DT CONSULTING SERVICES, INC.

REMEDIAL INVESTIGATIVE WORK PLAN
FOR
UTILITY PLATERS, INC. OF KINGSTON, NY

BROWNFIELD CLEANUP PROGRAM (BCP)
SITE NUMBER C356035

7/06/2009

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1.0 INTRODUCTION AND PURPOSE

This Final Remedial Investigation (RI) Work Plan has been prepared to satisfy the investigation requirement of the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). The subject property, known as Utility Platers, Inc., located at 416 Washington Avenue in the City of Kingston, Ulster County, New York (heretofore referenced as the site or subject property) has been accepted into the BCP Program (Site Number C356035). Prior investigation activities have been conducted on the Site and the results of those investigations were submitted to the Department along with the BCP Application. As such, an approved Final RI Work Plan is required prior to initiating remaining remedial investigation field activities. The expressed purpose of this work is to provide documentation on the composition and characteristics of surface and subsurface soils, to document local groundwater quality conditions and direction of groundwater flow, and to provide guidance on the selection and implementation of a Remedial Action program for the Site.

This RI has been prepared to focus upon and address specific source areas of environmental conditions at the above referenced site. The site is the location of past chlorinated solvent and petroleum spills, identified in several NYSDEC records. As more fully described in Sections 2 - 4 of this document, metals, chlorinated solvents and petroleum related products have been detected in the subsurface of the property as a result of historical site use which resulted in the release of hazardous and non hazardous substances, including volatile organic compounds (VOCs). The past release of hazardous substances at the site has resulted in:

- A potential threat to human health associated with potential exposure to the subsurface contaminated soils, soil vapor and groundwater.
- A potential environmental threat associated with potential impacts of contaminants to the subsurface soils and groundwater.

2.0 SITE INFORMATION

Located on an irregularly shaped 1.02-acre commercial lot, the site, formerly known as Utility Platers, is improved with a one-story (slab on grade) masonry block structure that was operated as a zinc and chromium plating facility until its closure in the latter half of 2005. According to City of Kingston Assessor records, the building has an area of 13,470-ft² and was constructed in 1955. The facility houses two single-bay service bays, operation area, an office section, storage areas, and restroom. Use of the property for commercial plating services

reportedly dates back to the 1950's. The facility was historically registered with the New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage (PBS) Program as PBS No. 3-028886 and maintained an air permit (3510800069) until the facility operation was decommissioned.

The site is bordered to the north by a presently vacant medical office formerly known as Kingston Diagnostics, the Trailways Bus Terminal is located to the south, to the east by Esposito's Dry Cleaning, with Washington Avenue and a mixed use commercial structure located to the west. A property location map and a site (base) plan are presented as Figures 1 and 2, respectively. The site topography is generally level and at grade with Washington Avenue, while a moderate easterly slope is present within the eastern quadrant of the facility. According to City of Kingston Water Department and Public Works Department representatives, the subject property is serviced by a municipal water supply and sanitary waste treatment service. No groundwater supply wells were observed by representatives of this office during site inspections and no groundwater supply wells are known to be present or used on adjoining or nearby properties.

Several historical site assessments were conducted by various contractors on behalf of other prospective property purchasers since 2005. As a result of such prior investigation activities, the following areas of potential environmental concern and/or "recognized environmental conditions (REC)" were identified and are associated with the subject property:

- Soil and groundwater contamination issues associated with historic site use as a plating and petroleum bulk storage facility dating back to the 1950's.
- Absence of underground storage tank closure documentation (i.e., UST closure reports, regulatory correspondence, contractor information) detailing tank conditions, property locations, and subsurface soil quality; and
- Existence of three inactive New York State Department of Environmental Conservation (NYSDEC) Spill Numbers (99-12006, 04-05895 and 05-01397) that were generated for the subject facility.

3.0 OBJECTIVES

The purpose of the Final Remedial Investigation at the site is to further define the nature and extent of on-site contamination, identifying contaminant source areas and developing sufficient data for the assessment, selection and design of a Remedial Action Work Plan. Site investigation activities at the Utility Platers, Inc. facility will consist of the following specific tasks.

- Document the presence or absence of targeted contaminants in the subsurface;
- Determine the direction of groundwater flow and document groundwater quality;
- Delineate, to the extent possible, the lateral and vertical extent of identified contamination;
- Collection and analysis of specific media including soil and groundwater;
- Identification of contaminants of concern and;
- Identification of specific environmental media, characterization of exposure settings, potential migration pathways and affected receptors.

4.0 PREVIOUS INVESTIGATIONS AND EVALUATIONS

Four previous site intrusive environmental investigations have been conducted on the subject property. Each of these investigations was performed to assess the environmental status of the site by identifying existing or potential environmental conditions. Each of these reports can be referenced in the Utility Platers, Inc. Brownfield Cleanup Program (BCP) Application, September 9, 2008.

4.1 Site Investigation Report, November 2004

Ira D. Conklin & Sons, Inc. (IDC) completed a Site Investigation Report at the site in November 2004. The purpose of the plan was to "identify and characterize any contamination that may exist in soil and/or groundwater in the vicinity of the presently operating facility" (IDC, November 2004).

The scope of work (as described by IDC) included:

- Limited Subsurface Site Investigation
- Vapor analysis during soil coring
- Soil sample collection along with laboratory analysis
- Groundwater sampling
- Reporting

4.1.1 Findings

A total of twenty-seven soil borings were installed on the subject property; eighteen within the interior of the site structure and nine surrounding the exterior. Interior samples were collected from a depth of 12-22.5 inches below grade due to refusal. Soils present were reported to predominately consist of brown fine-coarse sand underlain by silty clay. Exterior soil core procedures were advanced to a total depth of twelve to twenty feet below grade surface (bgs). Subsurface materials reported during this stage of the investigation consisted of asphalt, coarse sand and non native fill materials 0 – 4' bgs, underlain by brown fine-medium sand with clay at 4 – 8' below grade. Subsurface characteristics documented from 8 – 20 feet bgs, included soils which graded from fine sands with clay and trace amounts of silt to moist clays. Soil samples were screened with a Photoionization detector (PID), and are described in soil boring logs, as Appendix C of the 2004 Investigation Report. During the IDC investigation, a total of six groundwater samples were collected for laboratory analysis from select soil boring locations throughout the site.

The presence of soil and groundwater impacts was verified during the site investigation. Subsequent laboratory analysis confirmed elevated concentrations of targeted volatile and semi-volatile organic compounds (VOC/SVOC's) and heavy metals in site soils and/or groundwater.

