (X) Commercial ( ) Rural (X) Urban OTHER:

SITE MAP: *Show Exclusion, Contamination Reduction, and Support Zones. Indicate Evacuation and Reassembly Points*



The exclusion zone will include all points within 10 feet of the investigation activities or a sampling location. The contamination reduction zone will consist of a ten foot radius outside of the exclusion zone. The support zone will be a 10 foot radius outside of the CRZ. All zones are mobile, established in consideration of the prevailing wind direction and will be established and moved as work crew advances to new locations.

HEALTH AND SAFETY PLAN FORM	*This document is for the exclusive*	**CAMP DRESSER & McKEE INC.**
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HISTORY: *Summarize conditions that relate to hazard. Include citizen complaints, spills, previous investigations or agency actions, known injuries, etc.*

Development of Shames Drive first began in the 1940s as farmland with residential and farm buildings. Industrial and commercial devlopment began in the late 1950s. IN 1957 the Shames Drive circle was fully constructed and development of the surrounding lots began. By 1961 each of the twenty surrounding lots were improved with buildings used for commercial, industrial, manufacturing or office space. Site construction has remained fairly unchanged with only the occupants and property use changing over the years. The table on the following page lists the properties occupying the lots along Shames Drive. The table lists the lot, year developed, initital occupant and current occupant.

WASTE TYPES: ( ) Liquid ( ) Solid ( ) Sludge ( ) Gas ( ) Unknown (X) Other, specify: contaminated groundwater

Check as many as applicable.

( ) Corrosive	( ) Flammable	( ) Radioactive
( ) Toxic	**(X) Volatile**	( ) Reactive
( ) Inert Gas	( ) Unknown	**(x) Other, specify: PCE in groundwater, soil vapor and subsurface soils**

WORK ZONES: *Describe the Exclusion, Contamination Reduction, and Support Zones in terms on-site personnel will recognize*

The exclusion zone will include all points within 10 feet of the investigation activities or a sampling location. The contamination reduction zone will consist of a ten foot radius outside of the exclusion zone. The support zone will be a 10 foot radius outside of the CRZ. All zones are mobile, established in consideration of the prevailing wind direction and will be established and moved as work crew advances to new locations.

HAZARDS OF CONCERN:

(X) Heat Stress	**(X) Noise**
(X) Cold Stress	( ) Inorganic Chemicals
( ) Explosive/Flammable	**(X) Organic Chemicals**
( ) Oxygen Deficient	**(X) Motorized Traffic**
( ) Radiological	**(X) Heavy Machinery:Drill Rig**
( ) Biological	**(X) Slips, Trips, & Falls**
( ) Other	

FACILITY'S PAST AND PRESENT DISPOSAL METHODS AND PRACTICES:

The Site's past disposal methods include discharging into an inground holding tank and cooling tower. However, the liquid waste discharged often overflowed the holding tank and cooling tower onto ground surface. The Site also has past experience of disposing liquid waste directly to ground surface.

Shames Drive Industrial Park Properties

Lot	Property Card Address	Current Occupant	Current Type of Business	Previous Occupant	Previous Type of Business
918, 924, 1052	4800-5000 Brush Hollow Rd	Alita Ceramic Tile, Public accountants	Sales of ceramic tile, Accounting services	1958 - MFG Toy Vending Machines; 1960 - Kiddie Lane Corp. 1980 - Bonardy 1984 - Westbury Industrial Park Properties	Warehouse/distribution center, office space
1048	3400 Brush Hollow Rd	Tivoli Terrace	Motel	Tivoli Motel 1960- Brush Hollow Arms (old folks home)	Motel
1050	25 Shames Dr & Brush Hollow Road	Tivoli Terrace	Restaurant	Tivoli Motel & Restaurant	Motel and food service
970	3400 Brush Hollow Road	Regency Adult Home	Adult Care	Restaurant to the Tivoli Motel	Food service
938	100 Shames Drive	First Investors Corporation	Financial Services	1958 -Intercontinental Electronics, 1971 – Jasik Laboratories, Inter-County Tabulating Co., Inc.	Manufacture of electronic equipment, research/ development of high frequency antenna & microwave
923	300 Shames Drive	1988- Accurate Chemical and Scientific Corp & 1994-Accurate Surgical & Scientific	Supplies laboratory research products & precision surgical instruments	Unknown, 1968- Electronic Equipment Manufacturing, 1971-Automatic Data Processing, 1975 -Coca-Cola Bottling Co.	Machine shop/office, manufacture of electronic equipment, data processing and computer center,
921	400 Shames Drive	General Welding Supply Co.	Sales of welding supplies and industrial/medical gases	1958-General Welding Supply Corp. Welding Supplies, Inc.	Warehouse and sales of welding supplies
922	500 Shames Dr	Verizon	telecommunications	1957- Stanat MFG Company, Inc., 1992 NY Telephone Bell Atlantic	Machine shop; Maintenance garage, telecommunications
930	600 Shames Dr	General Welding Supply Co.	Sales of welding supplies and industrial/medical gases	Westbury Industrial Development Corp., Universal Oven Corp	Welding and steel cutting
941	700 Shames Drive	California Closet Co	Sales of storage & closet equipment supplies & materials	1957-Sem Co Westbury Industrial Development Corporation & Champion Storm-Sash Co. 1990-Westbury Alloys	Aluminum sash fabrication. Warehouse and masonry shop, refining and smelting precious metals
934	800, 810 and 820 Shames Drive	Independent Resources Network, Amazing Wholesale	Payment processing, Sales of scarves and accessories, none	1958-Sem Co. Research Plan Electronics. Consolidate	Office/factory
933	900 Shames Dr	2001- PPE-Production Packaging Equipment	Sales/storage of packaging equipment and packaging products	1958- Sem Co 1970-Air Craft Turbine Co 1990- Gold Coast Transport	Industrial/office Manufacture and testing of air craft components, limousine company Sale of packaging equipment, private garage, offices, and a warehouse
935	1000 Shames Dr	Orly's Treehouse; owner Orly Regrev	Childcare Center	1958 - Sem Co/Sinclair Manifold Company 1971-1979 Muzak Company 1991 – Computer Instrument	Carbon inter-leaf business forms; child day care
953	1100 Shames Dr	Multi Occupant: Compu Billing Services Limited; ALA Scientific	Facility subdivided into a shipping area, CAD room, supplier library, offices, storage of power supplies &	1958 - Nat'l Vending Corporation, 1968 - Electronic Equipment MFG 2000 – ALA Scientific	Candy storage and sales

Shames Drive Industrial Park Properties

Lot	Property Card Address	Current Occupant	Current Type of Business	Previous Occupant	Previous Type of Business
953	1150 Shames Dr	Raffit Ribbons; Basket	Storage and sale of ribbons	1958 - Radiation Research	Warehouse/shop
1073	1200 Shames Dr	Multi Occupant: Jordan Fashions; MTS Power Systems; Delfino Insulation Company Incorporated	Multi-use	1958 - HITEMP Wires Company, a Div. of the Simplex Wire and Cable Corp.	Manufacture of wire insulation
954	1250 Shames Dr.	Precision Leather Crafters		1958 - Spectrol Electronics and Berco Latex Company	Warehouse/shop
962	1300 Shames Dr	Miller Environmental Group Inc.	Environmental Consulting	1958 - Sem Co, Aircraft Turbine Services	Manufacture, Testing and repair of Air Craft Components
955	1400 Shames Dr	Fabric Quilters Unlimited, Inc.	Manufacture of bedspreads, draperies and window blinds	1958- Fabric Quilters Unlimited, Inc.	Manufacture and storage of fabric
956	1500 Shames Dr	National Molding and Ornament	Sales of lumber and millwork	1958 - Slantco (aka Slant Fin Corporation), 1965 -Hallmark Lithographers, 1977-Slant Fin	Metal casting foundry, Print shop
1014	1600 Shames Dr	AVAD Metro East Distributors	Sales of audio components, flat panel TVs and home theater systems	1957 - Electronic Equipment Manufacturing, 1967 - Radiation Dynamics, Inc.	Manufacture of electronics
965	1700 Shames Dr	Sprague Goodman Electronics	Manufacture of trimmer capacitors, assembly of electrical parts, & electroplating/metallizing of	1959 - Electronics Equipment Manufacturing, 1960 -Power Designs Inc., P-Electronics Inc.	Office/factory use; manufacturing of trimmer capacitors, assembly of electrical parts, and electroplating/metallizing of dielectric
959	1800 Shames Dr	Electro Industries	Manufacture/ sales of power and energy meters & power analyzer technology	1959 - Radiation Dynamics, Electronics Equipment Manufacturing	Research/ development of high voltage particle accelerators & manufacture of X-ray equipment
960	2000 Shames Dr	Intelli-Tec Security Services, LLC	Installation/ monitoring commercial & residential security systems	1959 -ElectroComponents Inc. Philips Restaurant, Henry Rosedale & Son, Inc. 1972 – Sterling Co. 1989 – World Wide Industries	Manufacture of small instrument parts & sporting goods equipment
960	2200 Shames Dr	Freemont Industrial Corp	Sales of safety products & materials handling equipment for industrial plants	1959 - Von Industries	Woodworking & metal spinning
964	2300 Shames Dr	Kemp Metal Products, Inc	Pouring and rolling out metal ingots (Zinc and Nickel), & cutting them into karats.	1959 - Precision Boring Co, Kemp Metal Products, Inc, 1966 - Polymer Plastics Manufacturing Corp., 1968 -Electronics Equipment Manufacturing, Freedman, 1989 - Accent on Lithography	Metal works, precision products & instruments, manufacture sealers, adhesives, etc., print shop
958	2500 Shames Dr	BDC & Custom install/ CEDIA Distribution	Sales of audio and video equipment and architectural and home automation products	Henry J. Green Instruments Inc, White-Hixon Laboratories	Manufacture of meteorological instruments, manufacture/design/ test and sales of photographic processing equipment
958	2700 Shames Dr	County Fair Air Conditioning Corporation	Full service mechanical contractor	1970 - Clairette Manufacturing Co., Martha-Theiss Inc	Unknown, office space & technical services/ research/ development & electronics machining

HEALTH AND SAFETY PLAN FORM *This document is for the exclusive*
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HAZARDOUS MATERIAL SUMMARY: *Circle waste type and estimate amounts by category.*

CHEMICALS: *Amount/Units:*	**SOLIDS:** *Amount/Units:*	**SLUDGES:** *Amount/Units:*	**SOLVENTS:** *Amount/Units:*	**OILS:** *Amount/Units:*	**OTHER:** *Amount/Units:*
Acids	Flyash	Paints	Halogenated (chloro, bromo) Solvents	Oily Wastes	Laboratory
Pickling Liquors	Mill or Mine Tailings	Pigments	Hydrocarbons	Gasoline	Pharmaceutical
Caustics	Asbestos	Metals Sludges	Alcohols	Diesel Oil	Hospital
Pesticides	Ferrous Smelter	POTW Sludge	Ketones	Lubricants	Radiological
Dyes/Inks	Non-Ferrous Smelter	Aluminum	Esters	PCBs	Municipal
Phenols	Metals	Distillation Bottoms	Ethers	Polynuclear Aromatics	Construction
Halogens	Other *specify:* Heavy Metals - unspecified	Other *specify:*	Other *specify:* PCE* - suspect from upgradient source	Other *specify:*	Munitions
Metals					Other *specify:*
Dioxins					
Other *specify:*					

LL HAZARD EVALUATION: ( ) High () Medium (x) Low ( ) Unknown *(Where tasks have different hazards, evaluate each.)*

JUSTIFICATION:

The contamination is isolated to a sole source aquifer and the VOC concentration is considered low for human health hazards.

EXPLOSION POTENTIAL: ( ) High ( ) Medium (x) Low ( ) Unknown

REVIEW: (X) Complete ( ) Incomplete

KNOWN CONTAMINANTS	HIGHEST OBSERVED CONCENTRATION	PEL/TLV *ppm or mg/m3 (specify)*	IDLH *ppm or mg/m3 (specify)*	Warning Concentration *(in ppm)*	SYMPTOMS & EFFECTS OF ACUTE EXPOSURE	PHOTO IONIZATION POTENTIAL
Tetrachloroethylene (PCE)	U/GW	25 ppm	150 ppm	47 ppm	Irritated eyes, nose, throat, flushed face & neck, dizziness	9.32
1,1 Dichloroethylene	U/GW	1 ppm	> 500 ppm	1.1 ppm	No acute effects	<11.0
1,2 Dichloroethylene	U/GW	200 ppm	1,000 ppm	1.1 ppm	Irritated eyes, CNS depression	<11.0
Trichloroethylene	U/GW	50 ppm	1,000 ppm	82 ppm	Vertigo, visual disturbance, headache, drowsiness	9.45
Vinyl Chloride	U/GW	1 ppm	Carc.	NA	Weakness, stomach pain, cancer	10
Gasoline	U/GW-Soil	300 ppm	NE	10 ppm	Vomiting, diarrhea, insomnia, dizziness, headache	NA
Mercury and compounds (skin)	U/GW-Soil	25 µg/m3	10 mg/m3	NA	Severe abdominal pain tremors, weakness, GI irritation, fatigue	10.40
X-Ray & Gamma Radiation	U/GW-Soil	2,000 µR/hr	100 R/hr	NA	carcinogen - no warning property (Company-internal)	NA
Cyanides (skin)	U/GW-Soil	5 mg/m3	25 mg/m3	Dust	Weakness, headache, nausea, gasping breath	Dust
Nitric acid	U/GW-Soil	2 ppm	25 ppm	62 ppm	Irritated eyes, nose & throat, delayed pulmonary edema	11.95

Chemicals which detected concentrations at estimated levels are not presented.

NA = Not Available **NE = None Established** **U = Unknown**

Attach, to this plan, an MSDS for each chemical you will use at the site.

