DT CONSULTING SERVICES, INC.

INTERIM REMEDIAL MEASURE FOR UTILITY PLATERS, INC. OF KINGSTON, NY

BROWNFIELD CLEANUP PROGRAM (BCP)
SITE NUMBER C356035

7/06/2009

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ATTACHMENTS

1.0 INTRODUCTION/BACKGROUND HISTORY

The commercial property, now abandoned, known as Utility Platers, Inc. is located at 416 Washington Avenue in the City of Kingston, Ulster County, New York (heretofore referenced as the site or subject property). A property location map and a site (base) plan are presented as Figures 1 and 2, respectively.

The irregularly shaped 1.02-acre property 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. 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 abandoned structure has deteriorated over the years.

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

- Identified soil and groundwater contamination issues associated with historic site use as a plating 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.

In September of 2008 Northeast Retail Leasing and Management, LLC (Northeast) submitted an application to the NYSDEC requesting acceptance of Utility Platers into the New York State Brownfield Cleanup Program (BCP) as a volunteer. Subsequently, the Site was accepted into the BCP with the execution of the Brownfield Cleanup Agreement on March 23, 2009. Based upon the availability of several studies documenting environmental conditions on the site (refer to Remedial Investigative Work Plan, DT Consulting Services, Inc., July 2009), DT Consulting Services, Inc. (DTCS) has developed this Interim Remedial Measure (IRM) work plan to address overall contaminant source removal implementation.

2.0 PURPOSE AND SCOPE

The NYSDEC's draft Brownfield Cleanup Program Guide (May 2004) stipulates that source control should be the goal of all BCP remedies. The Brownfield Cleanup Program Guide specifically states that the most preferable approach to source control is a removal and/or treatment approach, whereby "all free product, concentrated solid or semisolid hazardous substances, dense non-aqueous phase liquid, light non-aqueous phase liquid and/or grossly contaminated media shall be removed and/or treated to the greatest extent feasible" where, "grossly contaminated media" is defined as "soil, sediment, surface water or groundwater which contains free product or mobile contamination that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is otherwise readily detectable without laboratory analysis;" and "feasible" is defined as "suitable to site conditions, capable of being successfully carried out with available technology, implementable and cost effective" per 6NYCRR Part 375-1.2(u) and (s), respectively. As described in previous studies and to be further defined while performing the Remedial Investigative work on-site, subsurface soils and groundwater are contaminated with elevated concentrations of:

- *Chlorinated solvents*
  Trichloroethene (TCE), Dichoroethene (DCE) and Vinyl Chloride (VC);
- *Heavy Metals*
  Chromium, Nickel, Lead, Silver and,
- *Petroleum Hydrocarbons.*

This document presents the planned scope of work and implementation procedures for completion of Interim Remedial Measures at the Utility Platers, Inc. facility. The work will be completed in accordance with NYSDEC DER-10 guidelines. As described below, source removal activities can be conducted concurrently with the remaining site investigation work set forth in the final remedial investigation work plan.

3.0 IRM APPROACH

Based on the findings of the investigation work described in historical reporting, an IRM will be performed to address contaminated soil and groundwater detected at DTCS/SB-2, SB-3, SB-12 , MW-7 and Kalka SB-1 – SB-4 or namely areas within and directly down-gradient of the building footprint (see Figure 3 for targeted source locations).

The IRM will involve:

1) Removal and off-site disposal of underground storage tanks (USTs);

2) Excavation and off-site disposal of contaminated soils in the area(s) of potential concern;

3) Application of chemical oxidants into the subsurface to treat residual contamination in the groundwater and

4) Backfill of excavation(s).

5) Dewatering and perched water management, as required.

Contaminated soil/fill is defined as soil/fill with obvious visible impact, petroleum odors, and/or elevated PID readings (i.e., sustained readings >25 ppm). In general, excavation will continue laterally and vertically until all visually-impacted soil/fill is removed, the property boundary is met and/or the NYSDEC agrees that no further excavation is required. Excavation of the impacted materials will generally be conducted using conventional construction equipment such as excavators, backhoes, front-end loaders, dump trucks, etc. The location and approximate dimensions (i.e., length, width, and depth) of the excavation and associated excavation quantities will be documented. Post-excavation verification samples will be collected for analysis of volatile and semi-volatile organic compounds and Priority Pollutant (PP) metals by EPA Methods 8260B, 8270 B/N and 6010/7470/7471 respectively. All analyses will be performed by employing 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 Plan (refer to the Remedial Investigation Work Plan for details on the QA/QC Plan).