4.2 Remedial Work Plan, July 1, 2005

Ira D. Conklin & Sons, Inc. (IDC) completed a Remedial Work Plan at the site on July 1, 2005. The purpose of the plan was to "document the site work to be completed in order to fully characterize the contamination present on the subject property" (IDC, July 2005).

The Remedial Investigation (RI) report summarized the field activities to be performed during the RI portion of the project. These activities included:

- Geophysical Survey;
- Subsurface Investigation;
- Monitoring well installations and;
- Reporting

To date, documentation with regard to the actual execution of this work plan has not been located.

4.3 Soil Sampling, October and December 2005

Steve Kalka, LLC completed a Soil Boring/Sampling Investigation at the site in October and December 2005. The purpose of the plan was to provide quantitative data on subsurface conditions in the vadose zone.

In October 2005, a total of five borings were advanced along the inside property line of Adirondack Trailways which borders Utility Platers, Inc. to the south. Although laboratory detectable concentrations of VOC's, SVOC's and heavy metals were encountered, none of the concentrations reported were above NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 recommend soil cleanup objective (RSCO).

Subsequently, in December 2005, Steve Kalka, LLC installed four soil borings and one core sample through the concrete floor within the interior of the Utility Platers facility. Laboratory analysis revealed elevated concentrations of Trichloroethylene (TCE) and its daughter breakdown components, 1,1,1-Trichloroethene and 1,2-Dichloroethylene in all samples submitted for testing.

4.4 Subsurface Investigation, September 9, 2008

DT Consulting Services, Inc. (DTCS) completed additional Subsurface Investigation activities at the site between May and June 2008. The objective of the investigation was to provide quantitative data on targeted volatile and semi-volatile organic compounds and Priority Pollutant Metals detected within on-site groundwater, soil and/or soil vapor; and offer recommendations as necessary to further investigate and/or remediate contaminated source areas.

The DTCS ESA field investigation was designed to further evaluate subsurface conditions within the following property locations:

1. Reference standard sources of information to identify historical uses of the target property and surrounding area in an effort to assess the likelihood of uses leading to potential vapor intrusion (pVI).

2. Perform a Geophysical Survey to identify any subsurface anomalies and clear soil boring locations for underground utilities prior to the investigation;

3. Install soil borings within previously identified and suspect UST field(s) and underground piping locations found within the southern and eastern sections of the Utility Platers facility;

4. Perform further subsurface characterization of documented subsurface contamination located on Utility Platers;

5. Execute investigative procedures within the boundaries of the adjacent, property known as Kingston Diagnostics; and

6. Install a series of groundwater micro-wells to characterize local aquifer conditions within subject property locations.

The ESA was concentrated in locations as outlined above due to their potential for environmental liability issues. While conducting assessment activities, four stages of investigative procedures were employed onsite. These procedures included a Reference Check, Geophysical Survey/Private Underground Utility Mark out, Soil Boring Investigation and a Limited Groundwater Investigation.

4.4.1 Findings

Based upon review of available information, field observations, the review of analytical data, DTCS presented the following findings with regard to identified underground storage tanks (USTs), identified spills and subsurface soil, soil vapor and groundwater quality.

Underground Storage Tanks

The Utility Platers facility was historically a registered petroleum bulk storage facility (PBS No. 3-028886). According to documents reviewed, the site had removed a 4,000 gallon #2 fuel oil UST in December of 1992 after twenty-two years of service. During the course of FOIL review, no closure documentation could be found regarding the closure of this storage tank. Geophysical surveys of both Utility Platers and the adjacent Kingston Diagnostics building, lead to the discovery of three potential UST's (see Figures 2 & 3). All three vessels have an estimated total storage capacity of 1,000 gallons. No other information regarding these tanks was made available during the course of this investigation.

Identified Spills

A total of twenty-nine NYSDEC reported spills were identified within the standard ASTM minimum search distances. Three spills occurred at the Utility Platers facility which involved reportable spills from surface releases of chlorinated solvents and/or reportable subsurface contamination which exceeded state regulatory standards. The remaining twenty-six identified spills were located on off-site facilities which are unlikely to impact the site based upon their proximity to the subject facilities.

Soil Monitoring

During the course of this investigation, a total of twenty-eight soil borings were advanced on the subject properties for the purpose of collecting subsurface soil quality data. No obvious signs of subsurface contamination were encountered during the field study with the exception of borings placed in the vicinity of the suspect UST (SB-2 and SB-3). Laboratory reporting on soil samples collected from areas surrounding the suspect tank field and select down-gradient locations revealed elevated concentrations of targeted VOC's and SVOC's. Most of the remaining soil monitoring locations detected Trichloroethylene, most likely as a result of its historical use as a degreasing agent during plating operations (see Figure 3 for TCE Contaminant Concentration Map). In addition to the chlorinated solvent TCE, laboratory analysis confirmed that the reductive dechlorination of the TCE compound is occurring by the presence of dichoroethene, DCE and vinyl chloride (VC). VC has been reported in select soil boring locations. Since heavy metals have been identified as a potential contaminant of concern based upon historic site operations, laboratory testing of soils collected during the investigation were also tested for priority pollutant metal compounds. While comparing analytical reporting of detected metal concentrations to documented NYSDEC Subpart 375-6: Remedial Program Unrestricted Soil Cleanup Objectives; chromium, nickel, lead and silver were found to exceed regulatory standards in most soil boring locations.

Soil Vapor

The compound trichloroethylene was the parameter of concern for the vapor intrusion assessment, being the primary constituent of the groundwater impact crossing the Utility Platers site. Results include the detection of TCE and cis-1,2-Dichloroethylene at the adjacent Kingston Diagnostics facility, during TO-14 and 14A indoor air methods analysis at concentrations of 53/6.95 and 290/28.03 ug/m^3 respectively. Referring to the NYSDOH Decision Matrix, the allowable indoor air readings for TCE is 5 ug/m^3 thus; vapor intrusion appears to be occurring at the Kingston Diagnostics facility. The source of the vapors is believed to be the VOC impacted groundwater migrating below the site from an up-gradient source (i.e. Utility Platers). The Kingston Diagnostics property is the contiguous down-gradient parcel from Utility Platers and is part of the commercial redevelopment location.

Groundwater Quality

For the purposes of establishing quantitative data on local aquifer conditions, seven micro-wells were installed on the Utility Platers and Kingston Diagnostic facilities. Laboratory data for groundwater samples obtained adjacent to the suspect tank field revealed concentrations of targeted petroleum hydrocarbons, specifically within MW-1. All of the remaining wells, with the exception of MW-5 contained laboratory reportable concentrations of TCE and its dechlorination compounds of 1,2 DCE and VC in excess of their respective groundwater quality standard.