S = Soil SW = Surface Water T = Tailings W = Waste TK = Tanks SD = Sediment
A = Air GW = Ground Water SL = Sludge D = Drums L = Lagoons OFF = Off-Site

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TASK DESCRIPTION/SPECIFIC TECHNIQUE/SITE LOCATION *(attach additional sheets as necessary)*	**Type**	**Primary**	**Contingency**	**HAZARD & SCHEDULE**
1. Survey sampling locations	Intrusive	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07
2. Soil vapor sampling	**Intrusive**	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07
3. Installation (oversight) and groundwater sampling of monitoring wells	**Intrusive**	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07
	Intrusive	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07
	Intrusive	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07
	Intrusive	A B C **D**	A B C D	Hi Med **Low**
	Non-intrusive	Modified	**Exit Area**	Aug-07

PERSONNEL AND RESPONSIBILITIES

NAME	**FIRM/DIVISION**	**CDM HEALTH CLEARANCE**	**RESPONSIBILITIES**	**On Site?**
Melissa Koberle	CDM/EMP	B-S	H & S Coordinator/Field Manager	1-2-3-4-5-6
Jessica Beattie	CDM/EMP	B-S	Project Manager	1-2-3-4-5-6
Chris Marlowe	CDM/EMP	C	H&S Manager	No

Buddy system must be complied with either by client, CDM or contractor serving as buddy.

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PROTECTIVE EQUIPMENT: *Specify by task. Indicate type and/or material, as necessary. Group tasks if possible. Use copies of this sheet if needed.*

BLOCK A - Primary

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8
LEVEL: A - B - C - D - Modified
(x) Primary ( ) Contingency

Respiratory: (**XX**) Not needed
( ) SCBA, Airline
( ) APR
( ) Cartridge
( ) Escape Mask
( ) Other:

Head and Eye: ( ) Not needed
(x) Safety Glasses:
( ) Face Shield:
( ) Goggles:
(x) Hard Hat:
( ) Other:

Boots: ( ) Not needed
(x) Steel-Toe
( ) Rubber **(X) Leather**
( ) Overboots: Latex (optional)

Prot. Clothing: (x) Not needed
( ) Encapsulated Suit
( ) Splash Suit
( ) Apron
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall
(**XX**) Other: **work clothes**

Gloves: ( ) Not needed
(**XX**) Undergloves: **Nitriles**
(X) Gloves: Nitrile for Task 3
( ) Overgloves: Nitrile

Other: specify below
( ) Tick Spray
( ) Flotation Device
(X) Heating Protection
(X) Sun Screen

BLOCK B-Contingency

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
( ) Primary (x) Contingency

Respiratory: ( ) Not needed
( ) SCBA, Airline
( ) APR
( ) Cartridge Combination
( ) Escape Mask
( ) Other:

Head and Eye: ( ) Not needed
( ) Safety Glasses
( ) Face Shield
( ) Goggles
( ) Hard Hat
( ) Other:

Boots: ( ) Not needed
( ) Steel-Toe ( ) Steel Shank
( ) Rubber ( ) Leather
( ) Overboots: Latex

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit
( ) Splash Suit
( ) Apron:
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves: PVC
( ) Gloves: Cotton
( ) Overgloves: Nitrile

Other: specify below
( ) Tick Spray
( ) Flotation Device
( ) Heating Protection
( ) Sun Screen

Exit Area

BLOCK C

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
(x) Primary ( ) Contingency

Respiratory: ( ) Not needed
( ) SCBA, Airline:
( ) APR:
( ) Cartridge:
( ) Escape Mask:
( ) Other:

Head and Eye: ( ) Not needed
( ) Safety Glasses:
( ) Face Shield:
( ) Goggles:
( ) Hard Hat:
( ) Other:

Boots: ( ) Not needed
( ) Steel-Toe ( ) Steel Shank
( ) Rubber ( ) Leather
( ) Overboots:

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit:
( ) Splash Suit
( ) Apron:
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall:
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves:
( ) Gloves:
( ) Overgloves:

Other: specify below
( ) Tick Spray
( ) Flotation Device
( ) Heating Protection
( ) Sun Screen

BLOCK D

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
( ) Primary (x) Contingency

Respiratory: ( ) Not needed
( ) SCBA, Airline
( ) APR
( ) Cartridge
( ) Escape Mask
( ) Other:

Head and Eye: ( ) Not needed
( ) Safety Glasses
( ) Face Shield
( ) Goggles
( ) Hard Hat
( ) Other:

Boots: ( ) Not needed
( ) Steel-Toe ( ) Steel Shank
( ) Rubber ( ) Leather
( ) Overboots

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit
( ) Splash Suit
( ) Apron
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves
( ) Gloves
( ) Overgloves

Other: specify below
( ) Tick Spray
( ) Flotation Device
( ) Heating Protection
( ) Sun Screen

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MONITORING EQUIPMENT: *Specify by task. Indicate type as necessary. Attach additional sheets if needed.*

INSTRUMENT	**TASK**	**ACTION GUIDELINES**		**COMMENTS** *(When and how will you use the monitor?)*
Combustible Gas Indicator	1-(2)-3-4-5-6-7-8	0-10% LEL 10-25% LEL >25% LEL 21.0% O2 <21.0% O2 <19.5% O2	*No explosion hazard* *Potential explosion hazard; notify SHSC* *Explosion hazard; interrupt task/evacuate* *Oxygen normal* *Oxygen deficient; notify SHSC* *Interrupt task/evacuate*	( ) Not Needed Needed for all drilling activities which includes hydropunch technology and soil vapor sampling.
Radiation Survey Meter	1-2-3-4-5-6-7-8	3 x Background: >2mR/hr:	*Notify HSM* *Establish REZ*	(X) Not Needed
Photoionization Detector 10.6eV Lamp Type OVM	1-(2)-3-4-5-6-7-8	*Specify:* 0-2 ppm: Level D 2-20 ppm: Level D. Check for vinyl chloride > 20 ppm Leave area. Call HSM		( ) Not Needed Monitor breathing zone continuously. Compare action levels to time-averaged breathing zone measurements.
Flame Ionization Detector Type_____	1-2-3-4-5-6-7-8	*Specify:*		(X) Not Needed
Detector Tubes/ Monitox Type: Vinyl Chloride	1-(2)-3-4-5-6-7-8	*Specify:* 0-0.5 ppm: level D > 0.5 ppm Leave Area. Call HSM		( ) Not Needed
Respirable Dust Monitor Type_____	1-(2)-3-4-5-6-7-8	*Specify:* If team observes visible concentrations of airborne dust or dry, windy conditions that dust, team will leave area.		( ) Not Needed
Other *Specify:*	1-(2)-3-4-5-6-7-8	*Specify:* If team notices unusual odors or irritation of the eye or throat, they will leave the area.		

HEALTH AND SAFETY PLAN FORM **CDM Health and Safety Program**	*This document is for the exclusive use of CDM and its subcontractors*	**CAMP DRESSER & McKEE INC.** **PROJECT DOCUMENT #:**

DECONTAMINATION PROCEDURES

ATTACH SITE MAP INDICATING EXCLUSION, DECONTAMINATION, AND SUPPORT ZONES AS PAGE TWO

Personnel Decontamination *Summarize below or attach diagram;*	**Sampling Equipment Decontamination** *Summarize below or attach diagram;*	**Heavy Equipment Decontamination** *Summarize below or attach diagram;*
Team members will remove their protective clothing in the following order: 1. Equipment drop. 2. Glove removal 3. Hand and face wash.	Sampling equipment will be decontaminated by: 1. Gross mechanical removal of dirt. 2. Alconox/Water wash. 3. Potable water rinse. 4. Distilled water rinse.	Drill rigs and/or geoprobes used for hydropunch and soil vapor sampling will be decontaminated by: 1. Gross mechanical removal of dirt. 2. Alconox/Water wash. 3. Potable water rinse. Heavily contaminated equipment will be steam cleaned
Containment and Disposal Method Disposable protective equipment will be disposed of in CDM dumpster, unless heavily contaminated. If heavily contaminated, disposable equipment will be contained in drums and left on site for proper disposal.	**Containment and Disposal Method** Sampling equipment cleaning water solutions will be allowed to drain to the groundwater. If heavily contaminated, disposable equipment will be contained in drums and left on site for proper disposal.	**Containment and Disposal Method** Decontamination fluids will be released to the ground, unless heavily contaminated. If heavily contaminated, contractor will contain the waste in drums, and left on site for proper disposal.

HEALTH AND SAFETY PLAN FORM *This document is for the exclusive* **CAMP DRESSER & McKEE INC.**

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EMERGENCY CONTACTS	NAME	PHONE
Water Supply		
Site Telephone		NA
EPA Release Report #:		800-424-8802
CDM 24-Hour Emergency #:		732-539-8128
CHEMTREC Emergency #:		800-424-9300
Underground Utility	UFPO	800-962-7962

CONTINGENCY PLANS: *Summarize below*

If CDM work team observes hazards for which they have not prepared, they will withdraw from the area and call the CDM Project Manager

SHSC will designate evacuation routes. Teams will cease work if they see lightning or thunder storms in the area.

CDM may rely on instruments operated by contractor personnel only upon HSM approval. If contractor directs a higher level of protection than this plan does, CDM personnel will wear that level. CDM personnel may choose to wear more potection than directed by this plan.

Contractor will be expected to inspect its equipment and certify its suitability for the project to the CDM site health and safety coordinator.

HEALTH AND SAFETY PLAN APPROVALS

Prepared by Melissa A Koberle Date July 2007

HSM Signature **APPROVED** *By Chris Marlowe at 1:51 pm, Jul 11, 2007* Date _____

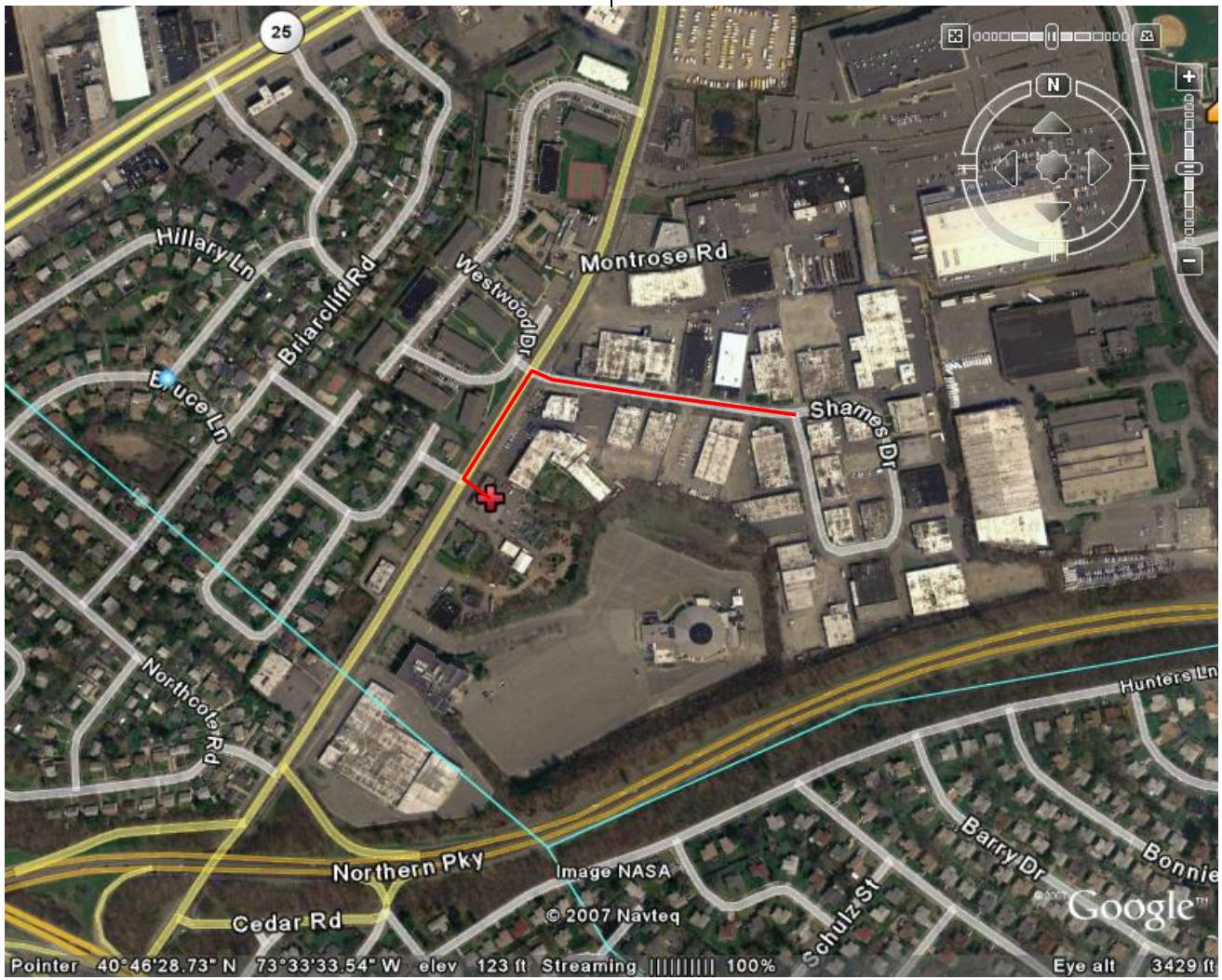
EMERGENCY CONTACTS	NAME	PHONE
CDM Health and Safety Manager	Chris Marlowe	732-590-4632
CDM Field Manager	Melissa Koberle	212-785-9160
CDM Site Safety Coordinator	Melissa Koberle	212-785-9160
Client Contact	Vivian James	212-402-9621
Other *(specify)*		
Environmental Agency	NYSDEC	
State Spill Number	New York	800-342-9296
Fire Department		911
Police Department		911
State Police		911
Health Department		
Poison Control Center	Nationwide	800 / 222 - 1222
Occupational Physician	Kenneth Chase	800 / 777 - WOHA

HOSPITAL INFORMATION

Name: North Shore University Hospital
Phone: (516) 876-5200
Address: 972 Brush Hollow Rd # 302, Westbury, NY
Route: Drive West on Shames Drive
towards Brush Hollow Road
Turn Left at Brush Hollow Road
The hospital is before the Northern State Parkway overpass

Distance: <1 mile

ROUTE TO HOSPITAL MAP:



Generic Community Air Monitoring Plan

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all <u>ground intrusive</u> activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

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 taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking 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

Volatile organic compounds (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 should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should 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 must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored **continuously** at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

June 20, 2000

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Appendix B

CITIZEN PARTICIPATION PLAN (CPP)

CITIZENS PARTICIPATION PLAN
SHAMES DRIVE INDUSTRIAL PARK
(Site No.:1-30-173)
Westbury, New York

Prepared for

New York State Department of Environmental Conservation
Investigation and Design Engineering Services
Standby Contract No. D004437
Work Assignment No. D004437-11

Prepared by

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December 2007

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Section 1
Introduction

This Citizens Participation Plan (CPP) for Shames Drive Industrial Park (herein referred to as the "Site") located at Shames Drive in Westbury, Nassau County, New York was prepared by Camp Dresser and McKee Inc. (CDM) for the New York State Department of Environmental Conservation (NYSDEC) under the Engineering Services for Investigation and Design, Standby Contract No. D004437. All background and site information used in the development of this CPP was furnished by NYSDEC and by the CDM Record Search. The CPP was developed in accordance with the "State Superfund Standby Contract Work Assignment D004437-11, Site Characterization, Shames Drive Industrial Park, Site No. 130173."