3.1 Temporary Facilities and Controls

Temporary controls will be employed for protection against off-site migration of soil/fill and safety hazards during construction. These will include safety fencing, dust suppression, and erosion control as further described below.

3.1.1 Safety Fencing

Temporary safety construction fencing (i.e., 3-foot high orange plastic) will be placed around the outer perimeter of the excavation area at the end of each day of activity and will not be removed until the excavation and general backfill work is complete.

3.1.2 Dust Suppression

Dust suppression during site excavation work will be a component of the soil/fill removal and soil backfill activities. During soil/fill excavation and loading activities, the contractor will be prepared to apply a water spray across the excavation face and surrounding areas if necessary to mitigate airborne dust formation and migration. Other dust suppression techniques that may be used to supplement the water spray include:

- Applying water on haul roads.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations.

Dust suppression techniques shall be employed if the community air monitoring results indicate particulate levels are above action levels. A Community Air Monitoring Plan for the facility has been placed in Attachment A. All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum.

3.1.3 Groundwater Management

Groundwater elevation measurements recorded during previous studies, indicate that groundwater is present at depths between 4.17 and 14.21 feet below grade surface (bgs). Gasoline-powered trash pumps and hoses will be used to transfer groundwater and precipitation, if encountered, to a holding tank for treatment and discharge to grade away from the excavation. In general, water removed from the excavations will be stored/settled in a portable steel tank (Baker Open/Closed Top Tank or equivalent) and pumped through a 10-25 micron bag or cartridge filter prior to treatment using granular activated carbon (GAC). GAC vessels will be plumbed in series to allow for organic breakthrough monitoring between the lead and lag vessels. GAC vessel sizing will be dependent on the manufacturer. Two 1,000 lb vessels are anticipated based on average projected flow rates and maximum concentrations of constituents of concern. Upon completion of excavation dewatering work, the tank will be decontaminated via pressure washing and spent filter bags will be containerized and disposed off-site. Spent GAC will be characterized and transported off-site for regeneration or disposal at a permitted TSDF in accordance with applicable federal and state regulations.

3.2 Excavation and Backfill

Prior to excavation work, site infrastructure drawings will be reviewed and the underground utilities locating service will be contacted to locate and mark any underground utilities in the vicinity of the source areas. If active utilities are present, care will be taken to maintain appropriate set-backs or stabilize the utilities as necessary to

allow source area removal to proceed. Overlying clean soils (i.e., soil/fill not exhibiting visual, olfactory, or PID signs of impact), concrete, brick, and stone will be considered acceptable for replacement/reuse in the excavation as backfill and, therefore, will be staged separately from materials designated for offsite disposal. Care will be taken to minimize dust formation during excavation and loading (see Section 3.1.2). The excavation equipment will have sufficient boom length to allow for placement of soils into the truck bed. Side dumping (i.e., with a front-end loader) will only be permitted if fugitive dust can be consistently controlled within the Community Air Monitoring Plan (CAMP) action limits. The excavated areas will be surveyed (i.e., approximate boundaries and average depth as manually measured) and the information will be transferred to a site map.

3.2.1 Removal of the suspect UST's

Previous Geophysical Surveys of the Utility Platers facility indicated the presence of a total of three potential underground storage tanks on-site with the use of ground penetrating radar (GPR). Two of the storage vessels were located off the southern and eastern edges of the site structure. Historical information indicated that a third UST may be located west of the building; beneath the adjoining sidewalk (see Figure 2 for locations). Additional test excavations will be performed during the interim remedial measures to check for the presence of other USTs that will be addressed, if encountered. All USTs will be closed via removal from the subsurface in accordance with Part 375-1.8(b) as well as DER-10 guidance. Handling of impacted soil surrounding the UST(s), if any, is described in Section 3.3. Removed tanks will be cut open, cleaned and scrapped.

Following the removal of the USTs and any impacted soil, a total of five confirmatory grab soil/fill samples will be collected; one from each of the four sidewalls and one from the floor of the excavation. All samples will be analyzed for STARS List VOCs and SVOCs by USEPA Methods 8260B w/MTBE and 8270 B/N. Five-business day turnaround will be required for the analytical results to minimize the time that the excavation remains open.