4.5 DATA ASSESSMENT AND NEEDS

Based upon the results of previous investigations, subsurface impacts (attributed to the historic chlorinated solvent use and to a lesser extent petroleum bulk storage) have been identified on the subject property. Furthermore, the concentrations of detected contaminants within the soil, soil vapor and groundwater matrices appear to warrant remediation of subsurface materials on-site. Although existing soil and groundwater data can be utilized to assist in defining the principal contaminant source areas, additional investigative activities will need to be performed to define the extent of subsurface contamination while further delineating the source area(s).

5.0 REMEDIAL INVESTIGATION APPROACH

The scope of the final soil boring/groundwater investigation program is directed at providing sufficient information that will complete data gaps in historical site surveys. Ultimately, the goal of this RI is to verify the vertical and lateral extent of soil and groundwater impacts from the identified source areas so that a remedial program can be selected and implemented. Special attention is given to the property boundaries down gradient of the contaminant source(s) to define the extent of off-site impacts and the outer plume boundary. The RI objectives and methods have been developed in accordance with the *NYSDEC Brownfield Program Cleanup Guidance* (NYSDEC May 2004), and relevant provisions of Department of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation* draft, December 2002. A site and contaminant specific Health and Safety Plan or HASP and a Community Air Monitoring Plan or CAMP has been prepared for the site and has been placed in Attachment A and B respectively, for your reference.

Although the scope of work as described herein provides specific locations for soil boring and monitoring well installations, additional testing locations may be added or otherwise adjusted during the course of work, as warranted to define the limits of impact. Figures 4 & 5 show the proposed soil and groundwater sampling locations for this final site investigation work plan.

Soil Sampling and Analysis

A direct-push drilling rig (Geoprobe) will be used to advance a minimum of twelve soil borings, SB-1A through SB-12 within and surrounding the site structure (see Figure 4 for proposed locations). Upon retrieval from the four foot sampler equipped with an acetate liner, the collected sample shall be placed in laboratory supplied glassware, labeled and readied for transport to the laboratory for analysis. The sampling tubes and tools used to collect the soil samples will be decontaminated between each sampling location using a detergent wash and potable water rinse. Soil sampling will be conducted continuously from the

surface to a maximum depth of approximately 12 to 16 feet below grade, or approximately four feet into the top of observed ground water.

The reported depth to ground water ranges from approximately five - fourteen feet below grade, flowing from southwest to northeast across the site. The borings may be advanced deeper to determine the vertical extent of subsurface contamination, if encountered. An on-site geologist/hydrogeologist will prepare geologic logs that will include the boring identification, depth interval, soil descriptions, moisture, and other notable features. Soil samples retrieved from each boring will be screened in approximate two-foot intervals for organic vapors using a field calibrated Photoionization detector (PID) equipped with a 10.2 electron volt lamp. The PID probe will be inserted into the headspace of each sample bag and the maximum reading will be recorded. The sample from each boring with the highest PID reading will be submitted for laboratory analysis. Selected samples corresponding to the water table or capillary zone above the water table may be submitted for laboratory analysis if there is no indication of the presence of subsurface contamination based on visual and and/or PID measurements.

Selected samples will be submitted to a NYSDOH-approved laboratory for analysis of VOCs, SVOCs and Priority Pollutant (PP) metals by EPA Methods 8260B, 8270 B/N and 6010/7470/7471 respectively. All analyses will be performed by NYSDEC Analytical Services Protocol (ASP) with Category B deliverables. Sample collection and analysis will be in accordance with the methods described in the Quality Assurance/Quality Control (QA/QC) Plan as described in Section 6 of this report.

Excess soil from the sample cores will be used to backfill each respective boring where a monitoring well is not installed. The residual drilling cuttings will be spread on the ground surface, except cuttings that exhibit contamination will be collected and placed in a covered drum or wrapped in plastic for future disposal. All boring locations will be measured and plotted on a scaled base map.

Soil Vapor

Previous soil vapor sampling (DTCS, 9/2008) determined that soil vapor is present off site in the Kingston Diagnostics building located immediately north of the site. Existing soil vapor concentrations adjacent to and underlying the facility building will be mitigated during the implementation of any selected remedial program because the remediation and redevelopment plan for the site will both remediate specific contaminant sources, and will include sub-slab ventilation to mitigate any residual vapor intrusion from the source area. Therefore, no additional soil vapor sampling is proposed during the final remedial investigation. Regardless of the final RI data, the commercial building that will be constructed on the property will include a sub-slab depressurization system.

Monitoring Well Installations/Development

Eight additional groundwater monitoring wells have been proposed to identify the limits of the shallow groundwater plume that may affect the commercial redevelopment of the BCP site. Soil borings for the monitoring wells will be drilled using three-inch diameter Geoprobe cores to allow for installing a sand pack. The monitoring wells will be constructed of two-inch diameter, flush-threaded, schedule 40, PVC screen and riser. The well screen will be placed so that the top of the screen extends from the base of the borehole to above the observed water table. The wells will be completed by placing a sand pack from the base of the screen to approximately 1.0 feet above the top of the screen. A bentonite seal will be installed above the sand pack. The remainder of the borehole annular space will be grouted to the surface with a cement-bentonite grout and either cemented flush-mounted road boxes at grade surface or stand pipes above grade will be utilized at each location depending upon land use of the monitoring location. All existing and newly installed monitoring wells will be developed or cleared of all fine-grained materials and sediments that have settled in or around the well during installation so that the well screen is transmitting representative groundwater samples. Each monitoring well will be developed using dedicated Teflon bailers or "Wattera"-brand tubing to reduce suspended sediments (i.e. turbidity) by removing a minimum of ten volumes of water.

Water Level Measurements and Surveying

Water level measurements will be recorded to the nearest 0.01 foot after well development and prior to ground water sampling. The horizontal and vertical location of the monitoring wells will be surveyed relative to an arbitrary site datum. The monitoring well elevations and water level measurements will be used to calculate relative ground water elevations and determine ground water flow directions that will be shown on the scaled base map.

Ground Water Sampling and Analysis

One round of groundwater samples will be collected from the proposed and existing monitoring wells and will be analyzed for VOCs by USEPA method 8260, SVOCs via 8270 and PP metals by methods 6010/7470/7471. All analyses will be performed by NYSDEC Analytical Services Protocol (ASP) with Category B deliverables. Field quality control measures including trip and field blanks will be collected and submitted to the chemical laboratory for analysis. These control measures are described in Section 6 of this report. In addition to the analysis as described above, groundwater samples will be analyzed for a suite of parameters to characterize the oxidation chemistry of site groundwater in order to assist in the evaluation of possible remediation scenarios involving in-situ chemical oxidation. These additional parameters will include chemical oxygen demand (COD), total organic carbon (TOC), plus field parameters (pH, Eh, dissolved oxygen, conductance and temperature).