1.1 Purpose and Objectives

The primary objective of this work assignment is to determine if on-site sources of contamination are present within the industrial park which would warrant the site being listed as a New York State Hazardous Waste Site. A secondary objective is to determine if the industrial park properties have been impacted by upgradient sources of contamination, specifically, the Solvent Finishers Site. The Solvent Finishers Site is former industrial dry cleaner located at 601 Cantiague Rock Road and is suspected to be a strong potential source of groundwater contamination. The investigation will focus on determining groundwater flow direction, the level of contamination, and the possible sources of contamination. The results of the investigation will be used to determine if the site should be listed as a New York State Hazardous Waste Site. Field tasks for this investigation are:

- Perform a geophysical survey to identify subsurface utilities and clear the boring locations prior to drilling;
- Perform a soil vapor intrusion evaluation at Orly's Treehouse, a child care facility, located at 1000 Shames Drive (Lot 935), to determine the presence of soil vapors in the unsaturated zone that may impact the indoor air quality in the on-site structure.
- Install monitoring wells at 6 locations at which groundwater samples will be collected to determine the presence of groundwater contamination. The 6 locations include two locations situated upgradient of the industrial park to determine if groundwater within the industrial park is being impacted by upgradient sources of contamination and four locations downgradient of the Site to determine if contaminated groundwater is present within the park which is migrating from the Site.
- Survey the locations and elevations of the 6 monitoring wells to enable determination of groundwater flow direction within the industrial park. Soil vapor points will also be surveyed to enable placement of the locations on a site map.
- Dispose of investigation derived waste

1.2 Site Description and Background

1.2.1 Site Description

The combined acreage of all industrial park properties is 24.2369 acres. Shames Drive is located in Nassau County, Long Island, NY and spans across the towns of Westbury, Jericho and Oyster Bay. According to the USGS *Hicksville, New York* 7.5-Minute topographic map (1979), the site lies approximately 160 feet above mean sea level (msl).

The property is surrounded by commercial and industrial properties. The site is bound to the north by Montrose Road, to the west by Brush Hollow Road, to the south by the North Fork Theatre, and to the east by Cantiague Rock Road and commercial/ industrial buildings. Each property in the industrial park is improved with buildings constructed in the late 1950s early 1960s. Solvent Finishers is located northwest of the industrial park.

1.2.2 History

Development of Shames Drive first began in the 1940s with a farm and residential buildings. Based on the 1947 Hicksville 7.5 minute topographic map and a 1953 aerial photo a driveway leading to three structures, likely a house and farm buildings, existed. A cleared area just south of the buildings is visible and was likely utilized as farmland. The size and shape of the clearing, combined with the geographic location of the site, set the outline for the construction of Shames Drive. Nearly all the lots and all the buildings as they exist today were constructed in the late 1950s and 1960's. Historic Sanborn maps and Nassau County property cards show that nearly all of the buildings along Shames Drive were constructed between 1958 and 1961, with improvements such as additions, garages, shops, and paving being completed shortly after.

The majority of the Shames Drive properties were first developed for manufacturing and industrial use. The properties have remained fairly unchanged in construction and design with only interior reconstruction and changes in occupancy over the years. Please refer to the Records Search Report for a detailed description of each property within the Site. Based on information obtained from the records review, 14 properties of concern were identified (Table 1-1) as having the potential to have impacted groundwater at the Site. In addition, a childcare center operates at 1000 Shames Drive (Lot 935). NCDOH records indicate that low levels of volatile organic compounds (VOCs) were identified in cesspool water and soil on the property. As such, CDM recommended investigation on this property to evaluate the potential exposure to the children at the facility.

Table 1-1
Properties of Potential Concern

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
938	100 Shames Dr	First Investors Corp	Financial services	1958- Intercontinental Electronics 1971- Jasik Laboratories, Inter-County Tabulating Co.,Inc.	Manufacture of Electronics equipment, research/development of high frequency antenna and microwave transmission systems, tabulating services	two 8,000-gal gasoline USTs previously on site
921	400 Shames Dr	General Welding Supply Co.	Sales of welding supplies and industrial/medical gases	1958- General Welding Supply Corp. Welding Supplies, Inc.	Warehouse and sales of welding supplies	2,000-gal and 4,000-gal USTs previously on site – contents unknown
922	500 Shames Dr	Verizon	Telecommunications	1957- Stanant MFG Company, Inc., 1992- NY Telephone Bell Atlantic	Machine shop; Maintenance garage, telecommunications	1990- cesspool soils contained halogenated hydrocarbons & heavy metals; presence of a long grate-like drain w/ unknown discharge point; former waste oil tank, gasoline UST
930	600 Shames Dr	General Welding Supply Co.	Sales of welding supplies and industrial/ medical gases	Westbury Industrial Development Corp., Universal oven Corp	Welding and steel cutting	Welding and steel cutting operations
941	700 Shames Dr	California Closet Co	Sales of storage & closet equipment supplies & materials	1957- SemCo Westbury Industrial Development Corporation & Champion Storm-Sash Co 1990-Wesbury Alloys	Aluminum sash fabrication. Warehouse and masonry shop Refining & smeltering precious metals	Refining and smeltering precious metals using hydrochloric acid, nitric acid and cyanide 2,550-gal spent acid UST previously on site
1073	1200 Shames Dr	Multi Occupant	Multi Use: Jordan Fashions; MTS Power Systems; Delfino Insulation Co., Inc.	1958-HITEMP Wires Co, a Div. of the Simplex Wire and Cable Corp.	Manufacture of wire insulation	Most upgradient property; former on-site manufacturing

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
962	1300 Shames Dr	Miller Envirn. Group Inc.	Environmental consulting services	1958- SemCo Aircraft Turbine Services	Manufacture, testing and repair of aircraft components	Former manufacture and repair of aircraft parts; former oil ASTs and UST.
956	1500 Shames Dr	National Molding and Ornament	Sales of lumber and millwork	1958 - Slantco (aka Slant Fin Corporation), 1965 -Hallmark Lithographers, 1977-Slant Fin	Metal casting foundry, Print shop	complaints regarding noxious odors; former metal casting and print shop operations
1014	1600 Shames Dr	AVAD Metro east Distributors	Sales of audio components; flat panel TVs and home theatre systems	1957- Electronic Equipment Manufacturing 1967 Radiation Dynamics Inc.	Manufacture of electronics	Former radiation on site.
965	1700 Shames Dr	Sprague Goodman Electronics	Manufacture of trimmer capacitors, assembly of electronic parts & electroplating / metallizing of dielectric tubes	1959- Electronics Equipment Manufacturing 1960- Power Designs Inc., P-Electronics Inc.	Office/ factory use; manufacturing of trimmer capacitors, assembly of electrical parts, & electroplating/ metallizing of dielectric tubes	Copper sulfate, stannous sulfate, 1,1,1,-trichloroethane (1,1,1-TCE), and methyl alcohol for degreasing is used during processing. Rinses from copper and tin plating discharged to a pit in the process area at the front of the building
959	1800 Shames Dr	Electro Industries	Manufacture / sales of power and energy meters & power analyzer technology	1959- Radiation Dynamics, Electronics Equipment Manufacturing	Research & development of high voltage particle accelerators & manufacture of X-ray equipment	Former radiation vault on site
964	2300 Shames Dr	Kemp Metal Products, Inc	Pouring and rolling out metal ingots (zinc & nickel) and cutting into karats	1959- Precision boring Co, Kemp Metal Products, Inc, 1966- Polymer Plastics manufacturing Corp 1968- Electronics Equipment Manufacturing, Freedman 1989- accent on Lithography	Metal works, precision products and instruments, manufacture of sealers, adhesives, etc. Print shop	discharge pipe, uncapped/ un-elevated waste drums, un-designated chemical storage areas and un-posted MSDS; metal works; former use of dyes, photo developer and fixer; waste streams poured in sink; borax, hydraulic oil and cooling oil

Lot	Address	Current Occupant	Current Business	Previous Occupant	Previous Business	Potential Concern
958	2500 Shames Dr	BDC & Custom Install/ CEDIA Distribution	Sales of audio and video equipment and architectural and home automation products	Henry J. Green Instruments Inc., White Hixon Laboratories	Manufacture of meteorological instruments, manufacture, design, test and sales of photographic processing equipment	Manufacturing of meteorological equipment could indicate storage and use of mercury
958	2700 Shames Dr	County Fair Air Conditioning Corp	Full service mechanical contractor	1970-Clairette manufacturing Co., Martha-Theiss Inc	Unknown, office space & technical services, research, development and electronics	Instrument machining conducted on-site

1.3 Environmental Setting

The Shames Drive Industrial Park is relatively flat and lies at an approximate elevation of 160 feet above mean sea level (msl). Local topography slopes from the northeast to the southwest in the vicinity of the Site.

Based on information obtained in *Nassau County Groundwater Monitoring Program, 2002-2003,* the ground water table lies at an approximate elevation between 70 and 80 feet above msl at the Site (~80 feet below ground surface). The water table generally parallels the land surface and is expected to flow to the south-southwest. However, pumping at local public supply wells may complicate the groundwater flow direction.

1.3.1 Geology

Long Island is comprised of Cretaceous and Pleistocene unconsolidated deposits underlain by Early Paleozoic to Precambrian bedrock. The hydrogeology of Long Island has been well documented over the years by the USGS (Doriski and Wilde-Katz, 1983; Smolensky et al, 1989). Three major aquifers are present on Long Island: the upper glacial aquifer, the Magothy aquifer and the Lloyd aquifer.

1.3.1.1 Bedrock

Bedrock in the area of the Site is composed of Precambrian to Early Paleozoic igneous or metamorphic rock. Unconformably overlying the basement is a thick succession of Late Cretaceous deposits: the Raritan and overlying Magothy Formations, both of fluvio-deltaic depositional origin. The Upper Cretaceous deposits are unconformably overlain by a veneer of Pliocene and Pleistocene deposits, chiefly of glacial origin.

1.3.1.2 Cretaceous

Raritan Formation: The Raritan Formation is divided into the basal Lloyd Sand Member and the overlying Raritan Clay Member. The Lloyd Sand rests unconformably on bedrock and is about 150 feet thick in the vicinity of the Site. The top of the Lloyd Sand is found at approximately 200-250 feet below msl. It is composed of white and grey fine to coarse sand and gravel, commonly with a clayey matrix. The contact with the overlying clay member is gradational.

The Raritan Clay Member is composed chiefly of bedded variegated clay and silt, locally containing interbedded sands. Lignite fragments and iron and pyrite nodules are common. The clay member is approximately 100 feet thick in the vicinity of the Site (Smolensky, et al. 1989). The Raritan Clay is the most widespread hydrologic confining layer on Long Island. The Raritan's updip erosional pinchout generally is located subparallel to the northern coast of Nassau County. The clay unit dips gently to the south-southeast.

Matawan Group-Magothy Formation (Magothy): The Magothy unconformably overlies the Raritan; the contact is commonly marked by a change from the solid clays of the Raritan Clay Member to coarse sands and gravels of the basal unit of the Magothy. The dominant Magothy lithology generally is fine to medium quartz sand, interbedded clayey sand with silt, clay, and gravel interbeds or lenses. Interbedded clay is more common towards the top of the formation. The thickness of the Magothy varies between 100 feet in the vicinity of the Site to over 800 feet beneath the barrier islands.

1.3.1.3 Cenozoic-Quaternary

Deep erosion of the land surface took place as a response to fluctuations in sea level during the Cretaceous. Sedimentological evidence indicates that sea level falls exposed the entire Atlantic continental margin during the Miocene epoch, which would have promoted rejuvenation and deep incision of rivers and streams across the Coastal Plain. Later deposition of abundant fluvial and glacial clastic deposits during the Pliocene and Quaternary filled these incised buried valleys. The top of the Cretaceous sequence is marked by a highly irregular erosion surface upon which rests deposits of Pleistocene and, in some places, Pliocene age.