3.2.2 Excavation Backfill

With NYSDEC concurrence that the excavation is complete, a demarcation barrier (of geotextile material) will be installed and the excavation area will be backfilled with clean imported fill material. Backfill material will be placed into the excavation and compacted/tracked with the excavator/backhoe bucket in 2-foot lifts to match the existing grade of the site and minimize settling. Select fill for the remedial excavation(s) will meet 6 NYCRR 375-6.7(d) recommended cleanup levels or applicable BCP Soil Objectives, as appropriate.

3.3 Treatment of Residual Contamination

Upon completion of source removal on-site, there likely will be some residual contamination remaining in subsurface materials. As such, an additional remedial measure including the application/injection of chemical oxidants outside of the TCE excavation boundaries and adjacent to the UST excavations (as necessary) will be taken.

As part of the IRM, direct application and/or injection wells will be placed within the identified residual area to deliver the chemical oxidant to the saturated zone and capillary fringe. Several chemical oxidants including hydrogen peroxide, potassium permanganate, ozone and associated supplemental reagents are typically applied in this process. Site characterization and bench scale treatability studies will be conducted to determine radius of influence surrounding the injection site(s) and to ensure the proper execution of oxidation selection and dosage. Ultimately the injection wells will be placed within the areas of impacted groundwater as delineated in historical surveys and confirmed during the performance of Remedial Investigation and site excavation. As necessary, multiple injections of chemical oxidants will be applied to meet completion criteria. Remediation of targeted contaminants will be considered complete when:

- Groundwater quality standards or an alternative groundwater standard approved by the NYS DEC for the commercial property are achieved or;
- The observation of asymptotic conditions, as agreed by the NYSDEC in monitoring wells within the treatment area.

Monitoring and analysis of groundwater conditions will be conducted during and after the application of the remedial treatment to determine the effectiveness of the IRM, with the goal of eliminating significant impacts to the environment.

3.4 Off-Site Disposal

All source area soil/fill removed from the Site will be loaded into dump trailers or trucks for transport to an approved offsite disposal facility. Debris and scrap materials will be disposed at a permitted C&D facility, solid waste disposal facility or scrap yard. Disposal approvals will be obtained from the off-site facilities prior to transport. Flyash or other suitable admix material may be added to the soil/fill as necessary to absorb free liquid in saturated soils and meet moisture content limits established by the disposal facility.

Each load will be appropriately manifested. All trailers leaving the Site will be fully tarped to mitigate spills or wind erosion of soils.

4.0 HEALTH AND SAFETY PLAN/COMMUNITY AIR MONITORING

A Site-Wide Health and Safety Plan (HASP) has been prepared for the Utility Platers, Inc. facility in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP will be enforced in accordance with the requirements of 29 CFR 1910.120 and will cover all on-site investigation and remedial activities. A copy of the HASP is provided for informational purposes in Appendix B. Health and safety activities will be monitored throughout the IRM by the on-site Health and Safety Officer. This person will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision, as necessary, based on new information that is discovered during the IRM. The HASP also includes a contingency plan that addresses potential site-specific emergencies. A Community Air Monitoring Plan that describes required particulate and vapor monitoring to protect the neighboring community during intrusive Site activities has also been generated for the site. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated June 20, 2000)

5.0 REPORTING AND SCHEDULE

A qualified scientist will be on-site full-time to document the IRM activities. Such documentation will include, at minimum, daily reports of IRM activities, community air monitoring results, photographs and sketches.

5.1 Construction Monitoring

Standard daily reporting procedures will include preparation of a daily report and, when appropriate, problem identification and corrective measures reports. Information that may be included on the daily report form includes:

- Processes and locations of construction under way.
- Equipment and personnel working in the area, including subcontractors.
- Number and type of truckloads of soil/fill removed.
- Approximate verification sampling locations (sketches) and sample designations.

The completed reports will be available on-site and will be submitted to the NYSDEC as part of the Final Engineering Report. The NYSDEC will be promptly notified of problems requiring modifications to this Work Plan prior to proceeding or completion of the construction item. Photo documentation of the IRM activities will be prepared by the Scientist throughout the duration of the project as necessary to convey typical work activities and whenever changed conditions or special circumstances arise.