Groundwater samples will be collected after installation and development of the proposed wells; at least one week following installation. As all historical and proposed wells are shallow, groundwater evacuation and sampling will be accomplished by using a dedicated Teflon bailer with a ball check valve at its lower end or by employing low-flow methodology.

6.0 QUALITY ASSURANCE PROJECT PLAN

As stated previously, the goals of this RI Work Plan are to verify the vertical and lateral extent of BCP site soil and groundwater impacts from the identified source areas. Therefore, this Quality Assurance Project Plan (QAPP) has been developed to establish the procedures and protocols for collection and laboratory analysis of samples associated with the completion of the BCP RI element on-site. Project management/organizational responsibilities will be performed under the direction of Deborah J. Thompson.

6.1 Quality Assurance/Quality Control (QA/QC) Objectives

The NYSDEC Analytical Services Protocol (ASP) provides levels of quality for laboratory testing as they apply to remedial investigation and construction activities. As such, the NYSDEC ASP will be followed during the course of site investigation/remediation on the subject property. The overall data quality objectives of the project are:

- To ensure that samples collected are representative.
- To provide detection limits for the selected analytical methods, which are below the established cleanup objective or regulatory standards.
- To measure and document precision and accuracy using procedures established by the laboratories, the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) and U.S. Environmental Protection Agency (EPA) approved analytical methods.
- To ensure that a NYSDOH ELAP and NYSDOH ELAP CLP certified laboratory will conduct all soil/groundwater analyses.
- To ensure that all final site verification samples (Confirmatory samples) are reported with ASP Category B deliverables.

6.2 Analytical Methods/Quality Assurance Summary

- *Matrix type*:
  Soil and Groundwater

- *Number or frequency of samples to be collected per matrix:*
  Variable, pending field conditions

- *Number of field and trip blanks per matrix:*
  Soil – 1, Groundwater – 2

- *Analytical parameters to be measured per matrix:*
  Volatiles, semi-volatiles and PP Metals

- *Analytical methods to be used per matrix*:
  EPA Test Methods 8260, 8270B/N, 6010/7470/7471

- *The number/type of matrix spiked, duplicate and blank samples to be collected:*
  Dependent upon the total number of samples of each matrix to be analyzed but, there will be at least one split per matrix.

6.3 Field Quality Control Samples

Field quality controls for laboratory confirmation samples include the collection and analysis of field duplicate and equipment rinsate samples. The frequency of collection for the specified QC field samples is as follows:

- ✓ A trip blank will be prepared before the sample bottles are sent by the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for VOC is planned (water matrix only).

- ✓ One field duplicate sample per 20 field samples. Duplicate samples will be collected by initially collecting twice as much material as is normally collected for a sample. After mixing, the material will be apportioned into two sets of containers.

- ✓ One equipment blank (rinsate) sample per 40 samples.

6.4 Field Sampling Procedures

Sampling/Analytical procedures are described in detail in the RI Work Plan as outlined above and will not be reiterated in this QAPP. The Work Plan also includes site maps and sampling diagrams as well as details for sampling implementation, decontamination, and waste management.

Sample Containerization

Analysis	Bottle Type	Preservative	Holding Time
Water Samples			
VOCs GC/MS (VOA – 8260)	40 ml with septum cap	HCl	14 days
SVOCs	1 L glass	None	7 days (until extraction, 40 days extracted)
Metals [1]	1 L plastic	Nitric acid to pH <2	6 months Mercury, 26 days
Analysis	**Bottle Type**	**Preservative**	**Holding Time**
COD	Plastic or glass	Sulfuric acid to pH <2	28 days
pH	Plastic or glass	None	Analyze immediately
Soil, Sediment, Solid Waste			
VOCs GC/MS (8260)	Wide mouth, plastic or glass	None	7 days (until extraction, 40 days extracted)
SVOCs	Wide mouth, plastic or glass	None	7 days (until extraction, 40 days extracted)
Metals[1]	Wide mouth, plastic or glass	None	6 months Cyanide: 12 days Mercury: 28 days

As all bottles will contain the necessary preservatives as shown above, they need only be filled. Each VOC 40ml vial must be filled to the brim with no air bubbles. The other sample jars should be filled to within an inch from the top for liquids, and to the brim for soils and sediment. All samples will be preserved with ice during collection and shipment.

(1) Metals referred to the 24 metals and cyanide in the Target Analyte List, Methods 6010/7470/7471

Sample Preservation

The samples collected for analysis will require preservation prior to shipment (as described above). Preservation of the sample ensures sample integrity and prevents or minimizes degradation or transformation of the constituents to be

analyzed. Specific preservation requirements include proper handling, packaging in laboratory-supplied sample containers, and chilled to 4° Celsius (°C) for shipping to the contract analytical laboratory.

Documenting Field Samples

The DTCS Field Team will use field logbooks or specific field forms to record pertinent information regarding subsurface characteristics, field screening results, and confirmatory sampling activities. Field staff will record the project name and number, date, sampling personnel on site, other personnel present, weather conditions, and other relevant events to sampling activity in a chronological order. The field log book and/or analysis forms will be maintained in the project file.

6.5 Sample Custody

Chain-of-Custody Forms

Each sample will be recorded onto a chain-of-custody (COC) form. The form will include the project name and number, names of the field sampling personnel, the sample number, date and time the sample was collected, whether the sample is a composite or grab sample, sample location, number of containers per sample number, constituents to be analyzed, and pertinent comments. The form will document the date, time, and signature of person(s) relinquishing and receiving custody of the samples.

Sample Transportation to the Laboratory

Samples will be shipped for analysis to the laboratory either the day the samples are collected or within 24 hours following collection, except in the case of samples that are collected on Saturday. Samples will be transported by a laboratory supplied carrier service. If samples are collected on a Saturday, they will be stored by field personnel during the weekend and then readied for transport on Monday. The contract analytical laboratory will be required to perform the analyses on the samples within the allowable holding time proscribed for the analyses.

Laboratory Sample Custody

Upon arrival at the analytical laboratory, samples will be checked in by the sample custodian. The sample custodian will:

- Sign the COC form documenting receipt of the samples from the carrier;

- Verify that the number of samples received in the shipment agrees with the number listed on the COC form;

- Verify that the information on each bottle agrees with the information documented on the COC form; and

- Document on the COC form the integrity/condition (bottle intact, temperature, etc.) of all received samples.