Deposits of Pleistocene age mantle the Cretaceous formations. Within the study area, the Pleistocene deposits include three depositional sequences: the fluvial Jameco Gravel and marine Gardiners Clay; and the much more widespread Late Pleistocene glacial deposits of the Wisconsin glacial stage (upper glacial deposits). Undifferentiated gravels and clays described in buried valleys within southern Long Island have been attributed to the Jameco Gravel and Gardiners Clay units. The Jameco Gravel and Gardiners Clay formations are well-defined, mapable stratigraphic units beneath the southern margin of Long Island where they are of hydrogeological significance. These stratigraphic units are not recognized in the vicinity of the Site. The remainder of the Pleistocene succession belongs to the Wisconsin glacial stage upper glacial deposits.

The thickness of the Pleistocene Upper Glacial Deposits in the study area varies but averages approximately 100 feet. The thickness and distribution of the Pleistocene Upper Glacial Deposits were controlled by the older, now buried paleotopography discussed above. The pattern of stream and river valleys that dissected the surface of Long Island during the Cenozoic likely was later modified by Pleistocene overriding ice sheets and meltwater erosion and deposition.

1.3.2 Hydrogeology

The hydrogeology of Long Island has been well documented over the years by the USGS and others. Three major aquifers are present on Long Island: the Upper Glacial aquifer, the Magothy aquifer and the Lloyd aquifer.

1.3.2.1 Lloyd Aquifer

The Lloyd aquifer overlies the saprolitic bedrock surface and is Long Island's deepest aquifer. The Lloyd sand was deposited as a series of braided streams and deltaic deposits consisting of white and pale yellow sand with interbedded lenses of gravel and white clay (Smolensky et al, 1989). The aquifer does not outcrop on Long Island and is believed to extend to the north beneath Long Island Sound in eastern Nassau County and in Suffolk County, and offshore to the south, beyond the barrier beaches. The Lloyd aquifer is confined in most places, except where the overlying Raritan clay has been eroded away. The thickness of the Lloyd aquifer varies from 0 feet where it is not present along the north shore of Nassau County, to more than 500 feet in the southeastern areas of Nassau County. The average horizontal hydraulic conductivity is reported to be approximately 40 ft/day with a 10:1 vertical anisotropy.

1.3.2.2 Raritan Clay

Overlying the Lloyd aquifer is the Cretaceous Age clay member of the Raritan Formation, referred to as the Raritan clay. The Raritan clay is the major confining unit on Long Island, ranging between 150 and 250 feet in thickness. Like the Lloyd aquifer, the Raritan clay is absent from areas of northern Queens and northern Nassau County where it had been eroded. The Raritan clay outcrops in parts of Queens, and is believed to be present north of the island beneath Long Island Sound, and south of the island, beneath the barrier islands. This confining unit consists of solid, multicolored, compact clay (gray, white, red, or tan) with interbedded lenses of sand. The average vertical hydraulic conductivity is reported to be approximately 0.001 ft/day.

1.3.2.3 Magothy Aquifer

The Magothy aquifer is an upward fining sequence of the Cretaceous Age Matawan Group consisting of fine to medium grained quartz sand, silt, clay, and gravel and is up to 1,100 feet thick. The base of the Magothy is very coarse, having been deposited in a high-energy environment involving stream and deltaic deposition. This high-energy deposition abruptly ended as fine sands, silts and clays form the majority of the unit. The Magothy Aquifer is unconfined in the site area. The Magothy aquifer is the principal water supply aquifer in Nassau and Suffolk Counties, attributing to its thickness. Its average horizontal hydraulic conductivity is reported to be approximately 50 ft/day with a vertical anisotropy of 100:1 (Smolensky et al, 1989).

1.3.2.4 Upper Glacial Aquifer

The upper glacial aquifer is the surficial unit on Long Island and is therefore entirely unconfined. Along the Harbor Hill and Ronkonkoma terminal moraines and parts of the north shore, the unit is composed of till consisting of poorly sorted clay, sand,

gravel, and boulders. The till is generally poorly permeable and may contain perched water. The outwash deposits that are found are mainly between, and south of, the moraines. The outwash deposits are moderately to highly permeable, consisting of gray, brown, and yellow fine to very coarse sand and gravel. The upper glacial aquifer ranges up to 600 feet thick, however the saturated thickness is often much lower. The estimated average horizontal hydraulic conductivity generally exceeds 225 ft/day.

1.4 Groundwater

Based on Nassau County regional groundwater information obtained in the *Nassau County Groundwater Monitoring Program, 2002-2003* (NCDPW, 2005) the water table lies at an elevation of 70 to 80 feet above mean sea level (MSL) (~80 ft bgs). Flow in the water table aquifer (Upper Glacial) is complicated by a groundwater divide located approximately 1,000 feet northeast of Cantiague Rock Road. In general, it is expected that groundwater flow at the site will be to the south/southwest, however because of its proximity to the groundwater divide there is a potential for flow to the north and south from the site as well. In addition, groundwater extraction from local public supply wells can also influence groundwater flow at the site.

Flow in the Magothy Aquifer is more towards the south/southwest near the site. Groundwater flow in the deeper Lloyd Aquifer is expected to be to the southwest.

Section 2
Scope of Work

2.1 Task 1A – Site Visit and Work Plan Development

A site visit was conducted on May 17, 2007. This Work Plan references procedures detailed in the CDM Generic Quality Assurance Project Plan (QAPP) dated March 2007which has been provided to NYSDEC for Contract Number D-00437. The Generic QAPP presents methods that will be used to collect field data including project samples, and focuses on the analytical methods and quality assurance/quality control (QA/QC) procedures that will be used to analyze project samples, ensure the data are of known and acceptable quality, and manage the resultant data.

This Work Plan also includes a site specific Health and Safety Plan (HASP) presented in Appendix A and a Citizen Participation Plan (CPP) presented in Appendix B. The HASP describes the site health and safety for the field activities that will be performed. The CPP provides the primary contacts for the site as well as various public entities and provides ways for citizens to be involved in the project.

2.2 Task 1B – Records Search

A records search was performed to meet the requirements of NYSDEC's *Draft DER-10 Technical Guidance for Site Investigation and Remediation* dated December 2002. Information collected during the records/background search was summarized in a Record Search Report and utilized to develop and design the proposed sampling activities detailed in this Work Plan. The Record Search Report is being provided to NYSDEC as a stand alone document, submitted simultaneously with the Work Plan.

2.3 Task 2 – Site Characterization

Site Characterization will be conducted in order to determine the presence of groundwater contamination at the site that would warrant further investigation. The investigation is ultimately being conducted to determine if the site should be listed as a New York State Hazardous Waste Site.

The investigation activities will include a geophysical survey, the installation of groundwater monitoring wells using the hollow stem augers and soil vapor sampling. Soil vapor sampling will only be conducted at 1000 Shames Drive since a childcare center currently operates at this address. The objective is to provide groundwater analyses for comparison to NYS Class GA Groundwater Quality Standards and the determine the presence of soil vapors in accordance with Draft Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated December 2002 and New York State Department of Health (NYSDOH) *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006. Soil samples collected during the investigation will be compared to Technical Administrative Guidance Memorandum (TAGM).

The following section presents the field activities proposed for the Shames Drive Industrial Park site characterization. Field documentation and sampling procedures

are provided in the CDM Generic QAPP referenced above. All applicable procedures contained in the Generic QAPP will be followed.

2.3.1 Geophysical Survey

A geophysical survey utilizing ground penetrating radar (GPR) and electromagnetic conductivity (EC) will be conducted at the site to identify underground utilities, water lines, underground storage tanks and/or any large anomalies such as conduits. The geophysical survey will primarily be performed to clear boring locations prior to drilling, since the One-Call service does not mark out utilities beyond the street. Subsurface utilities will be marked within 15 feet of each proposed location; to allow for the relocation of borings should refusal be encountered during drilling.

2.3.2 Soil Vapor Investigation

A soil vapor investigation will be conducted at 1000 Shames Drive (Lot 935) in order to determine if vapor phase contaminants are present which may impact the indoor air quality at the child care facility on the property. Soil vapor samples will be collected at the locations identified on Figure 2-1in the Site Characterization Work Plan and summarized on Table 2-1 in the Site Characterization Work Plan. Five (5) locations are proposed for the collection of soil vapor samples, with shallow and deep samples anticipated at each location.

The investigation will include:

- Collecting shallow soil vapor samples at a depth equivalent to that of a typical building foundation (~8 feet below ground surface (bgs)) for VOCs.
- Collecting deep soil vapor samples from about 2 feet above the ground water table (~78 feet bgs) for VOCs

These samples will be collected in accordance with the *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 and the *Draft Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation*, dated December 2002.

2.3.2.1 Soil Vapor Sample Collection

Soil vapor samples will be collected at the five locations selected by CDM to ensure full coverage of the property (Figure 2-1). Five (5) Soil vapor points will be installed using direct-push drilling methods. The boreholes will be drilled to a depth approximately 8 feet bgs and 2 feet above the water table surface; estimated to be approximately 78 feet bgs at each sampling location.

Once the desired depth is reached, 3/8-inch Teflon®-lined tubing will be connected to a 6-inch double woven stainless steel sampling screen and placed in the borehole. The borehole will then backfilled with sand to a minimum depth of 6 inches above the screen interval followed by 6-inches of dry bentonite. A bentonite slurry will then

placed to the ground surface. The bentonite will be allowed to hydrate for a minimum of 24 hours prior to sample collection.

Prior to collection of soil vapor samples, the temporary soil vapor probes will be purged in accordance with the NYSDOH SVI Guidance. One to three implant volumes (i.e. volume of the sample probe and tube) will be purged at a flow rate that does not exceed 200 milliliters (ml) per minute. A tedlar™ bag will be filled toward the end of the purge volume to be screened using a photoionization detector (PID) meter. The PID readings will be observed and recorded on the appropriate field form. The samples will be collected using laboratory-certified clean summa canisters with flow regulators and a vacuum of 28 inches Hg ± 2 inches. A vacuum of 5 inches Hg ± 1 inch must be present when sample collection is terminated. The soil vapor purging procedures are detailed further in the Generic QAPP.

Tracer gas will be used to evaluate short-circuiting of the sampling zone with ambient air. The soil vapor sampling locations will be evaluated with tracer gas in accordance with the NYSDOH SVI guidance. The tracer gas sampling procedure is provided in the Generic QAPP.

Samples will be collected using laboratory certified clean SUMMA canisters with regulators that will allow sample collection at two hours or less. Dedicated Teflon®-lined tubing with an inside diameter of ¼ inch will be used at each sample location. The flow rate during sampling shall not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling. During soil vapor sampling collection, an out door ambient air sample will be collected.

Upon completion of sampling, the sample tubing will be removed and the temporary soil vapor probe location backfilled with bentonite. Each location will then be marked with a stake/flag labeled with the proper sample identification and illustrated on the site map so that it can be surveyed at a later date. Borings performed in paved or concrete areas will be backfilled and refinished at the ground surface with concrete or cold patch.

Soil vapor and ambient air samples will be analyzed by a NYSDOH-approved Environmental Laboratory Approval Program (ELAP) certified lab for volatiles using EPA Method TO-15. A minimum reporting limit of 1 microgram per cubic meter ($\mu g/m^3$) must be achieved for all analytes and all results must be reported in $\mu g/m^3$. A NYSDEC Analytical Services Protocol (ASP) Category B data deliverable will be provided for these analyses. All data shall also be submitted electronically in a standardized format consistent with EPA Region 2's Multimedia Electronic Data Deliverable (MEDD). Table 2-1 of the Site Characterization Work Plan presents a summary of the analytical program for the site.

2.3.3 Groundwater Investigation

A ground water investigation will be conducted at the site to determine whether groundwater has been impacted by current and historic uses of the site as well as determine if upgradient groundwater contamination is impacting the site. The locations were selected based on information obtained during the record search which indicated the potential for contamination at 14 of the properties located in the Shames Drive Industrial Park. Historic operations in the industrial park have included the manufacture of electronic equipment, welding supplies, machine shops, aluminum fabrication, metal smeltering, manufacture and repair of aircraft components, a metal casting foundry, a print shop, electroplating, and the manufacturing of meteorological instruments. Most of the properties at the Site were not connected to the municipal sewer until the 1990's. Prior to that time, the businesses used cesspools and drywells for wastewater disposal. At the few properties where investigations were conducted by Nassau County DOH some level of contamination was usually identified, particularly at the locations of former cesspools and drywells.

The investigation will include the installation of six groundwater monitoring wells (CDM-MW-1 through CDM-MW-6) at the locations identified on Site Characterization Work Plan Figure 2-1. The well locations were selected so as to characterize groundwater entering the Site and groundwater leaving the site to determine if contamination is migrating onto the Site from an upgradient source as well as identify contamination originating within the Site. The wells were placed along the perimeter of the Site as follows:

- CDM-MW-1: Upgradient well located at 1000 Shames Drive (childcare center) to identify whether groundwater contamination from an upgradient source is impacting the site, and also serves to collect groundwater data at the childcare facility to correlate with soil vapor data

- CDM-MW-2: Upgradient well located at 1200 Shames Drive to identify whether groundwater contamination from an upgradient source is impacting the site

- CDM-MW-3: Downgradient well positioned southwest of 500 and 700 Shames Drive. Cesspools at 500 Shames drive contained halogenated hydrocarbons & heavy metals; a long grate-like drain with an unknown discharge point was also identified on this property. Operations at 700 Shames Drive included refining and smeltering precious metals using hydrochloric acid, nitric acid and cyanide; Underground storage tanks were present on both properties.

- CDM-MW-4: Downgradient well positioned southwest of 2300 Shames Drive. Former operations at 2300 Shames Drive included metal works and former use of dyes, photo developer and fixer; borax, hydraulic oil and cooling oil. Records indicate that waste streams were poured into the sink to discharge to an onsite septic system. An uncapped discharge pipe was also identified at this facility.