5.2 Final Engineering Report

Details of the IRM construction will be included in the Final Engineering Report submitted to the NYSDEC. The report will include:

- A Site or area planimetric map showing all remediated source areas (e.g., lateral limits of excavations), and significant site features.
- Tabular summaries of unit quantities including: volume of soil/fill excavated; disposition of excavated soil/fill; and volume/type/source of backfill.
- Number of USTs removed and scrap receipts
- Documentation on the disposition of impacted media removed from the Site.
- Post-treatment sample locations and results
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- Photo documentation of IRM activities.
- Text describing the IRM activities performed; a description of any deviations from the Work Plan and associated corrective measures taken; and other pertinent information necessary to document that the Site activities were carried out in accordance with this Work Plan. In addition, the report will include those items required pursuant to NYSDEC's internal FER checklist.

5.3 Project Schedule

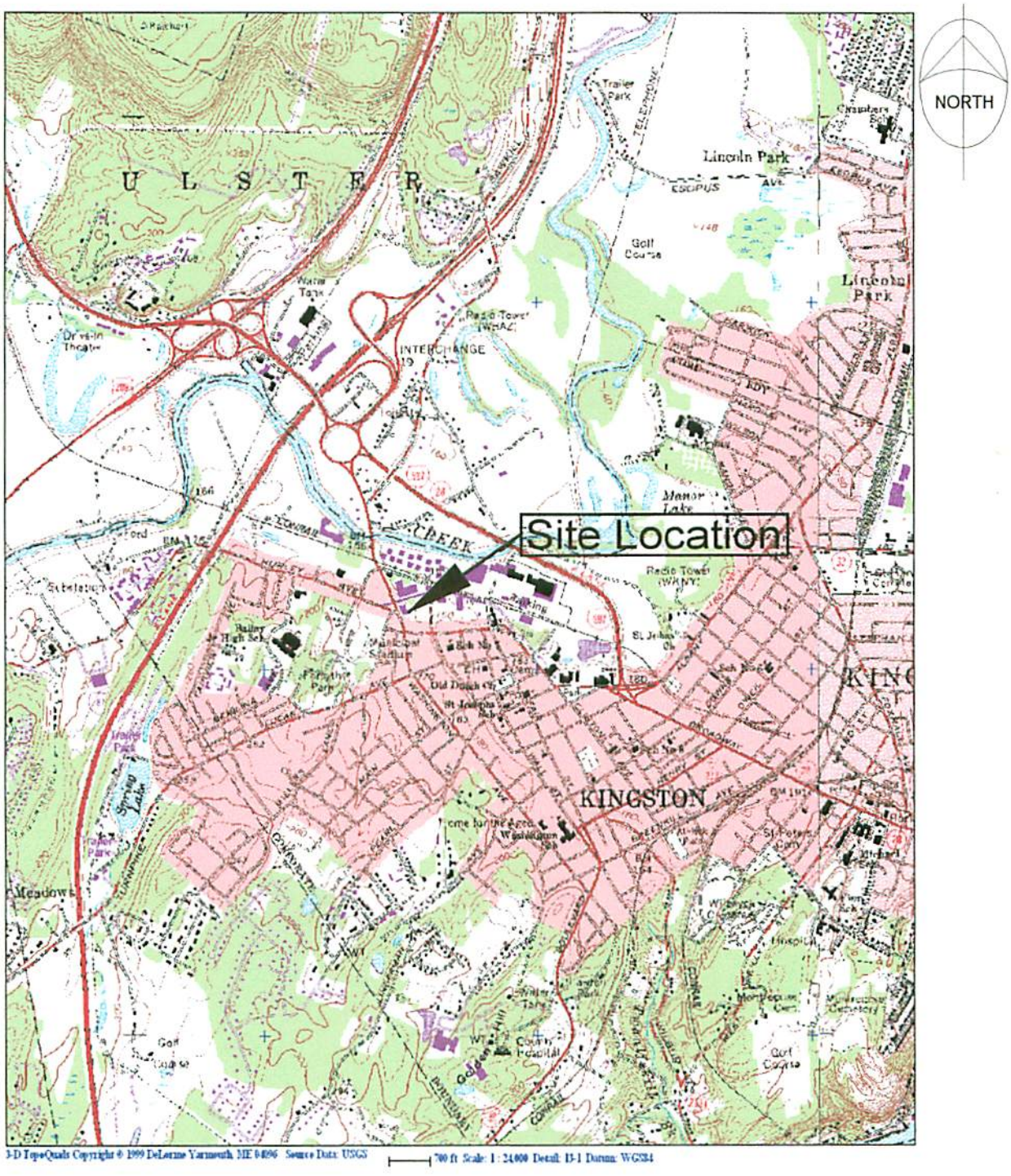
The tentative project schedule for the major tasks to be performed in support of the IRM is presented below:

- *August - September 2009* – Conduct IRM Excavation activities.
- *September - October 2009* – Conduct in-situ remediation and backfilling.
- *December 2009* – Submit Final Engineering Report.