In the event of any discrepancy or problems associated with the shipment of samples for chemical analysis, the analytical laboratory project manager will immediately notify the field personnel. A unique laboratory sample number will be assigned to each sample. Pertinent information from the COC form and/or sample label (e.g., sample identification, sampling location, sampling date and time, sample description, and requested analyses) together with the date of sample receipt will be entered into the analytical laboratory's data management system which will be used to record the status of samples, their storage locations, and the analytical results. The analytical laboratory will have in-house COC procedures to ensure proper security of all samples.

Laboratory Selection

The laboratory chosen for the project must be certified, and maintain certification, under the NYSDOH ELAP and NYSDOH ELAP CLP for analyses of solid and hazardous waste. DTCS has contracted with York Analytical Laboratories, Inc. located in Stratford, CT to perform laboratory services for this Work Plan.

6.6 Data Reduction, Verification and Reporting

Verification of data obtained from sampling will be performed by the Project Manager who will determine the validity of the data by comparing the actual procedures used for field measurements, sampling, and custody, as documented on forms and in the field log book, with those prescribed in the work plan and/or approved by the Project Manager.

6.7 Data Usability Summary Report

As part of this Remedial Investigation Work Plan, a Data Usability Summary Report or DUSR will be prepared to summarize the soil and groundwater sampling and analytical results for the Utility Platers, Inc. site. The primary objective of the DUSR is to determine whether the analytical data meets site specific objectives for data quality and data use.

The DUSR will be prepared following the guidelines provided in Department of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*, Draft, December 2002, Guidance for the Development of Data Usability Summary Reports. The complete validated analytical results and Form 1s will be provided in the DUSR during reporting of the remedial investigation.

7.0 HUMAN HEALTH EXPOSURE ASSESSMENT

Site data will be evaluated to determine whether human receptors, both on and off site are potentially exposed. The purpose of the exposure assessment will be to qualitatively determine the route, intensity, frequency and duration of actual or potential exposures of human to site-related chemicals. The assessment will also describe the nature and size of the population potentially exposed to the contaminants.

Laboratory analytical reporting on soil and groundwater will be compared to applicable health-based screening criteria:

- **Soil**
  Soil analytical results will be compared to NYSDEC's Subpart 375-6: Remedial Program Unrestricted Soil Cleanup Objectives.

- **Groundwater**
  Groundwater analytical results will be compared to NYSDEC Guidance Values as referenced in Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998 for class GA groundwater.

The comparison of analytical result to the applicable screening values will be utilized to tentatively identify contaminants of potential concern.

8.0 FISH AND WILDLIFE EXPOSURE ASSESSMENT

A Fish and Wildlife Resource Evaluation (FWRIA) will be completed to provide an initial screening of potentially affected fish and wildlife resources in connection with the site. The first step of the FWRIA process, resource characterization, will be completed as part of the site investigation scope. Resource characterization includes the following basic steps:

- Identify fish and wildlife resources for the area within a one-half mile radius of the site, based on NYSDEC records and knowledge of the site area.

- Identify contaminant migration patterns that may potentially expose fish and wildlife resource to site-related contaminants.

- Identify specific contaminants of ecological concern.

- Draw conclusions regarding potential adverse effects.

The findings of the initial FWRIA phase will be employed to determine whether it is likely that the commercial site has a negative effect on local wildlife and related habitats.

9.0 REMEDIAL INVESTIGATION REPORT

Following the completion of the proposed sampling, analysis and data evaluation, a Remedial Investigation Report will be prepared that presents the findings of the investigation. The following information will be included in the RI Report.

1. A narrative discussion of methods and results. Work completed under the approved RI Work Plan will be described, including the methods employed for sample collection and laboratory analysis.

2. Sources of contamination. Specific contaminant sources will be identified based upon existing data from prior site investigations. This final remedial investigation will further refine the delineation of identified source areas by additional assessment of site soils and groundwater. Analytical results from soil and groundwater sampling locations will further define the migrations pathways for petroleum and chlorinated compounds previously detected. Maps displaying soil and groundwater analytical results, with text boxes depicting contaminant concentrations at each monitoring point will be produced as part of this report.

3. Hydrogeologic Data. Hydrogeologic factors and their influence on the migration and distribution of contaminants will be discussed. Supporting data including soil boring logs with stratigraphic descriptions of the soil column at each boring location from the RI and prior investigations, groundwater monitoring well installation logs and contour maps will be prepared for the inclusion in the final RI Report.

4. Standards and guidance that pertain to the sampled site media will be identified and listed in summary tables along with the analytical results for each medium. Any exceedances encountered above regulatory standards will be indicated on the tables and discussed in the technical overview.

5. Human Health Exposure Assessment. An assessment of potential exposure scenarios will be presented in the context of the site's existing and future contemplated use. Exposure scenarios will be addressed both on and off-site in the assessment.

6. Fish and Wildlife Resources. Area fish and wildlife resources will be identified and the overall habitat value for the site will be discussed. The site's affect on the overall habitat value for the area based on current conditions and the future anticipated use will be included the resource assessment.

7. Conclusions/Recommendations. The results of the final RI will be summarized in a written document which will identify source areas and potential exposure pathways in relation to human and environmental receptors. A Remedial Alternative Analysis Report will be submitted along with the RI Report which will evaluate appropriate remedial options based upon the RI results.