- CDM-MW-5: Downgradient well positioned southwest of 1500 Shames Drive. Former operations at 1500 Shames Drive included metal casing and print shop operations.

- CDM-MW-6: Dowgradient well positioned southwest of 1700 Shames Drive. Operations at 1700 Shames Drive involve the use of copper sulfate, stannous sulfate, 1,1,1,-trichloroethane (1,1,1-TCE), and methyl alcohol for degreasing. Rinses from copper and tin plating discharged to a pit in the process area at the front of the building.

2.3.3.1 Drilling

In order to better enable reaching groundwater, which is anticipated to be at 80 feet bgs, drilling will be conducted using a hollow-stem auger rig. Split spoon samples will be collected continuously during drilling from the ground surface to 30 feet bgs (10 feet below the depth of a deep drywell) and at 5-foot intervals the remainder of the boring. Soils will be screened with a PID for indications of volatile organics, characterized and logged. Drilling procedures are detailed in the Generic QAPP.

If contamination is identified based on field observations during drilling, soil samples will be collected to confirm contamination. For budgeting purposes, it was assumed that 6 soil samples would be collected during the investigation. Soil samples will be submitted to a NYSDOH-certified laboratory for analysis for volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by EPA Method 8270C and metals by EPA Method 6010B.

2.3.3.2 Groundwater Monitoring Well Construction

The six wells will be constructed of 4-inch diameter PVC screen and casing for groundwater sampling and monitoring purposes. The wells will be installed to between 90 and 100 feet bgs, depending on where groundwater is encountered, and will be screened across the water table such that 5 feet of screen will be above the water table and 10 feet will be below. A New York-licensed well driller will install the monitoring wells. The wells will be developed after installation and will be allowed to stabilize for at least two weeks prior to sampling.

2.3.3.3 Groundwater Sampling

Prior to sampling, three well volumes will be purged from each well. Groundwater sampling procedures are detailed in the Generic QAPP. Groundwater samples will be submitted to a NYSDOH-certified laboratory for analysis for low level VOCs and SVOCs by EPA SOW OLC03.2 and metals by EPA SOW ILM04.2 in order characterize potential groundwater contamination at the site.

2.3.4 Site Survey

The locations of all sample points will be surveyed including the ground surface and casing elevations and the coordinates of six monitoring wells and coordinates of 5 soil vapor points. The horizontal and vertical positions will be tied into the North

American Datum 1983 (NAD83) coordinate system. The vertical positions will be tied to the North American Vertical Datum 1988 (NAVD88). The measuring point associated with the monitoring wells will be recorded to an accuracy level of 0.01 feet vertically. The coordinates will be used to map the locations on aerial photography. The well elevations will be used to determine the groundwater flow direction within the industrial park.

2.3.5 Investigative Derived Waste

Soil cuttings and purge water from each sampling location will be containerized in drums or other appropriate vessel and disposed off-site. It is assumed that 12 cubic yards of non-hazardous soil will require off-site disposal. Well development and purge water is estimated at 1,200 gallons. Investigation-derived waste containers will be stored on-site at a location determined by NYSDEC until it is characterized and can be removed by a licensed waste hauler.

2.3.6 Decontamination Procedures

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each sample interval using an Alconox rinse and potable water rinse prior to reuse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

2.4 Task 3 - Field Documentation and Reporting

2.4.1 Field Documentation Procedures

Bound field notebooks will be used during all on-site work. A dedicated field notebook will be maintained by the field technician overseeing the site activities. In addition to the notebook, any and all original sampling forms (e.g lithologic logs, well construction diagrams), and purge forms used during the field activities, will be submitted to the NYSDEC as part of the final report. Field and sampling procedures, including installation of the sample boreholes, existing monitoring wells, etc., will be photo-documented.

2.4.2 Sample Identification

Each sample collected will be designated by an alphanumeric code that will identify the type of sampling location, matrix sampled, and the specific sample designation (identifier). Each sample shall begin with the NYSDEC Site Number for the Shames Drive site (130173). The following terminology shall be used for the samples collected during this investigation:

Soil Vapor: 130173-SV- Location-Interval (“S” for shallow, “D” for deep)
e.g. sample collected from the shallow soil vapor point SV-1 would be 130173-SV-1S

Water: 130173-Monitoring Well ID-GW
e.g. sample collected from monitoring well CDM-MW-1 would be 130173-MW-1-GW

Soil: 130173-Monitoring Well ID – S – Depth
e.g sample collected at 5 feet bgs from well CDM-MW-1 would be 130173-MW-1-S-5

Field Blanks: 130173-FB-DATE

Trip Blanks: 130173-TB-DATE

2.4.3 Sample Location

The field conditions at each sample location will be documented in the bound field log book.

2.4.4 Reporting

A total of four copies of a draft letter report will be submitted to NYSDEC for review and comment. The report will document the work conducted and will present the results of the sample analysis and provide recommendations for further investigation should it be warranted. Upon receipt of the comments, CDM will revise the draft letter report and print the four final copies and submit to NYSDEC. One copy of the final letter report; text, tables, maps, photos, etc., will be submitted as a single pdf file. All electronic files will be submitted to NYSDEC on a compact disc. The site investigation data will be submitted in the most recent version of the NYSDEC Electronic Data Deliverable (EDD) with the final report submission. Currently this is the USEPA Region 2 EDD dated December 2003.

2.4.5 Laboratory Analysis and Validation

All samples will be analyzed by a NYSDOH approved ELAP certified laboratory. Groundwater samples will be analyzed for low level VOCs and SVOCs by EPA SOW OLC03.2, and metals by EPA SOW ILM04.2. Soil vapor samples will be analyzed for VOCs by EPA methods TO-15. If soil contamination is identified during drilling, soil samples may be collected. Soil samples will be analyzed for VOCs by EPA method 8260, SVOCs by EPA method 8270, and metals by EPA method 6010B. A NYSDEC ASP Category B data deliverable will be provided for these analyses.

All samples collected will be validated in accordance with NYSDEC Data Usability Summary Report (DUSR) guidance by a party that is independent of the laboratory which performed the analyses and CDM. A usability analysis will be conducted by a qualified data validator and a DUSR will be submitted to the NYSDEC.

Section 3
Project Schedule

The following tabulation provides the proposed project schedule and key milestones for this work assignment. As currently planned, field work will be initiated within two weeks of written receipt of final work plan approval. Field activity duration for the Site Characterization activities is estimated to be one day for the geophysical survey, two weeks for well installation and development and soil vapor point installation and sampling and two days for groundwater sampling assuming no delays are experienced due to inclement weather, site access problems, or for other unforeseen reason.

The scheduled submittal dates for deliverables are based on standard laboratory turnaround times of four weeks, and turnaround for data validation of three weeks.

Project Milestone	Date
Issue Work Assignment (WA)	May 1, 2007
Work Assignment Acceptance	May 7, 2007
Submit Task 1B Draft Records Search Report	July 11, 2007
Submit Task 1A Draft Work Plan	July 13, 2007
Submit Task 1A Draft Work Plan	November 8, 2007
DEC/DOH Comment on Draft Work Plan and Records Search Report	December 7, 2007
Submit Task 1A Draft Work Plan	December 18, 2007
DEC/DOH Comment on Draft Work Plan	December 31, 2008
Submit Task 1A FINAL Work Plan	February 1, 2008
Notice to Proceed (NTP)	February 15, 2008
Commence Task 2 Field Work	March 3, 2008
Task 2 Field Work Completed	March 21, 2008
Task 3 Submit Draft Site Characterization Report	May 5, 2008
Approve Draft Report	35 Days after Draft Report Submitted
Task 3 Submit Final Site Characterization Report	45 Days after Approval of Draft Report

Section 4
Contacts

4.1 Key Project Contacts

It is the expressed intent of NYSDEC and the Town of Jericho, NY to provide information to the public in a timely, complete, and accurate manner. Towards this end, the State has compiled a list of individuals to whom the public can address specific requests for information. These contacts are both local and state public officials and are knowledgeable of the proposed investigative activities. This list of contacts is provided below:

Environmental Concerns

Vivian James
Environmental Engineer
Project Manager
NYSDEC Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, NY 12233-7015
(518) 402-9621

Health Related Concerns

Donald W.R. Miles
New York State Department of Health
Public Health Specialist
Chief, Long Island/ATSDR Section
Bureau of Environmental Exposure Investigation
(518) 402-7880

Citizen Participation

William Fonda
NYSDEC Division of Environmental Remediation
Region 1 Office
Loop Road, Building 40
Stony Brook, NY 11790-2356
(631) 444-0350

4.2 Repository

Four document repositories have been established to provide the public with convenient access to important project documents and other information. A copy of the documents relevant to the Remedial Investigation and Feasibility Study, including the Work Plan, will be placed in the repositories to allow interested citizens and groups to review these documents.

All documents pertaining to this site will be available for public review at the following repository locations:

1) ***NYSDEC Division of Environmental Remediation***
625 Broadway, 11th Floor
Albany, NY 12233-7017
Mon-Fri 8:30 am – 4:45 pm
By appointment only
(518) 402-9621

2) ***NYSDEC Region 1 Office – Division of Environmental Remediation***
SUNY Campus, Bldg 40
Stony Brook, NY 11790-2356
Mon-Fri 8:30 am – 4:45 pm
By appointment only
(631) 444-0240

3) ***Jericho Public Library***
1 Merry Lane
Jericho, NY 11753
Mon-Tues & Thurs 9:00 am – 9:00 pm
Wed 10:00 am – 9:00 pm
Fri 9:00am - 6:00 pm
Sat 9:00 am – 5:00 pm
Sundays 12:00 Noon – 5:00 pm
(516) 935-6790

4) ***Oyster Bay - Town Clerk***
Town Hall
54 Audrey Ave
Oyster Bay, NY
Mon-Fri 9:00 am – 4:45 pm
(516) 624-6320

Section 5
Citizen Participation Activities

5.1 Fact Sheet and Mailing List

A Fact Sheet detailing the availability of the Site Characterization Work Plan will be sent out to the residents and other interested parties on the mailing list. This mailing will include information about the document repositories, the name and address of NYSDEC Citizen Participation Specialist, NYSDEC Project Manager and NYS Department of Health contact. Parties who express interest in being placed on or removed from the mailing list will be added or removed as requested.

The Fact Sheet will also serve as an invitation for the public to provide input on the Work Plan or other project related documents via written or oral comments. Additional activities, such as a public meeting and/or Fact Sheet after the site investigation is completed will be added as appropriate.

Appendix C

SCHEDULE 2.11

Schedule 2.11(a)

Summary of Work Assignment Price

Work Assignment Number D004437-11

1) Direct Salary Costs (Schedules 2.10(a) and 2.11(b))	$23,900
2) Indirect Costs (Schedule 2.10(g))	$40,128
3) Direct Non-Salary Costs (Schedules 2.10(b)(c)(d) and 2.11(c)(d))	$5,321

4) Subcontract Costs

Cost-Plus-Fixed-Fee Subcontracts (Schedule 2.10(e) and 2.11(e))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
i)	Ken Schider Consulting	W/MBE Reporting	$600
ii)	YEC, Inc	MBE Surveying & Field Support	$10,849
iii)			

A) Total Cost-Plus-Fixed-Fee Subcontracts $11,449

Unit Price Subcontracts (Schedule 2.10 (f) and 2.11 (f))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
i)	EDR	City Directories	$495
ii)	Delta Well	WBE Well Driller	$58,713
iii)	Zebra Environmental	Soil Vapor Point Driller	$10,868
iv)	Mitkem Corporation	MBE Laboratory	$12,748
v)	Nancy Potak	WBE Data Validator	$1,319
vi)	AGS	Geophysical Survey	$1,950
vii)	Innovative Recycling Technologie	IDW Removal	$7,310

B) Total Unit Price Subcontracts $93,403

5) Subcontract Management Fee	$4,182	
6) Total Subcontract Costs (lines 4A + 4B + 5)		$109,034
7) Fixed Fee (Schedule 2.10(h))		$4,482
8) Total Work Assignment Price (Lines 1 + 2 + 3 + 6 + 7)		$182,865

Engineer/Contract # D004437-11
Project Name Shames Drive Industrial Park
Work Assignment No. D004437-11

Date Prepared: 5/16/2007

Schedule 2.11(b)
Direct Labor Hours Budgeted

Labor Classification	***IX***		***VIII***		***VII***		***VI***		***IV***		***III***		***II***		***I***		***Admin Support***		***Total No. of Direct Labor Hours and Costs Budgeted***	
*Av. Salary Rate ($) Year 2008	$65.24		$59.42		$52.09		$45.95		$32.86		$28.62		$25.52		$21.12		$21.12		0	
Description	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost
Task 1 Record Search & Work Plan Development	2	$130.48	6	$356.52	8	$416.72	90	$4,135.50		$0.00	200	$5,724.00	60	$1,531.20		$0	6	$126.72	372	$12,421.14
Task 2 Site Characterization	4	$260.96	2	$118.84	2	$104.18	32	$1,470.40		$0.00	24	$686.88	170	$4,338.40		$0	6	$126.72	240	$7,106.38
Task 3 Field Documentation and Reporting	4	$260.96	4	$237.68	8	$416.72	24	$1,102.80		$0.00	60	$1,717.20	20	$510.40		$0	6	$126.72	126	$4,372.48
Total Hours	10		12		18		146		0		284		250		0		18		738	
Total Direct Labor Cost ($) **Year 2007**		$652.40		$713.04		$937.62		$6,708.70		$0.00		$8,128.08		$6,380.00		$0		$380.16		$23,900.00

* For multiple years use one average salary rate row for each year and each years subtotal Labor Cost.