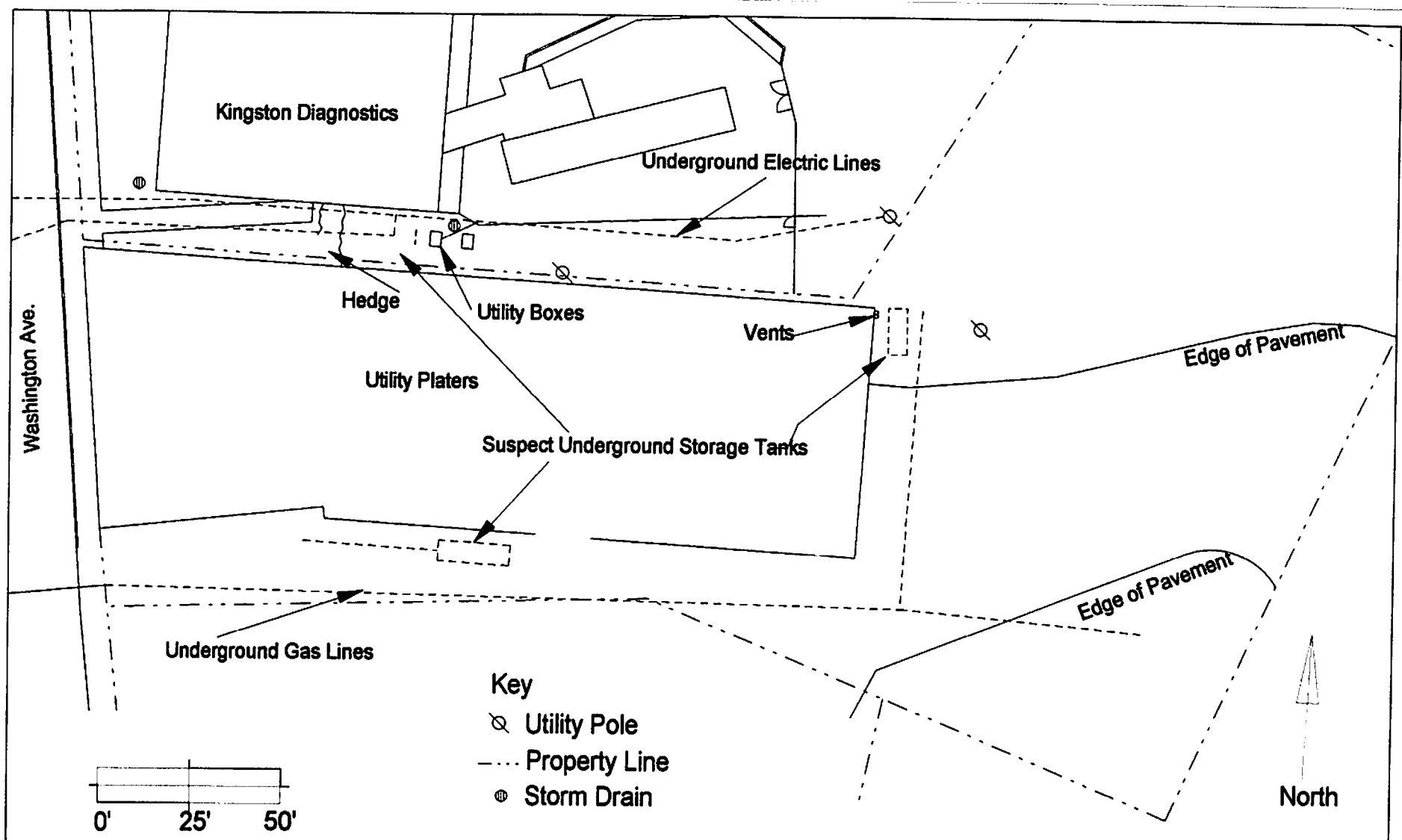
6.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

To provide interested citizens around the Site with an opportunity to learn about and comment on the IRM, an information sheet will be sent to all associated parties on the Site Contact List.