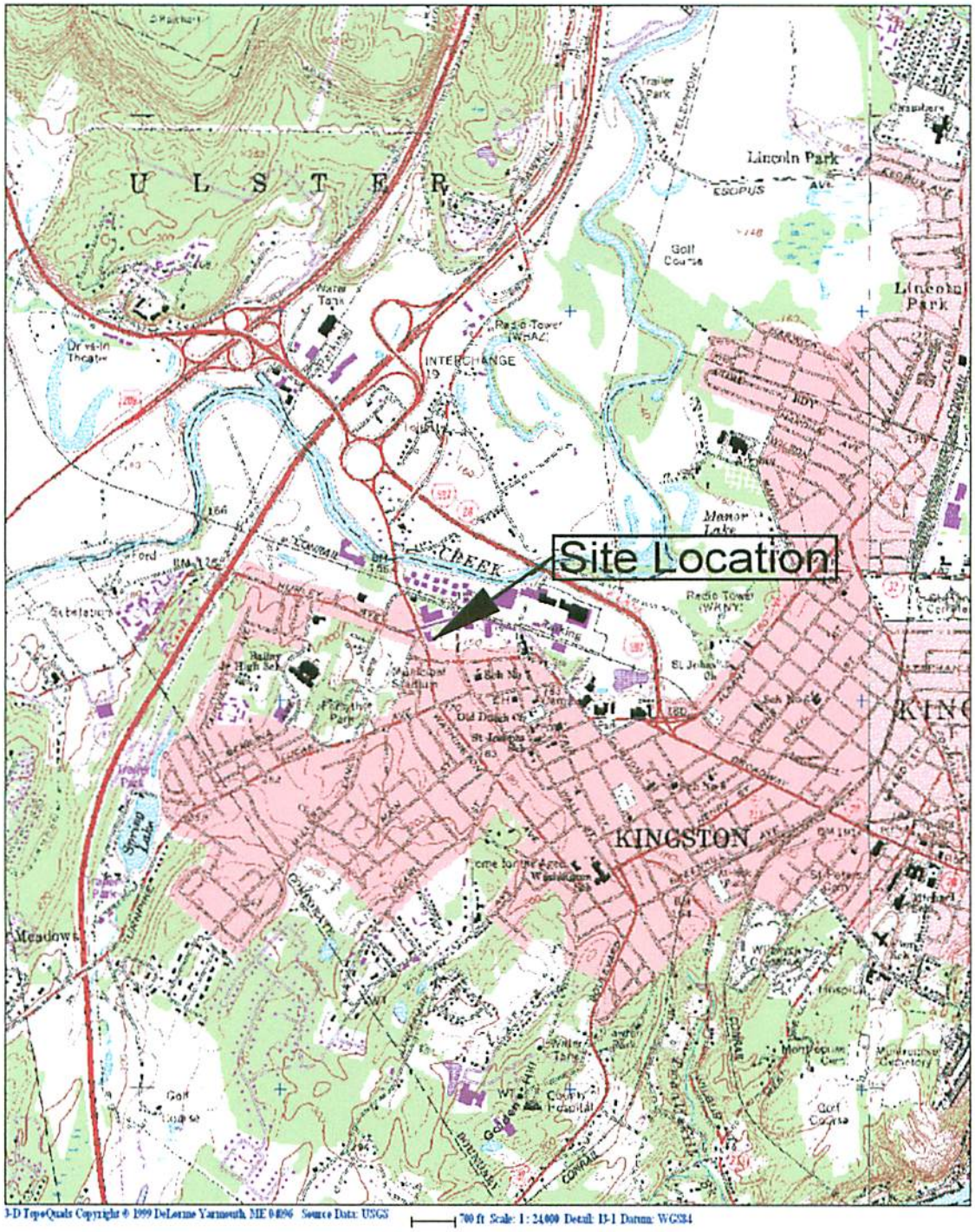
8. Supporting Information. To support the site data collected during the implementation of the RI Work Plan, the following items will be appended to the RI Report:

   - Site photographs
   - Soil boring logs
   - Site maps, including groundwater contour map and text box figures depicting analytical results
   - Laboratory analysis

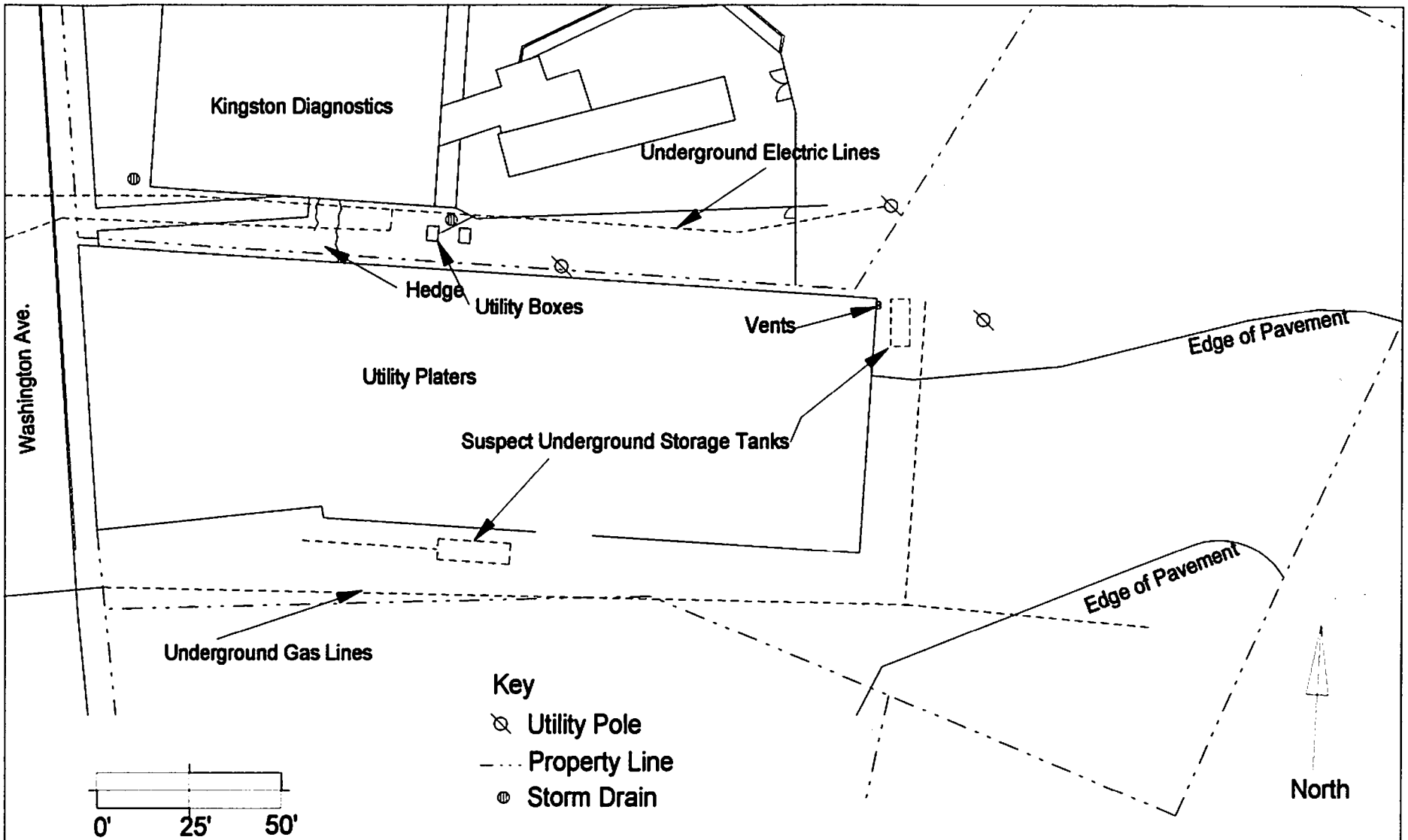
10.0 PROJECT SCHEDULE

The RI sampling and analysis program proposed herein will be implemented following NYSDEC and NYSDOH approval. RI field sampling work will be scheduled to begin within two weeks of approval. Specific public participation milestones are denoted in a separate Citizens Participation Plan. DTCS estimates that the field work will require two weeks to complete, and laboratory analysis within two weeks of the conclusion of field work on-site. The RI Report and Remedial Action Work Plan will be submitted for NYSDEC and NYSDOH review and approval within two months of work plan approval.