Engineer/Contract # D004437

Project Name Shames Drive Industrial Park

Work Assignment No. D004437-11

Date Prepared: _____

Schedule 2.11(b-1)
Direct Administrative Labor Hours Budgeted

Labor Classification		*IX*	*VIII*	*VII*	*VI*	*V*	*IV*	*III*	*II*	*I*	*Admin. Support*	*Total No. of Direct Labor Hrs.*
Task 1	Work Plan Development	2	2	2	2	0	0	0	0	0	6	14
Task 2	Site Characterization	2	0	0	0	0	0	0	0	0	6	8
Task 3	Field Documentation and Reporting	4	0	1	0	0	0	0	0	0	6	11
TOTAL HOURS		8	2	3	2	0	0	0	0	0	18	33

Contract/Project administrative hours would include (subject to contract allowability) but not necessarily be limited to the following activities:

1) Work Plan Budget Development
   > Conflict of Interest Check
   > Budget schedules & supporting documentation
2) Review work assignment (WA) progress
   > Conduct progress reviews
   > Prepare monthly project report
   > Update WA progress schedule
   > Prepare M/WBE Utilization Report
3) Contractor Application for Payment (CAP)
   > Oversee and prepare monthly CAP
4) Program Management
   > Prepare monthly cost control report
   > Cost control reviews
<> Staffing Plans
   >Manage subcontracts
   > NSPE list update
   > Equipment inventory
5) Miscellaneous
   > Conduct Health and Safety Reviews
   > Word processing and graphic artists
   > Report editing

Contract/Project Administration hours would **not** inclu

1) QA/QC reviews
2) Techincal oversight by management
3) Develop subcontracts
4) Work plan development
5) Review of deliverables

Schedule 2.11 (c)

Direct Non-Salary Costs
***Work Assignment Number* D004437-11**

	Item	Max. Reimbursement * Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
A)	Other			
1)	Shipping Task 1	LS	1	$25.00
2)	Outside Printing Task 1	LS	1	$250.00
3)	Shipping Task 3	LS	1	$50.00
4)	Outside Printing Task 3	LS	1	$400.00
			Sub-Total Other	$725.00
B)	Miscellaneous Task 1 - Workplan Development/Record Search			
1)	Meals (per day)	$64.00		$0.00
2)	Lodging (per day)	$159.00		$0.00
3)	Mileage (per mile)	$0.485	80	$38.80
4)	PPE (level D) (per day)	$15.00		$0.00
5)	Tolls	$15.00	4	$60.00
6)	LVE	$1.00		$0.00
			Sub-Total Miscellaneous Task 1	$98.80
B)	Miscellaneous Task 2 - Site Characterization			
1)	Meals (per day)	$64.00	17	$1,088.00
2)	Lodging (per day)	$159.00	8	$1,272.00
3)	Mileage (per mile)	$0.485	1530	$742.05
4)	PPE (level D) (per day)	$15.00	17	$255.00
5)	Tolls	$15.00	17	$255.00
6)	LVE	$1.00	240	$240.00
			Sub-Total Miscellaneous Task 2	$3,852.05
			Total Direct Non-Salary Costs	**$4,675.85**

Work Assignment No. D004437-11

Schedule 2.11(d) 3

Maximum Reimbursement Rate for Vendor Rented Equipment

Item	**Max Reimbursement Rate ($)***	**Est. Usage (unit of time)**	**Est. Rental Cost ($) (Col. 2 x 3)**
Task 2			
PID (per month)	$400.00	1	$400.00
Dust Monitor (per month)	$150.00	1	$150.00
Helium tank rental (per day)	$60.00	1	$60.00
Teflon-lined tubing (per foot)	$2.50	10	$25.00
Syringes (per box)	$10.00	1	$10.00
		TOTAL:	**$645.00**

* Reimbursement will be made at the Maximum Reimbursement rate or the actual rental rate, whichever is less.

Schedule 2.11 (e)

Cost-Plus-Fixed-Fee Subcontracts
Work Assignment Number **D004437-10**

Name of Subcontractor	**Services to be Performed**	**Subcontract Price**
Ken Schider Consulting	**M/WBE Reporting**	**$599.97**

A) Direct Salary Costs

Professional Responsibility Level	**Labor Classification**	**Ave. Reimbursement Rate ($/Hr.)**	**Max. Reimbursement Rate ($/Hr.)**	**Est. No. of Hours**	**Total Est Direct Salary Cost (Ave. Reimb. Rate x Est. # of Hrs.)**
IV	Eng/Scientist 4	$32.60	$36.78	8	$260.80

Total Direct Salary Costs **$260.80**

Footnotes:

1) The labor rate averages and maximums shall be adjusted by a rate equal to the increase in the CPI index CUURA101SAO-"All Urban Consumers-New York-Northern N.J.-Long Island" for the previous year. This index is published by the U.S. Department of Labor's Bureau of Labor Statistics. The adjustment will be calculated every January and will be effective for subsequent work assignment billing and budgeting purposes.
2) Schedule 2.11(e) may be re-negotiated after four (4) years at the request of either party. Any revision as a result of re-negotiation will be subject to the approval of the Office of the State Comptroller.
3) The maximum annual escalation is limited to 5%.
4) Reimbursement will be limited to the lesser of either the individual's actual hourly rate or the maximum rate for each labor
5) Reimbursement will be limited to the maximum reimbursement rate for the professional responsibility level of the actual work
6) Only those labor classifications indicated with an asterisk will be entitled to overtime.
7) Reimbursement for technical time of principals, owners, and officers will be limited to the maximum reimbursement rate of that category, the actual hourly labor rate paid, or the State M-6 rate, whichever is lower.
8) Maximum reimbursement rates may be exceeded for work assignment activities that are under the jurisdiction of the Schedule of Prevailing Wage Rates set by the New York State Department of Labor.

B) Indirect Costs

Indirect costs shall be paid based on a percentage of direct salary costs incurred which shall not exceed a maximum of 115 % or the actual rate calculated in accordance with 48 CFR Federal Acquisition Regulation, whichever is lower.

Amount budgeted for indirect costs is: **$299.92**

C) Maximum Reimbursement Rates for Direct Non-Salary Costs

Item		**Max Reimbursement Rate (Specify Unit)**	**Est. No. of Units**	**Total Est. Cost**
1)	Travel	See Schedule 2.10 (d) for rates		
2)	Supplies			

Total Direct Non-Salary Costs **$0**

D) Fixed Fee

The fixed fee is: 7% **$39.25**
See Schedule 2.10 (h) for how the fixed fee should be claimed.

Schedule 2.11 (e)
Cost Plus Fixed-Fee Subcontracts

Shames Drive Industrial Park Survey

February 1, 2008

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE
YEC, INC.	Sample Survey	**$5,579.71**

A. Direct Salary Costs

Professional Responsibilty Level	Labor Classi-fication	Average Reimbursement Rate ($/Hr.)		Maximum Reimbursement Rate ($/Hr.)		Estimated Number of Hours	Total Estimated Direct Salary Cost ($)
Principal	VIII	2007	65.12	2007	70.35	2	130.24
Senior Geologist/Scientist/ Engineer/ Licensed Surveyor	V	2007	43.06	2007	47.36	24	1,033.44
Staff Geologist/ Scientist/Engineer	IV	2007	37.40	2007	41.17	0	0.00
Staff Geologist/ Scientist/Engineer/CAD Operator	III	2007	32.49	2007	36.04	4	129.96
Senior Technician/Staff Engineer/Scientist/Geologist	II	2007	24.02	2007	26.93	12	288.24
Technician/Draftsperson	I	2007	21.76	2007	24.39	12	261.12
						Total Direct Salary Costs:	**1,843.00**

B. Indirect Costs - 117% of direct salary cost

Indirect Costs: **2,156.31**

C. Maximum Reimbursement Rates for Direct Non-Salary Costs:

Item	Maxium Reimbursement Rate	Estimated No. of Units				
Mileage	0.485 /mi.	100	miles/trip	3	trips	145.50
Tolls	20 /day	1	trips			20.00
Survey Equipment Rental	65 /day	1	day			65.00
GPS tie in to NYSP Coordinates	750 /lump	1	lump			750.00
					Total Direct Non Salary Costs:	**980.50**

D. Fixed Fee (15% of Total Direct and Indirect Salary Costs)

Fixed Fee: **599.90**

Schedule 2.11 (e)
Cost Plus Fixed-Fee Subcontracts

Shames Drive Industrial Park Well Sampling

February 1, 2008

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE
YEC, INC.	Well Sampling	**$5,269.28**

A. Direct Salary Costs

Professional Responsibilty Level	Labor Classi-fication	Average Reimbursement Rate ($/Hr.)		Maximum Reimbursement Rate ($/Hr.)		Estimated Number of Hours	Total Estimated Direct Salary Cost ($)
Principal	VIII	2007	65.12	2007	70.35	6	390.72
Senior Geologist/Scientist/ Engineer/ Licensed Surveyor	V	2007	43.06	2007	47.36	0	0.00
Staff Geologist/ Scientist/Engineer	IV	2007	37.40	2007	41.17	0	0.00
Staff Geologist/ Scientist/Engineer/CAD Operator	III	2007	32.49	2007	36.04	24	779.76
Senior Technician/Staff Engineer/Scientist/Geologist	II	2007	24.02	2007	26.93	0	0.00
Technician/Draftsperson	I	2007	21.76	2007	24.39	0	0.00
						Total Direct Salary Costs:	**1,170.48**

B. Indirect Costs - 117% of direct salary cost

Indirect Costs: **1,369.46**

C. Maximum Reimbursement Rates for Direct Non-Salary Costs

Item	Maxium Reimbursement Rate	Estimated No. of Units			
Mileage	0.485 /mi.	110	miles/trip	1 trips	53.35
Tolls	20 /day	1	trips		20.00
Lodging	162 /night	1	nights	1 person	162.00
Meals	64 /day	2	days	1 person	128.00
Level D Protective Equip	15 /day	2	days	1 person	30.00
Truck Rental	420 /week	1	week		420.00
Horriba U-22	300 /week	1	week		300.00
Water level meter	50 /week	1	week		50.00
Grundfos Pump	315 /week	1	week		315.00
Generator	270 /week	1	week		270.00
Tubing	0.3 /foot	600	feet		180.00
Rental Equip Shipping	100 /shipment	1	shipment		100.00
FedEx (coolers)	75 /day	2	days		150.00
Misc Field (alconox. Ice, plastic, etc)	150 /lump	1	lump		150.00
Phone charge	10 /day	2	days		20.00
				Total Direct Non Salary Costs:	**2,348.35**

D. Fixed Fee (15% of Total Direct and Indirect Salary Costs)

Fixed Fee: **380.99**

Assumptions:
- CDM responsible for lab costs and investigation derived waste disposal
- YEC to provide geologist to assist in field sampling
- Estimate 14 wells to be sampled, 4" diameter, 100' deep with 80' water level

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **D004437-11**

Name of Subcontractor	**Services to be Performed**	**Subcontract Price**	**Management Fee**
EDR	**Environmental Database, Aerial Photos, Topo Maps, etc**	**$495**	**$0**

Item	**Max. Reimbursement Rate (Specify Unit)**	**Est. No. of Units**	**Total Est. Cost**
City Directories (30 Properties)		30	$495
Subtotal-Subcontract Price			**$495**
Subcontract Management Fee*			**$0**
TOTAL			**$495.00**

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **D004437-11**

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
AGS	**Utility Locate**	**$1,950.00**	**$0**

Item	Max. Reimbursement Rate (Specify Uni	Est. No. of Units	Total Est. Cost
Geophysical Survey (Clear Drilling Locations)			
Daily Rate	$1,950 day	1	$1,950.00
Subtotal-Subcontract Price			**$1,950.00**
Subcontract Management Fee*			**$0.00**
TOTAL			**$1,950.00**

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **D004437-11**

Name of Subcontractor	**Services to be Performed**	**Subcontract Price**	**Management Fee**
Nancy Potak	**WBE Data Validator**	**$1,319.00**	**$65.95**

Item	**Max. Reimbursement Rate (Specify Unit)**		**Est. No. of Units**	**Total Est. Cost**
DATA VALIDATION Task 2A				
Groundwater				
TCL VOCs OLC03.2	$12	/Sample	11	$132.00
TCL SVOCSs OLC03.2	$18	/Sample	10	$180.00
TAL Metals ILM04.1	$17	/Sample	10	$170.00
Soil				
TCL VOCs 8260	$11	/Sample	17	$187.00
TCL SVOCSs 8270	$20	/Sample	14	$280.00
TAL Metals 6010B	$17	/Sample	14	$238.00
Air				
TO-15 VOCs	$11	/Sample	12	$132.00
TO-15 Dilution	$0	/Sample	12	$0.00
Subtotal-Subcontract Price				**$1,319.00**
Subcontract Management Fee*				**$65.95**
TOTAL				**$1,384.95**

* A subcontract management fee of 5% has been included for M/WBE subcontracts.