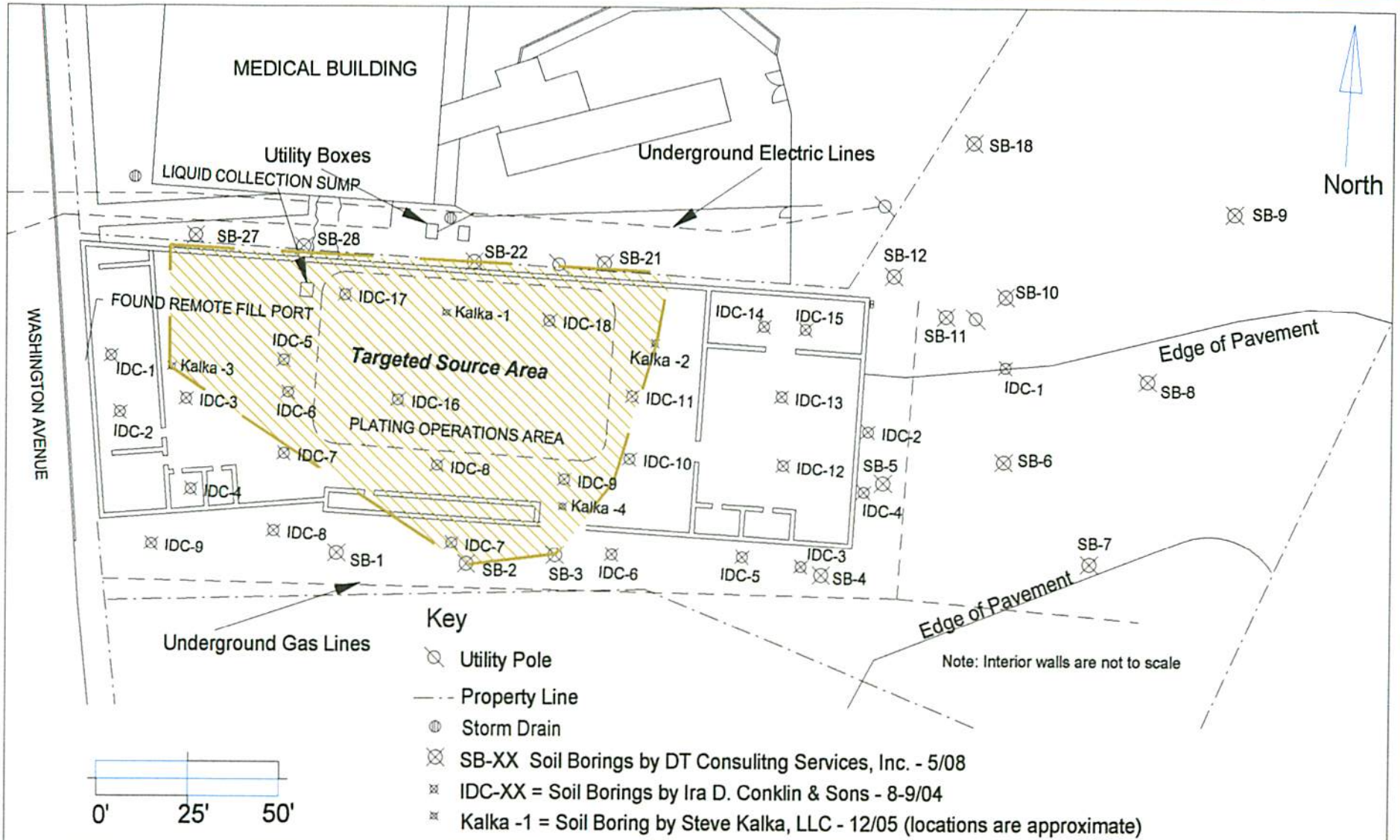
FIGURES



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



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Client:	Northeast Retail Leasing & Management Company, LLC
Location:	Utility Platers, Inc., 416 Washington Avenue, Ulster County, New York
Title:	IRM Location Map - Targeted Source Area

Scale:	Drawn By:	Site No:	Fig.#:
Graphic	O.T.	C356035	3