FIGURES



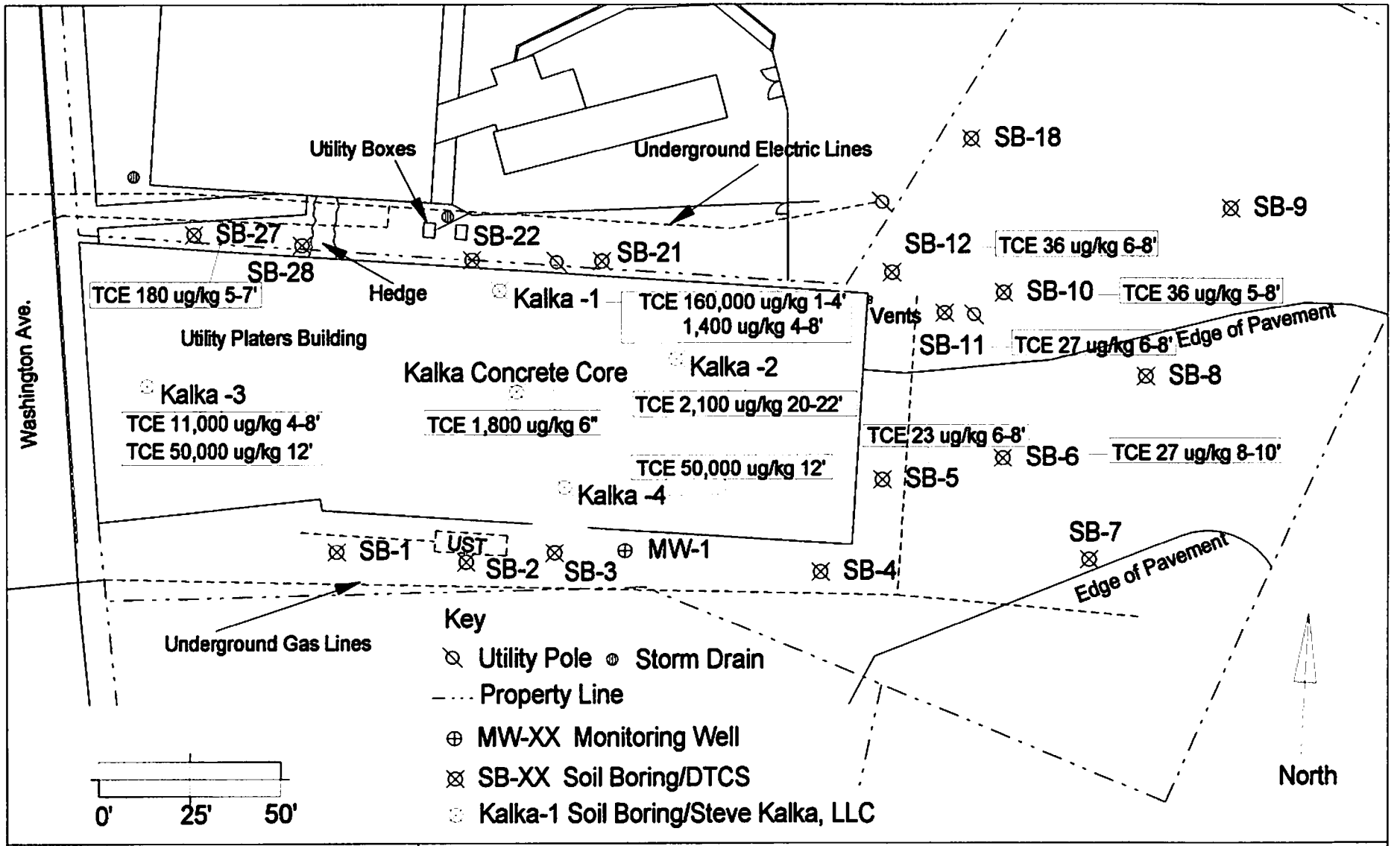
Client: Northeast Retail Leasing & Management, Company, LLC			**Site Location Plan**
Site: 416 Washington Avenue, Kingston, New York			
Site No.: C356035	**Drawn by:** DJT	**Scale:** 1 : 24,000	**Figure No:** 1



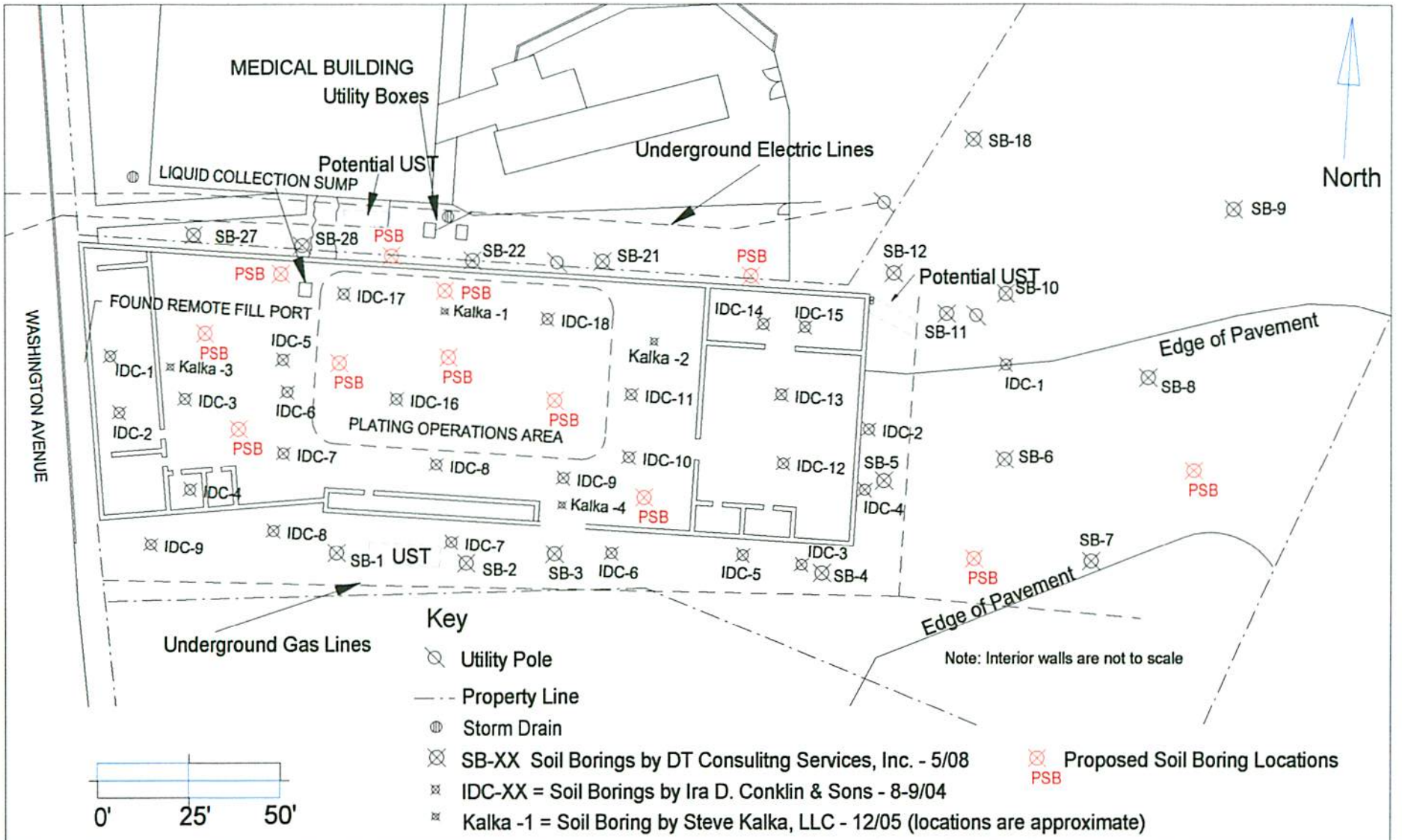
DT Consulting Services, Inc.
1291 Old Post Road
Ulster Park, New York 12487
(845) 658-3484