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **DOO4437-11**

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
Delta Well	**WBE Driller**	**$58,713.00**	**$2,935.65**

Item	Unit Cost		Est. No. of Units	Total Est. Cost
Mobilization	$3,500.00		1	$3,500
HSA Drilling	$25.00	ft	600	$15,000
2" Split spoons (0-50 ft)	$40.00	ea	114	$4,560
2" Split spoons (50-100ft)	$50.00	ea	60	$3,000
Sched 80 PVC Riser	$16.00	ft	510	$8,160
Sched 80 PVC Screen	$15.00	ft	90	$1,350
Sand pack	$15.00		90	$1,350
bentonite seal	$30.00		18	$540
cement bentonite grout	$17.00	ft	474	$8,058
flushmount manhole	$225.00	ea	6	$1,350
well development	$180.00	hr	12	$2,160
decon pad	$875.00	ea	1	$875
decon time	$180.00	hr	7	$1,260
steam cleaner	$25.00	day	8	$200
IDW handling	$200.00	hr	7	$1,400
Bobcat or trailer for IDW	$150.00	day	7	$1,050
water tanker for water supply	$300.00	day	7	$2,100
DOT drums	$50.00	ea	50	$2,500
Water tanker for development water	$300	day	1	$300
Subtotal-Subcontract Price				**$58,713.00**
Subcontract Management Fee*				**$2,935.65**
TOTAL				**$61,648.65**

* A subcontract management fee of 5% has been included for W/MBE subcontra

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **DOO4437-11**

Name of Subcontractor	**Services to be Performed**	**Subcontract Price**	**Management Fee**
Zebra	**Soil Vapor Point installation**	**$10,867.50**	**$543.38**

Item		**Unit Cost**	**Est. No. of Units**	**Total Est. Cost**
Truck Geoprobe & operator	per day	$1,300.00	5	$6,500.00
Field Tech	per hr	$50.00	40	$2,000.00
Grout	per foot	$2.25	50	$112.50
Temp Soil Vapor points-shallov	each	$95.00	5	$475.00
Temp Soil Vapor points-deep	each	$245.00	5	$1,225.00
Standby		$200.00	1	$200.00
55-gallon drum	each	$55.00	1	$55.00
per diem	per day	$100.00	1	$100.00
Decontamination	per hr	$40.00	5	$200.00

Subtotal-Subcontract Price	**$10,867.50**
Subcontract Management Fee*	**$543.38**
TOTAL	**$11,410.88**

* Subcontract Management Fee of 5% on Subcontracts over $10,000

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number D004437-11

Name of Subcontractor **Mitkem**
Services to be Performed **Laboratory**
Subcontract Price **$12,748.00**
Management Fee **$637.40**

Item	Max. Reimbursement Rate	Specify Unit	Est. No. of Units	Total Est. Cost
Task 2 - Site Characterization				
SAMPLING EQUIPMENT				
Summa Cannisters/Regulators	$110.00	Sample	14	$1,540.00
Cannister Re-Certification	$75.00	Canister	2	$150.00
LABORATORY ANALYSIS				
Groundwater				
TCL VOCs OLC03.2	$69	Sample	11	$759.00
TCL SVOCSs OLC03.2	$159	Sample	10	$1,590.00
TAL Metals ILM04.1	$65	Sample	10	$650.00
Soil				
TCL VOCs 8260	$69	Sample	17	$1,173.00
TCL SVOCSs 8270	$159	Sample	14	$2,226.00
TAL Metals 6010B	$65	Sample	14	$910.00
Air				
TO-15 Air	$225.00	Sample	12	$2,700.00
RCRA Characteristics	$210.00	Sample	5	$1,050.00
			Subtotal-Subcontract Price	**$12,748.00**
			Subcontract Management Fee*	**$637.40**
			TOTAL	**$13,385.40**

* A subcontract management fee of 5% has been included for subcontracts over $10,000.

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number D004437-11

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
Innovative Recycling Technologies	**IDW Removal**	**$7,310.00**	**$0.00**

Item	Max. Reimbursement Rate (Specify Unit)		Est. No. of Units	Total Est. Cost
IDW Removal (Non-Hazardous)	$105	drum	50	$5,250.00
IDW Removal (Hazardous)	$195	drum	0	$0.00
Stop off Fee	$150	per shipment	3	$450.00
vac truck	$950	trans	1	$950.00
	$75	/hr after first hr	4	$300.00
	$0.30	per gallon	1200	$360.00
			TOTAL	**$7,310.00**

* Subcontract Management Fee of 5% on Subcontracts over $10,000

Schedule 2.11 (g) - Summary

Monthly Cost Control Report
Summary of Fiscal Information

Engineer **Camp Dresser & McKee**
Contract No. **D004437**
Project Name **Shames Drive Industrial Park**
Work Assignment No. **D004437-11**
Summary of Tasks
Percentage Completed

Date Prepared _____
Billing Period _____
Payment No. _____ **Invoice No.** _____

Expenditure Category	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
	Costs Claimed This Period	*Paid to Date*	*Total Disallowed to Date*	*Total Costs Incurred to Date (A+B+C)*	*Estimated Costs to Completion*	*Estimated Total Work Assignment Price (A+B+E)*	*Approved Budget*	*Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0	$0	$0	$23,900	
2. Indirect Costs - '167.9%	$0	$0	$0	$0	$0	$0	$40,128	
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0	$0	$0	$64,028	
4. Travel	$0	$0	$0	$0	$0	$0	$3,201	
5. Other Non-Salary Costs	$0	$0	$0	$0	$0	$0	$2,120	
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0	$0	$0	$5,321	
7. Subcontractors	$0	$0	$0	$0	$0	$0	$104,851	
7a. Subcontract Mgt. Fee	$0	$0	$0	$0	$0	$0	$4,182	
8. Total Work Assignment Cost	$0	$0	$0	$0	$0	$0	$178,383	
9. Fixed Fee	$0	$0	$0	$0	$0	$0	$4,482	
10. Total Work Assignment Price	$0	$0	$0	$0	$0	$0	$182,865	

Project Manager (Engineer) **Jessica Beattie**

Date _____

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Shames Drive Industrial Park
Work Assignment No. D004437-11
Task #/Name Task 1 - Records Search Report & Work Plan Development
Complete 0%

Date Prepared
Billing Period
Invoice No.

Expenditure Category	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
	Costs Claimed This Period	*Paid to Date*	*Total Disallowed to Date*	*Total Costs Incurred to Date (A+B+C)*	*Estimated Costs to Completion*	*Estimated Total Work Assignment Price (A+B+E)*	*Approved Budget*	*Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0	$0	$0	$12,421	$0
2. Indirect Costs - '167.9%	$0	$0	$0	$0	$0	$0	$20,855	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0	$0	$0	$33,276	$0
4. Travel	$0	$0	$0	$0	$0	$0	$99	$0
5. Other Non-Salary Costs	$0	$0	$0	$0	$0	$0	$275	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0	$0	$0	$374	$0
7. Subcontractors	$0	$0	$0	$0	$0	$0	$1,095	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0	$0	$0	$0	$0
8. Total Work Assignment Cost	$0	$0	$0	$0	$0	$0	$34,745	$0
9. Fixed Fee	$0	$0	$0	$0	$0	$0	$2,329	$0
10. Total Work Assignment Price	$0	$0	$0	$0	$0	$0	$37,074	$0

Project Manager (Engineer) Jessica Beattie

Date

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Shames Drive Industrial Park
Work Assignment No. D004437-11
Task #/Name Task 2- Site Characterization
Complete 0%

Date Prepared _____
Billing Period _____
Invoice No. _____

Expenditure Category	*A* *Costs Claimed This Period*	*B* *Paid to Date*	*C* *Total Disallowed to Date*	*D* *Total Costs Incurred to Date (A+B+C)*	*E* *Estimated Costs to Completion*	*F* *Estimated Total Work Assignment Price (A+B+E)*	*G* *Approved Budget*	*H* *Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0	$0	$0	$7,106	$0
2. Indirect Costs 167.9%	$0	$0	$0	$0	$0	$0	$11,932	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0	$0	$0	$19,038	$0
4. Travel	$0	$0	$0	$0	$0	$0	$3,102	$0
5. Other Non-Salary Costs	$0	$0	$0	$0	$0	$0	$1,395	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0	$0	$0	$4,497	$0
7. Subcontractors	$0	$0	$0	$0	$0	$0	$103,756	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0	$0	$0	$4,182	$0
8. Total Work Assignment Cost	$0	$0	$0	$0	$0	$0	$131,474	$0
9. Fixed Fee	$0	$0	$0	$0	$0	$0	$1,333	$0
10. Total Work Assignment Price	$0	$0	$0	$0	$0	$0	$132,807	$0

Project Manager (Engineer) Jessica Beattie

Date _____

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Shames Drive Industrial Park
Work Assignment No. D004437-11
Task #/Name Task 3 - Field Documentation and Reporting
Complete 0%

Date Prepared
Billing Period
Invoice No.

Expenditure Category	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
	Costs Claimed This Period	*Paid to Date*	*Total Disallowed to Date*	*Total Costs Incurred to Date (A+B+C)*	*Estimated Costs to Completion*	*Estimated Total Work Assignment Price (A+B+E)*	*Approved Budget*	*Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0	$0	$0	$4,372	$0
2. Indirect Costs 167.9%	$0	$0	$0	$0	$0	$0	$7,341	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0	$0	$0	$11,714	$0
4. Travel	$0	$0	$0	$0	$0	$0	$0	$0
5. Other Non-Salary Costs	$0	$0	$0	$0	$0	$0	$450	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0	$0	$0	$450	$0
7. Subcontractors	$0	$0	$0	$0	$0	$0	$0	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0	$0	$0	$0	$0
8. Total Work Assignment Cost	$0	$0	$0	$0	$0	$0	$12,164	$0
9. Fixed Fee	$0	$0	$0	$0	$0	$0	$820	$0
10. Total Work Assignment Price	$0	$0	$0	$0	$0	$0	$12,984	$0

Project Manager (Engineer) Jessica Beattie

Date

Schedule 2.11 (g) - Supplemental

Cost Control Report for Subcontracts

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Shames Drive Industrial Park
Work Assignment No. D004437-11

Date Prepared
Billing Period
Invoice No.

Subcontract Name	*A* *Subcontract Costs Claimed this Application Inc. Resubmittals*	*B* *Subcontract Costs Approved for Payment on Previous Applications*	*C* *Total Subcontract Costs to Date (A plus B)*	*D* *Subcontract Approved Budget*	*E* *Management Fee Budget*	*F* *Management Fee Paid*	*G* *Total Costs to Date (C plus F)*
1. EDR	$0	$0	$0	$495	$0	$0	$0
1. AGS	$0	$0	$0	$1,950	$0	$0	$0
2. Nancy Potak	$0	$0	$0	$1,319	$66	$0	$0
3. YEC	$0	$0	$0	$10,849	$0	$0	$0
4. Delta Well	$0	$0	$0	$58,713	$2,936	$0	$0
5. Ken Schider	$0	$0	$0	$600	$0	$0	$0
6. Mitkem Corp.	$0	$0	$0	$12,748	$637	$0	$0
7. Zebra	$0	$0	$0	$10,868	$543	$0	$0
8. Innovative Recycling	$0	$0	$0	$7,310	$0	$0	$0
TOTALS	$0	$0	$0	$104,851	$4,182	$0	$0

Project Manager (Engineer) Jessica Beattie **Date**

NOTES:

1) Costs listed in Columns A, B, C & D do not include any management fee costs.
2) Management fee is applicable to only properly procured, satisfactorily completed, unit price subcontracts over $10,000.
3) Line 11, Cloumn G should equal Line 7 (Subcontractors), Column D of Summary Cost Control Report.

Schedule 2.11(h)
Monthly Cost Control Report
Summary of Labor Hours

Number of Direct Labor Hours Expended to Date/Estimated Number of Direct Labor Hours to Completion

Engineer/Contract # **D004437**
Project Name **ıames Drive Industrial Pa**
Work Assignment No. **D004437-11**

Date Prepared _____
Billing Period _____
Invoice No. _____

NSPE Labor Classification	*IX Exp/Est*	*VIII Exp/Est*	*VII Exp/Est*	*VI Exp/Est*	*V Exp/Est*	*III Exp/Est*	*II Exp/Est*	*I Exp/Est*	*Admin.*	*Total No. of Direct Labor Hrs. Exp/Est*
Task 1	0 / 2	0 / 6	0 / 8	0 / 90	0 / 0	0 / 200	0 / 60	0 / 0	0 / 6	0 / 372
Task 2	0 / 4	0 / 2	0 / 2	0 / 32	0 / 0	0 / 24	0 / 170	0 / 0	0 / 6	0 / 240
Task 3	0 / 4	0 / 4	0 / 8	0 / 24	0 / 0	0 / 60	0 / 20	0 / 0	0 / 6	0 / 126
Total Hours	0 / 10	0 / 12	0 / 18	0 / 146	0 / 0	0 / 284	0 / 250	0 / 0	0 / 18	0 / 738

* Expended/Estimated

Appendix D

CONTRACTOR BACKUP

Shames Drive industrial Park
Subcontractor Quote Comparison

Well Drilling	Amount	Units	Land, Air & Water Environmental (WBE)	Delta Well (WBE)	Aztech (WBE)	Geo Environmental	American Auger
Mobilization	1	lump sum	$1,500.00	$3,500.00	$5,400.00	$4,500.00	$6,000.00
HSA Drilling 0-50	300	ft	$22.00	$25.00	$16.50	$20.00	$16.00
HSA Drilling 50-100	300	ft	$22.00	$25.00	$18.00	$25.00	$17.00
2" Split spoons 0-50	114	ft	$30.00	$40.00	$25.00	$15.00	$12.00
2" Split spoons 50-100	60	ft	$30.00	$50.00	$35.00	$30.00	$14.00
Sched 80 PVC Riser	510	ft	$35.00	$16.00	$20.00	$20.00	$28.00
Sched 80 PVC Screen	90	ft	$14.00	$15.00	$24.00	$27.00	$32.00
Sand pack	90	ft	$12.00	$15.00	$9.00	$16.15	$12.00
bentonite seal	18	ft	$20.00	$30.00	$13.00	$72.40	$30.00
cement bentonite grout	474	ft	$15.00	$17.00	$16.00	$14.60	$12.00
flushmount manhole	6	each	$250.00	$225.00	$135.00	$170.00	$200.00
well development	12	hrs	$350.00	$180.00	$157.00	$225.00	$150.00
decon pad	1	each	$250.00	$875.00	$150.00	$500.00	$400.00
decon time	7	hrs	$200.00	$180.00	$135.00	$175.00	$125.00
steam cleaner	8	day	$100.00	$25.00	$135.00	$175.00	$125.00
IDW handling	7	hr	$200.00	$200.00	$150.00	$175.00	$125.00
DOT drums	50	each	$75.00	$50.00	$65.00	$42.00	$40.00
Per Diem	7	day	$0.00	$0.00	$235.00	$250.00	$375.00
Drum lift and tipper	7.0	day	$1,800.00	$150.00	$600.00	$600.00	$750.00
water tabker for water supply	7.0	day	$300.00	$300.00	$800.00	$500.00	$125.00
Water tanker for development water	1	tank	$300	$300	$8,000	$500.00	$125.00
		Totals	$75,880	$58,713	$70,302	$63,937	$59,601