Client:	Northeast Retail Leasing & Management Company, LLC
Location:	Utility Platers, Inc., 416 Washington Avenue, Kingston, New York
Title:	Site (base) Map

Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 2



DT Consulting Services, Inc. 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484	Client: Northeast Retail Leasing & Management Company, LLC			
	Location: Utility Platers, 416 Washington Avenue, Kingston, Ulster County, New York			
	Title: TCE Contaminant Concentration Map			
	Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 3



DT Consulting Services, Inc.
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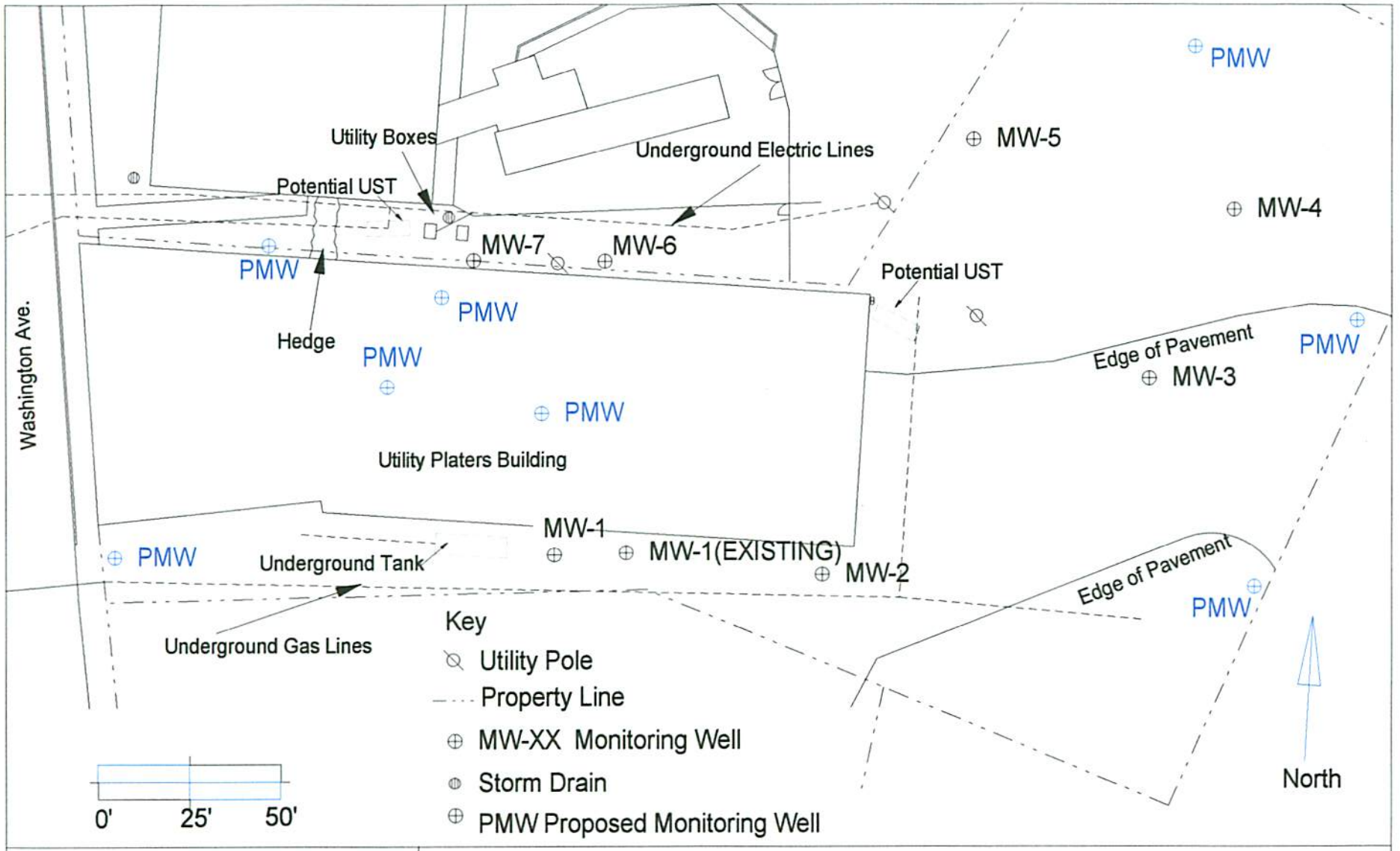
Ulster Park, New York 12487
(845) 658-3484

Client:	Northeast Retail Leasing & Management Company, LLC		
Location:	Utility Platers, Inc., 416 Washington Avenue, Ulster County, New York		
Title:	Proposed Soil Boring Location Map		
Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 4



DT Consulting Services, Inc. 1291 Old Post Road Ulster Park, New York 12487 (845) 658-3484	Client: Northeast Retail Leasing & Management Company, LLC			
	Location: Utility Platers, 416 Washington Avenue, Kingston, Ulster County, New York			
	Title: Proposed Groundwater Monitoring Location Map			
	Scale: Graphic	Drawn By: O.T.	Site No: C356035	Fig.#: 5