Direct Push Drilling	Amount	Units	Zebra	Hydro Tech	SGS
Mob/demob	1			$500	$1,000
Truck Geoprobe & operator	5	day	$1,300.00	$1,308.30	$1,650.00
Field Tech	40	hr	$50.00	$15.00	
Grout	50	foot	$2.25	$11.85	$5.00
Temp Soil Vapor points-shallow	5	each	$95.00	$110.00	$115.00
Temp Soil Vapor points-deep	5	each	$245.00	$206.00	$205.00
Standby	1		$200.00	$99.00	$165.00
55-gallon drum	1	each	$55.00	$51.50	$65.00
per diem	1	day	$100.00	$50.00	$165.00
Decontamination	5	hrs	$40.00	$45.00	$165.00
		Totals	$10,868	$10,240	$12,320

*- Zebra selected based on experience with Soil Vapor probe installation

Data Validator	Amount	Units	Nancy Potak (WBE)	ChemWorld	Data Validation Services (WBE)
Groundwater					
TCL VOCs OLC03.2	11	sample	$12	$14	$21
TCL SVOCSs OLC03.2	10	sample	$18	$15	$22
TAL Metals ILM04.1	10	sample	$17	$13	$22
Soil					
TCL VOCs 8260	17	sample	$11	$10	$20
TCL SVOCSs 8270	14	sample	$20	$11	$22
TAL Metals 6010B	14	sample	$17	$13	$22
Air					
TO-15 VOCs	12	sample	$11	$22	$23
TO-15 Dilution	12	sample	$0	$22	$5
Totals			$1,319	$1,468	$1,963

Lab	Amount	Units	Mitkem (MBE)	Chemtech (MBE)	STL
Groundwater					
TCL VOCs OLC03.2	11	samples	$69	$100	$525
TCL SVOCSs OLC03.2	10	samples	$159	$200	$235
TAL Metals ILM04.2	10	samples	$65	$95	$160
Soil					
TCL VOCs 8260	17	samples	$69	$80	$90
TCL SVOCSs 8270	14	samples	$159	$180	$195
TAL Metals 6010B	14	samples	$65	$95	$160
Air					
TO-15 VOCs	12	samples	$225	$179	$175
Summa Canisters/Regulators	14	samples	$110	$35	$70
Cannister Recertification	2	samples	$75	$100	
Waste Characterization	5	ea	$210	$225	$800
SEDD	2	ea		$125	
Totals			$12,748	$13,273	$23,305

Surveyor			YEC (MBE)	Donald DeKenipp	Shumaker
Totals			$8,491	*	*

*declined to respond to RFP

Geophysical Survey	Amount	Units	AGS	Naeva Geophysics	Hager-Richter
Totals	1	days	$1,950	$2,593	$2,450

Investigation Derived Waste Disposal	Amount	Units	Innovative Recycling Technologies, Inc.	Seacoast Environmental Services, Inc.	Miller Environmental
SOIL Removal in Drums- Non-Hazardous	50	drum	$105	$98	$140
WATER Removal in drums	25	drum	~~$105~~	$98	$130
WATER Removal in Vac Truck					
- transportation	1	trans	$950	included	NA
-hourly rate	4	hr	$75	~~$175 8hr minimum~~	NA
-per gallon rate	1200	gallon	$0.30	~~$0.28~~	NA
Stop Off Fee	3	shipment	$150	$0	$0
Totals			$7,310	$7,350	$10,250

Note: Explored several disposal options for IDW disposal and selected the most cost effective.

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica Kleattee — 12/18/07
Signature of Contractor's Authorized Representative — Date

CDM — D004437-11
Contractor Name — Contract No. WA No.

INNOVATIVE RECYCLING TECHNOLOGIES INC. — 3/2/07
Subcontractor Name

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 12/18/07
Signature of Contractor's Authorized Representative — Date

CDM — D004437-11
Contractor Name — Contract No. WA No.

MITKEM CORPORATION
Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 12/18/07
Signature of Contractor's Authorized Representative — Date

CDM — D004437-11
Contractor Name — Contract No. WA No.

NANCY POTAK
Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 12/18/07
Signature of Contractor's Authorized Representative — Date

CDM — D004437-11
Contractor Name — Contract No. WA No.

YEC, INC.
Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 1/22/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-11

Contractor Name — Contract No. WA No.

Delta Well & Pump Co.

Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica Beattie — 1/22/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-11

Contractor Name — Contract No. WA No.

Zebra Environmental Corp.

Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 1/22/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-11

Contractor Name — Contract No. WA No.

Kenneth Shider

Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 1/22/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-11

Contractor Name — Contract No. WA No.

Environmental Data Resources, INC (EDR) — 3/2/07

Subcontractor Name

CDM

Subcontractor Conflict of Interest Certification

The undersigned, representing Advanced Geological Services, Inc. (AGS) hereby certifies for the Shames Drive Industrial Park, Site No. 1-30-173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, AGS and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently AGS has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That AGS has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

ADVANCED GEOLOGICAL SERVICES, INC.
Subcontracting Firm

12/21/07
Date

Raritan Plaza I, Raritan Center
Edison, NJ 08818
tel: 732-225-7000
fax: 732-225-7851

January 22, 2008

Mr. Kenneth Shider
8 Dauphin Drive
Albany, NY 12205

Subject: NYSDEC Standby Contract No. D004437-11
Shames Drive Industrial Park (Site No. 1-30-173)
Conflict of Interest

Dear Mr. Shider:

Camp Dresser & McKee (CDM) will be issuing a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- First Investors Corp
- General Welding Supply
- Verizon
- California Closet Co.
- Jordan Fashions
- MTS Power Systems
- Delfino Insulation Co.
- Miller Environmental Group
- National Molding and Ornament
- AVAD Metro East Distributors
- Sprague Goodman Electronics
- ElectroIndustries
- Kemp Metal Products, Inc.
- BDC & Custom Install/CEDIA Distribution
- County Fair Air Conditioning Corp.

CDM

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter. If you have any questions, or need additional cost information, please do not hesitate to contact me.

Very truly yours,

Jessica R. Beattie

Jessica R. Beattie, P.G.
Project Manager
Camp Dresser & McKee Inc.

CDM

Subcontractor Conflict of Interest Certification

The undersigned, Ken Shider, hereby certifies for the Shames Drive Industrial Park, Site No. 1-30-173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, I have no conflict of interest with the work proposed at this site, and

3) That presently I have no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That I have no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Kenneth Shider
Signature of Subcontractor

Ken Shider Consulting
Subcontracting Firm

1/23/08
Date

A

15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

John Ewen
Innovative Recycling Technologies, Inc.
690 North Queens Avenue
Lindenhurst, NY 11757

PROJECT: NYSDEC Standby Contract No. D004437
Shames Drive Industrial Park - Site No.130173

SUBJECT: Conflict of Interest

Dear John Ewen:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- First Inevstors Corp
- General Welding Supply Co.
- Verizon
- California Closet Co.
- Jordan Fashions
- MTS Power Systems
- Delfino Insulation Co.
- Miller Environmental Group
- National Molding and Ornament
- AVAD Metro East Distributors
- Sprague Goodman Electronics
- ElectroIndustries
- Kemp Metal Products, Inc
- BDC & Custom Install/CEDIA Distribution
- County Fair Air Conditioning Corp.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

E

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If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Jessica Beattie, P.G.
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

The undersigned, representing John Ewen hereby certifies for the Shames Drive Industrial Park - Site No.130173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, John Ewen and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently John Ewen has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That John Ewen has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

Innovative Recycling Technologies, Inc.
Subcontracting Firm

11/16/07
Date

16 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

Ed Lawler
Mitkem Corporation
175 Metro Center Blvd.
Warwick, Rhode Island 02886-1755

PROJECT: NYSDEC Standby Contract No. D004437
Shames Drive Industrial Park - Site No.130173

SUBJECT: Conflict of Interest

Dear Ed Lawler:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- First Inevstors Corp
- General Welding Supply Co.
- Verizon
- California Closet Co.
- Jordan Fashions
- MTS Power Systems
- Delfino Insulation Co.
- Miller Environmental Group
- National Molding and Ornament
- AVAD Metro East Distributors
- Sprague Goodman Electronics
- ElectroIndustries
- Kemp Metal Products, Inc
- BDC & Custom Install/CEDIA Distribution
- County Fair Air Conditioning Corp.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Jessica Beattie, P.G.
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

The undersigned, representing Ed Lawler hereby certifies for the Shames Drive Industrial Park - Site No.130173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Ed Lawler and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Ed Lawler has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Ed Lawler has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

E. McKee

Subcontracting Firm

11/27/07

Date

15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

Nancy Potak
1796 Craftsburg Road
Greensboro, Vermont 05841

PROJECT: NYSDEC Standby Contract No. D004437
Shames Drive Industrial Park - Site No.130173

SUBJECT: Conflict of Interest

Dear Nancy:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- First Inevstors Corp
- General Welding Supply Co.
- Verizon
- California Closet Co.
- Jordan Fashions
- MTS Power Systems
- Delfino Insulation Co.
- Miller Environmental Group
- National Molding and Ornament
- AVAD Metro East Distributors
- Sprague Goodman Electronics
- ElectroIndustries
- Kemp Metal Products, Inc
- BDC & Custom Install/CEDIA Distribution
- County Fair Air Conditioning Corp.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

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If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Jessica Beattie, P.G.
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

The undersigned, representing Nancy J. Potak hereby certifies for the Shames Drive Industrial Park - Site No.130173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Nancy J. Potak and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Nancy J. Potak has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Nancy J. Potak has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

Subcontracting Firm

4/25/2007
Date

15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

Nancy Potak
1796 Craftsburg Road
Greensboro, Vermont 05841

PROJECT: NYSDEC Standby Contract No. D004437
Solvent Finishers - Site No.130172

SUBJECT: Conflict of Interest

Dear Nancy:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- Ruby's Costume Co.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Jessica Beattie, P.G.
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

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The undersigned, representing Nancy J. Potak hereby certifies for the Solvent Finishers - Site No.130172

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Nancy J. Potak and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Nancy J. Potak has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Nancy J. Potak has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

Subcontracting Firm

11/25/2007

Date

15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

Nancy Potak
1796 Craftsburg Road
Greensboro, Vermont 05841

PROJECT: NYSDEC Standby Contract No. D004437
Mott Haven Site - Site No. 203042

SUBJECT: Conflict of Interest

Dear Nancy:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- Metro North Railroad

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Maria Watt,
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

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The undersigned, representing Nancy J. Potak hereby certifies for the Mott Haven Site - Site No. 203042:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Nancy J. Potak and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Nancy J. Potak has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Nancy J. Potak has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Nancy J. Potak

Signature of Subcontractor

Subcontracting Firm

11/25/07

Date

15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

November 16, 2007

Nancy Potak
1796 Craftsburg Road
Greensboro, Vermont 05841

PROJECT: NYSDEC Standby Contract No. D004437
58-30 57th Street Site - Site No. 241097

SUBJECT: Conflict of Interest

Dear Nancy:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- Ruby Realty Co., LLC
- Metropolitan Mining Corp.
- Feldman Lumber
- Norampac
- Corrugated Box Co.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Maria Watt,
Senior Project Manager
Camp Dresser & McKee

Enclosures

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Subcontractor Conflict of Interest Certification

The undersigned, representing Nancy J. Potak hereby certifies for the 58-30 57th Street - Site No. 203042:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Nancy J. Potak and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Nancy J. Potak has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Nancy J. Potak has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

Subcontracting Firm

11/25/07

Date

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15 British American Boulevard
Latham, New York 12110
tel: 518 782-4500
fax: 518 786-3810

RECEIVED
NOV 2 6 2007
CAMP, DRESSER & McKEE
EDISON, NEW JERSEY

November 16, 2007

Ed Chen
YEC
612 Corporate Way
Valley Cottage, New York 10989

PROJECT: NYSDEC Standby Contract No. D004437
Shames Drive Industrial Park - Site No.130173

SUBJECT: Conflict of Interest

Dear Ed Chen:

Camp Dresser & McKee (CDM) is issuing has issued a Task Order to your firm for the above-referenced site. Below are, to the best of our knowledge, the known potentially responsible parties (PRPs):

- First Inevstors Corp
- General Welding Supply Co.
- Verizon
- California Closet Co.
- Jordan Fashions
- MTS Power Systems
- Delfino Insulation Co.
- Miller Environmental Group
- National Molding and Ornament
- AVAD Metro East Distributors
- Sprague Goodman Electronics
- ElectroIndustries
- Kemp Metal Products, Inc
- BDC & Custom Install/CEDIA Distribution
- County Fair Air Conditioning Corp.

Please review your firm's contractual status with the above PRP(s), sign the enclosed Conflict of Interest Certification and return it to me within five (5) working days of receipt of this letter.

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If you have any questions or need additional information, please call me at (518) 782-4500

Very truly yours,

Jessica Beattie, P.G.
Senior Project Manager
Camp Dresser & McKee

Enclosures

Subcontractor Conflict of Interest Certification

The undersigned, representing Ed Chen hereby certifies for the Shames Drive Industrial Park - Site No.130173:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Ed Chen and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Ed Chen has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Ed Chen has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

YEC, Inc.

Subcontracting Firm

11/19/07

Date